SELF-ASSESSMENT REPORT ON THE QUALITY OF EDUCATION IN THE DOCTORAL SCHOOL

Poznańska Szkoła Doktorska Instytutów Polskiej Akademii Nauk

Instytut Chemii Bioorganicznej Polskiej Akademii Nauk
Instytut Fizyki Molekularnej Polskiej Akademii Nauk
Instytut Dendrologii Polskiej Akademii Nauk
Instytut Genetyki Roślin Polskiej Akademii Nauk
Instytut Genetyki Człowieka Polskiej Akademii Nauk

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VISITING CARD

Basic Information about the Doctoral School

Year of Creation

2019

Institutions running the doctoral school

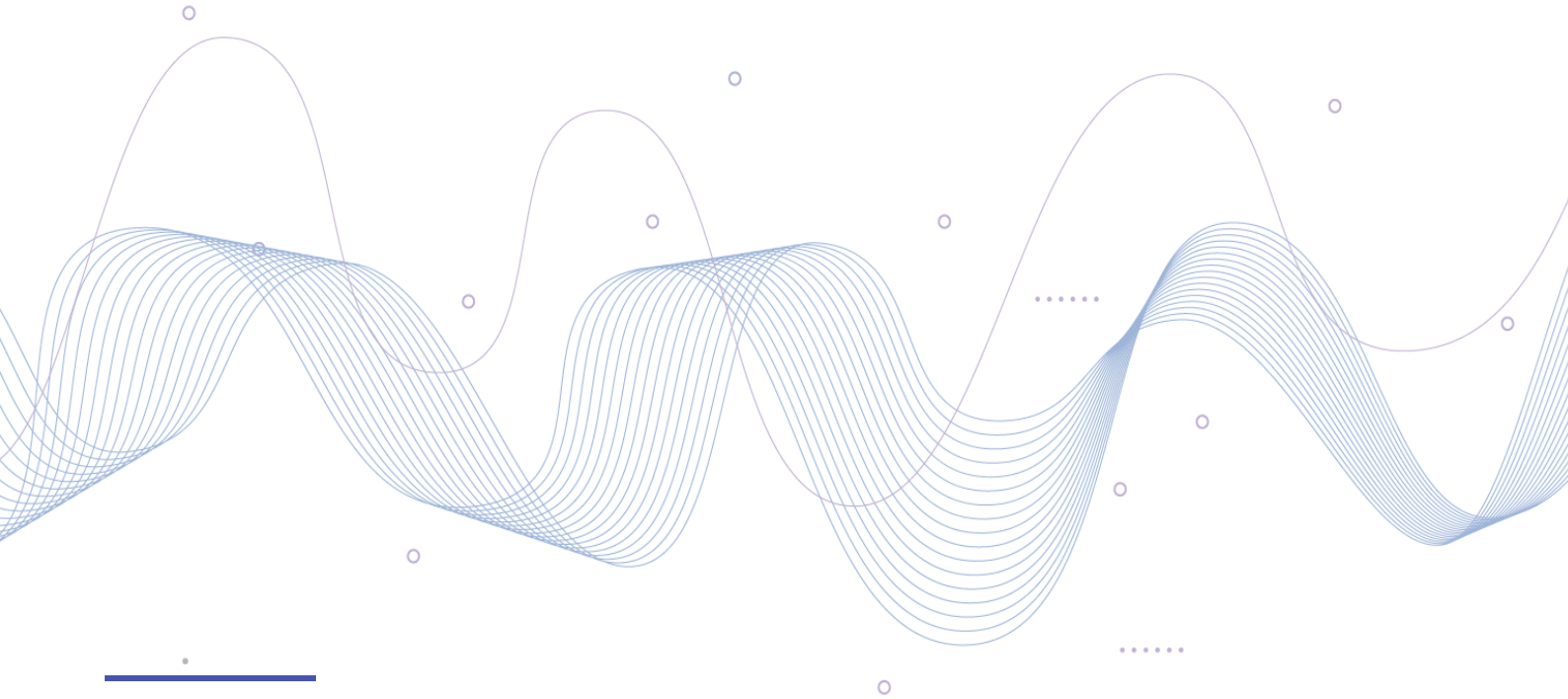
Instytut Chemii Bioorganicznej Polskiej Akademii Nauk

Instytut Fizyki Molekularnej Polskiej Akademii Nauk

Instytut Dendrologii Polskiej Akademii Nauk

Instytut Genetyki Roślin Polskiej Akademii Nauk

Instytut Genetyki Człowieka Polskiej Akademii Nauk



Field of Education	Education Disciplines
Natural sciences	biological sciences chemical sciences physical sciences
Medical and health sciences	medical sciences
Agricultural sciences	agriculture and horticulture forestry

Name/Scope of the Education Program (PL)	Name/Scope of the Education Program (EN)
Program kształcenia z udziałem fizyki	Programme of Study featuring Physics
Program kształcenia z udziałem rolnictwa	Programme of Study featuring Agriculture
Program kształcenia z udziałem chemii	Programme of Study featuring Chemistry
Program kształcenia z udziałem medycyny	Programme of Study featuring Medicine
Program kształcenia z udziałem biologii	Programme of Study featuring Biology
Program kształcenia z udziałem biologii II	Programme of Study featuring Biology II
Program kształcenia z udziałem nauk leśnych	Programme of Study featuring Forestry

Characteristics of the Doctoral School

"Recognising that the pursuit of truth and the transmission of knowledge from generation to generation is a particularly noble human activity and understanding the fundamental role of science in the creation of civilisation,"[1] in April 2019, the Directors of five institutes of the Polish Academy of Sciences: the Institute of Bioorganic Chemistry PAS (IBCH PAS), the Institute of Dendrology PAS (ID PAS), the Institute of Molecular Physics PAS (IMP PAS), the Institute of Human Genetics PAS (IHG PAS), and the Institute of Plant Genetics PAS (IPG PAS), signed an agreement to establish and jointly operate the Poznań Doctoral School of Institutes of the Polish Academy of Sciences (hereinafter referred to as PDS IPAS or the School). Four of the aforementioned Institutes hold HR Excellence in Research status. All Institutes are within the sphere of influence of the Poznań Branch of the Polish Academy of Sciences and conduct scientific activity within at least one discipline, thanks to which doctoral education at PDS IPAS currently takes place in six scientific disciplines. The entire educational process is supervised by Discipline Coordinators and their Deputies, forming the School's Programme Committee. They are appointed by the Directors of the Institutes, who jointly make decisions regarding the School during meetings of the Council of Directors.
The mission of PDS IPAS is to prepare young scientists for independent research by providing them with knowledge and conditions for conducting scientific research culminating in the submission of a doctoral dissertation and subsequently obtaining a doctoral degree. An additional outcome of this activity should be stronger integration of the scientific community of Poznań's scientific institutes and the promotion of interdisciplinarity. Doctoral education at PDS IPAS also aims to develop cooperation skills within the community of a given institute, PDS IPAS Institutes, and, from a broader perspective, international cooperation. The involvement of doctoral students in the popularization of science also has a positive impact on raising public awareness of the importance of scientific research and supports a sense of responsibility for its education.
The idea of jointly running the School arose, on the one hand, from a statutory requirement that a doctoral school must

operate in at least two scientific disciplines, and on the other hand, from the mutual interpenetration of many scientific themes within our Institutes. This allowed us to combine forces to prepare the future generation of scientists for scientific work even better. A visible example of this is the joint elective lectures organized by individual discipline coordinators, attended by doctoral students studying in various programs. Scientists from our Institutes support each other in reviewing doctoral dissertations, where achievements in a given topic are more important when choosing a reviewer than the name of the discipline in which they received their degree or scientific title. Our community is also integrated by the youngest participants in doctoral education, who completed their master's thesis or student internship at one of the Institutes co-running our School, but different from the one they chose as their doctoral unit. Similarly, in the case of more experienced research staff, they can often boast membership in a Scientific Board or lecturing at one of our Institutes, other than the one where they currently conduct their research.
At PDS IPAS, we bring together young, ambitious, and science-fascinated people so they can gain knowledge and experience here and thus develop their passions and scientific careers. We are also accessible and free from discrimination. Classes are conducted mainly in English. Currently, 27% of PDS IPAS doctoral students are foreigners from countries such as Albania, Spain, India, Iran, Cameroon, Lebanon, Morocco, Pakistan, Portugal, the United States, Turkey, Ukraine, Vietnam, and 60% of all participants are women. Announcements for new doctoral student recruitment are posted, among others, on the PDS IPAS website, EURAXESS, and on the websites of the Institutes. All competitions are open and conducted in accordance with the principles of competitiveness and transparency. Specific substantive requirements are specified in the competition announcements.
One of the characteristic features of our School is the continuous recruitment of doctoral students, which takes place in a rhythm with the acquisition of funds for the implementation of scientific projects from institutions financing science. This is the main source of funding for doctoral scholarships, and all doctorates are carried out at least partially within the framework of research grants, the executors of which include doctoral students and their supervisors. After the possibility of financing doctoral scholarships from grants ends, for example, in the case of three-year projects, scholarships are paid to those doctoral students who have retained the right to them, from the statutory funds of the Institutes co-running the School. Classes for doctoral students are conducted by qualified lecturers who are able not only to share knowledge but also scientific passion. Research results included in doctoral dissertations are published in international journals with a high impact factor.
Most of the PDS IPAS Institutes previously conducted doctoral studies independently or participated in training programs for doctoral students. These were international or environmental doctoral studies, conducted individually or in cooperation with other institutes and universities (e.g., the POWR program). This diverse past in the field of doctoral education has led our Institutes to develop educational and administrative procedures consistent with their own tradition and scientific specificity. In addition to the obvious advantage of experience in doctoral education, this also proved to be a challenge, given the need to reconcile different procedures and academic traditions, as well as administrative and legal rules of individual Institutes and institutions financing doctoral scholarships. Therefore, within the School, each Institute has been granted maximum autonomy in administrative and educational matters. However, by creating one School, we have established many common regulations and practices, described in the Rules of the PDS IPAS, the Rules on Recruitment to the PDS IPAS, and the general Programme of Study at the PDS IPAS. These documents are adopted in the same wording by the five Scientific Boards of the individual Institutes at least five months before the start of the academic year. They are published on the PDS IPAS website, https://psd-ipan.IBCH.pl/index.php/en/home/, and on the Institutes' BIP websites. In addition, one month before the start of each academic year, we make public a common, detailed education program, developed and approved by the Programme Committee.
[1] ACT of 20.07.2018

Additional Information about the Doctoral School

Educating Staff

Numerical data for the evaluation period

Educating Staff	Instructors	Supervisors	Assistant Supervisors
Number of people	73	61	55

Doctoral Students

Number of doctoral students (total): 118

Recruitment during the evaluation period	2019/ 2020	2020/ 2021	2021/ 2022	2022/ 2023	2023/ 2024	2024/ 2025	Total
Number of recruited doctoral students	12	21	30	32	11	13	119
Number of doctoral students who completed the doctoral school	2	6	0	0	0	0	8
Number of doctoral students removed from the doctoral student list	3	3	5	5	4	0	20

Mid-term evaluation results	Positive	Negative
Number of Doctoral Students	74	0

Educational Programs	Number of Doctoral Students
Programme of Study featuring Physics	6
Programme of Study featuring Agriculture	15
Programme of Study featuring Chemistry	9
Programme of Study featuring Medicine	23
Programme of Study featuring Biology	56
Programme of Study featuring Biology II	9
Programme of Study featuring Forestry	1

Additional Numerical Data on Doctoral Students

Number of foreign doctoral students	38
Number of doctoral students with disabilities	0
Number of doctoral students in the Implementation Doctorate program	4
Number of doctoral students in the EU program	0
Number of doctoral students employed by the institution running the doctoral school as academic teachers or research staff	0

Graduates

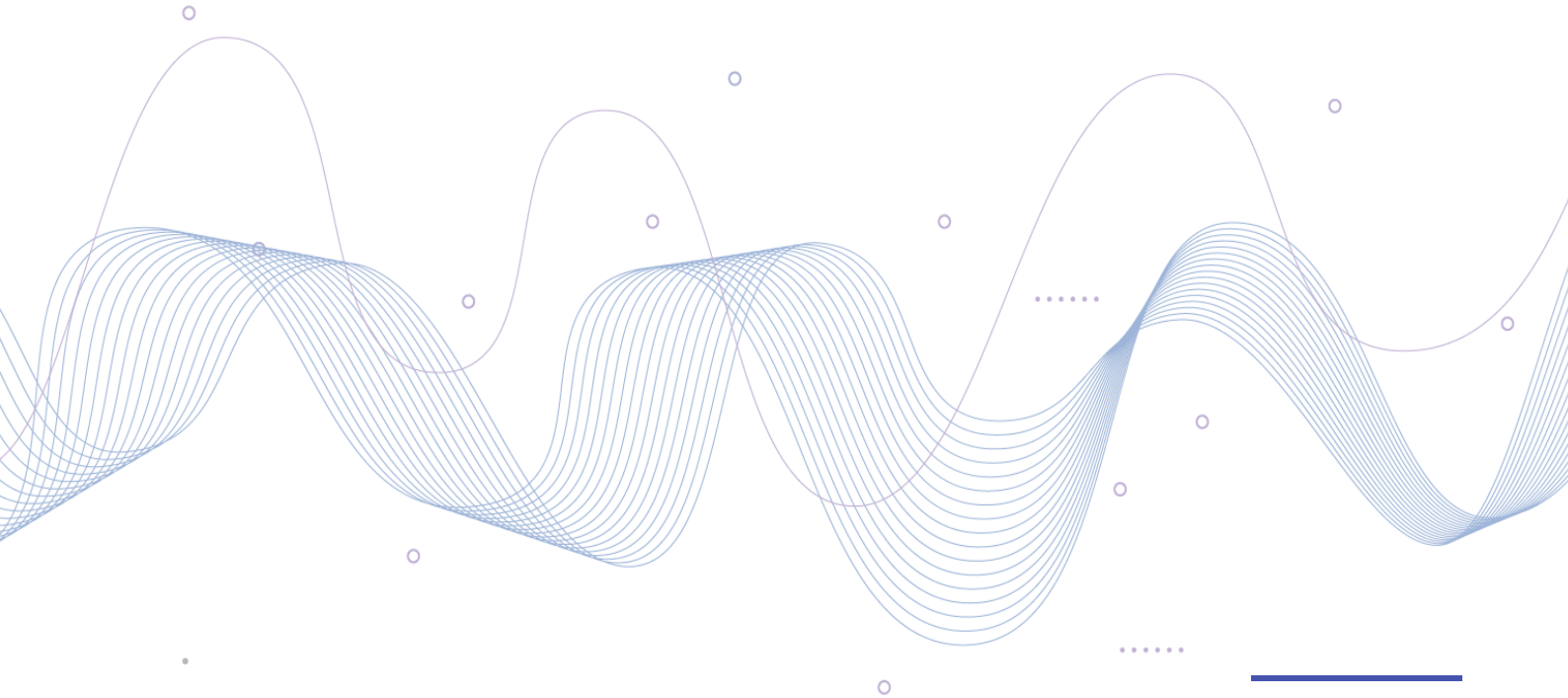
Numerical data for the evaluation period

Number of graduates who applied for initiation of proceedings for the award of a doctoral degree	7
Number of doctoral students who completed the doctoral school	3

INFORMATION ON THE ENTITY'S COOPERATION WITH THE DOCTORAL STUDENTS' COUNCIL

The Doctoral Students’ Self-Government (DS) of PDS IPAS began to form with the admission of the first doctoral students to the School and the community of doctoral students operating within the Doctoral Studies of the Institutes, co-creating the School. Initially, due to the small number of students, separate DS Councils were not established in each Institute. The doctoral students operated within the previously existing DS Councils of the individual Institutes during that period. The unifying and representing body for our doctoral students was the DS Council of the largest, Partnership-based Doctoral Program conducted by IBCH PAS. It was elected from among all Studies and the School participants affiliated with our Institutes. In the last year of the old-type doctoral studies (2024), in accordance with legislative requirements, a separate DS Regulation was adopted for each Institute co-creating the School, and elections for five DS Councils were held. To facilitate joint activities, such as organizing integration events or providing opinions on the Programme of Study and the School's joint regulations, it was decided to establish the Collective Body of Doctoral Students of PDS IPAS, which was voluntarily joined by representatives of the DS Councils of the individual Institutes. DS representatives also participate in meetings of the Institutes' Scientific Boards, Mid-Term Evaluation Committees, and sometimes in recruitment, disciplinary, and doctoral committees, organizing integration events for doctoral students, popularizing science, national meetings of doctoral students, etc. The School's management and administration support the DS through financial and economic assistance for events organized by the DS, funding for DS representatives to attend national meetings of doctoral student organizations, assistance in preparing information materials, the door always open, and readiness to listen to problems and seek solutions.

INFORMATION ON THE DOCTORAL SCHOOL GROUPED BY 8 EVALUATION CRITERIA



1. Adequacy of the education program and individual research plans to the learning outcomes for qualifications at PRK level 8 and their implementation

The Programme of Study at the PDS IPAS and the accompanying Individual Research Plans (IRPs) were designed to systematically develop doctoral students' specialized knowledge, advanced research skills, and key social competencies.
The Programme of Study at the PDS IPAS is consistent with the requirements of Level 8 of the PQF, focusing on:
· Knowledge (K): It provides advanced specialized knowledge (K.1) through compulsory and optional modules covering the latest discoveries. It develops methodological knowledge (K.3) through practical classes on advanced research techniques. It addresses research ethics (K.4) through training and research organization (K.5) through modules on project management and fundraising.
· Skills (U): It develops independence in conducting research (U.1) during project implementation. It strengthens critical analysis and synthesis (U.2) through seminars. It shapes scientific communication skills (U.4) through workshops on presenting results and writing publications. Teaching skills (U.7) are developed through supervising master's students, interns, or participating in science popularization.
· Social Competencies (KS): It lays the foundation for critical thinking, responsibility, and reliability (KS.1 and KS.2) during all classes. It promotes teamwork (KS.3) through group projects.
IRPs are the core of education at PDS IPAS, constituting original research projects (U.1 and U.3). They involve active dissemination of results (publications in peer-reviewed scientific journals, participation in conferences), which directly develops scientific communication skills, both oral and written (U.4), and up-to-date knowledge (K.1). Supervisors ensure data reliability and a critical approach to results (KS.2 and KS.1), supporting the doctoral student's independence and initiative (KS.4).
Implementation of the Programme of Study and IRPs in 2019-2025:
· Educational Program: It exists in six (soon seven) variants, depending on the discipline and scientific specificity of the Institute. It consists of compulsory modules, a wide range of optional modules, and a selection of classes on universal competencies.
· IRPs: They are developed in detail in the first year of education and approved by the coordinators. The implementation of IRPs is monitored by annual reports from doctoral students (assessing research progress, scientific activity, participation in conferences, and publications), which are the basis for passing the academic year. A mid-term evaluation is conducted halfway through the education period to monitor the progress of the IRP.
· Transversal Skills: PDS IPAS actively shapes transversal skills (universal competencies) crucial for research and non-academic careers, including critical thinking (KS.1, U.2), creativity and initiative (KS.4), problem-solving skills (U.3), risk assessment and decision-making (U.3, U.5), communication (U.4), and project management (U.5).
Interdisciplinarity at PDS IPAS is an integral philosophy of education, realized through:
· Research Projects: Many projects require an interdisciplinary approach (K.2). Doctoral students often work in teams with diverse competencies, which promotes teamwork (KS.3).
· Educational Modules: Classes are offered that integrate knowledge from different fields.
· Cooperation with other units: PDS IPAS allows for the completion of some research or internships in other units, both domestic and foreign, which broadens the perspectives of doctoral students (K.2).
· Inviting Experts: Classes with the participation of scientists from various disciplines present research at the intersection of many fields, developing openness to new ideas (KS.1).
PDS IPAS has a reliable and cyclical process for improving the program, aimed at continuously increasing its adequacy to Level 8 PQF learning outcomes:
· Doctoral students' feedback (surveys, meetings) is analyzed by the Head and the PDS IPAS Programme Committee, who periodically review the program. Based on the data collected, modifications are introduced (e.g., additional grant writing workshops in 2022-2024, expanded offer of data analysis classes).
· The Programme Committee monitors trends in doctoral education worldwide, Ministry guidelines, and the latest scientific reports to maintain an innovative and adequate program.
· Doctoral student successes are analyzed (e.g., publications, conference participation, awards, number of dissertations submitted, number of doctoral degrees awarded), which allows for an assessment of the program's effectiveness.
Self-assessment: The Programme of Study and the Individual Research Plans implemented at PDS IPAS are fully adequate for achieving the learning outcomes for qualifications at Level 8 of the PQF. It is beyond doubt that our graduates will be well-prepared to become fully independent and responsible researchers in their represented scientific disciplines, capable of making a significant contribution to the development of science and society.

2. Method of verifying learning outcomes for qualifications at PRK level 8

At the PDS IPAS, the verification of learning outcomes at Level 8 of the PQF is a comprehensive, transparent, and reliable process that begins with clearly defined principles and ends with the cyclical improvement of evaluation methods. Education at the doctoral school culminates in the submission of a doctoral dissertation (supervisor-approved) and the fulfillment of all regulatory obligations, and the doctoral school completion certificate is proof of obtaining a qualification at Level 8 of the PQF. The principles of verifying learning outcomes at PDS IPAS are publicly available and unambiguous, ensuring clarity for doctoral students, supervisors, and teaching staff.

· Rules of the PDS IPAS: This is the legal basis, defining the general framework of the school's operation and the rights and obligations of doctoral students, supervisors, coordinators, and the head of the school. It presents the fields of study, as well as the rules for collecting ECTS and verifying education. It is available on the PDS IPAS website and the Institutes' BIPs, and doctoral students acknowledge it upon admission.

· Programme of Study (general): This is the basic document defining the educational goals, substantive requirements for individual modules, and the number of required ECTS in each of them. Available online, it's supplemented by a detailed class schedule published one month before the start of each academic year, which specifies discipline, organizing institute, lecture titles, lecturers, semester assignments, and ECTS.

· Subject Cards - Syllabi: Each subject in the education program has a syllabus that clearly specifies its learning outcomes and methods of verification (e.g., exam format, criteria for passing exercises, required activities). The cards are available to all doctoral students after logging in to the PDS IPAS website, in the PhD STUDENTS section.

· Individual Research Plan (IRP): Contains clearly defined research goals and a plan for their implementation, which is the basis for mid-term evaluations and annual reports. The publicly available IRP template, as well as the announcement of IRP progress evaluation, are known to doctoral students from the beginning of their education.

· Introductory Information: Newly admitted doctoral students are informed by the administration of the doctoral secretariats, lecturers – in the first classes, their academic supervisors, and during frequent meetings, as well as by correspondence, about the principles of verifying learning outcomes, the obligations arising from the regulations, and expectations regarding scientific activity.

The verification process at PDS IPAS is transparent and reliable, ensuring an objective assessment of doctoral students' progress and achievements, which guarantees high-quality education. It includes:

1. Verification Through Lectures and Course Exams:

Verification of Knowledge (K): Written and/or oral exams in major and specialized subjects verify advanced specialized knowledge (K.1), interdisciplinary knowledge (K.2), and methodological knowledge (K.3). Questions often go beyond the reproduction of facts, requiring analysis and synthesis (U.2), as well as problem-solving (U.3) based on acquired knowledge.

Verification of Skills (U): Project tasks, case studies, or numerical problem-solving within classes and exams test critical analysis (U.2), problem-solving (U.3), and the ability to learn independently (U.6).

Verification of Social Competencies (KS): Active participation in lecture and seminar discussions, presenting one's own ideas, or asking questions, verifies critical thinking (KS.1) and develops communication (U.4).

Staff Commitment: Lecturers, who are experienced scientists, ensure a high substantive level of classes and a reliable assessment. They present clear grading criteria, and exam results are often discussed with doctoral students.

2. Mid-Term Evaluation:

Conducted usually after the 2nd year of study by an independent committee (the supervisor is not a member, and one of the committee members is from outside the entity running PDS IPAS).

The doctoral student presents a written report on the IRP implementation and an oral presentation of the results (an exception to this rule is described when discussing criterion 6).

The committee verifies specialized knowledge of the topic (K.1), knowledge of methodology (K.3), independence in research (U.1), the ability to critically analyze data (U.2), and communication skills (U.4). It also assesses critical thinking (KS.1) and responsibility and reliability (KS.2). A positive evaluation is a condition for continuing education.

3. Annual Doctoral Student Reports:

Doctoral students submit annual reports documenting research progress, publications (including those in preparation), participation in conferences and training, internships, and teaching and popularization activities. These are concrete evidence of activities and acquired competencies. Supervisors approve the reports, and coordinators accept them, which constitutes continuous verification of the development of K.1-K.5, U.1-U.7, and KS.1-KS.6. These reports are used to assess the fulfillment of regulatory obligations.

4. Verification of Transversal Skills and Scientific Activity Outside of Exams:

Doctoral and Institute Seminars: Mandatory and regular presentations of research results are a form of verification of U.4 (oral communication) and U.2 (critical analysis). Participation in discussions develops KS.1.

Participation in Scientific Conferences: Active participation in conferences (oral, poster presentations) is an indicator of U.4 (scientific communication) and K.1 (awareness of the latest research trends).

Publication of scientific articles, both original and review, as well as popular science articles.

Conducting Teaching Classes: Supervising master's students and interns, active participation in science popularization events U.7 (teaching skills) and KS.5 (mentoring potential).

5. Annual meetings of the doctoral advisory committee (in IHG) consist of the supervisor and two people with expertise in the topic of the dissertation. During the meeting, the doctoral student gives an oral presentation on the implementation of the IRP. The committee verifies the progress in the dissertation's implementation, holds a discussion on the results obtained, and provides suggestions for further stages of the dissertation.

6. Supervisor's Opinion:

Engagement in the process: The supervisor plays a key role in the continuous verification of learning outcomes. From the beginning of work at the doctoral school, they monitor K.1 (advanced specialized knowledge) in the context of the thesis topic,

U.1 (independent research), and U.3 (problem-solving) through frequent consultations, in-house seminars, and discussions about results.
Formal review: Each time, with the annual report on scientific activity, request for an extension of education, request for an individual course of study, with the submission of the IRP, the IRP implementation report, etc. After the doctoral dissertation is submitted, the supervisor issues a detailed opinion. In it, they assess not only the scientific value of the work but also the degree of the doctoral student's independence (U.1, KS.4), their ability for critical analysis (U.2), and research reliability (KS.2). This opinion, prepared on the basis of the entire period of cooperation, is the required confirmation of achieving many key learning outcomes at Level 8 of the PQF.
PDS IPAS ensures the reliability of the process of improving methods for verifying learning outcomes, adapting them to changing conditions, and technological progress.

- Feedback Collection Mechanisms: Regular feedback is collected from PhD students (anonymous surveys, student government meetings), supervisors, and mid-term committee members. Named surveys are submitted annually with reports (depending on the Institute, this activity has been conducted for years or recently).
- Analysis and Modifications: The Programme Committee periodically analyzes the collected opinions and the success indicators of doctoral students (e.g., publication rate, rate of positively completed mid-term evaluations, submitted dissertations, awarded doctoral degrees). Based on this analysis, changes are made to verification methods, the School's regulations, and the educational program. (e.g., recent modifications regarding knowledge dissemination and previous clarifications of ECTS sum rules, early school completion, and the individual course of study).
- Monitoring Standards: We track the standards of learning outcome verification in leading doctoral schools worldwide and the guidelines of the Polish Accreditation Committee and the Ministry of Education and Science to ensure the highest quality and adequacy of the methods used.
- Staff Training: Training for scientific department heads (e.g., at IBCH) focuses on mentoring and objective assessment of young scientists, including doctoral students. Similar training is planned for all co-leading PDS IPAN Institutes.

The self-assessment system of learning outcomes for qualifications at Level 8 of the PQF at the PDS IPAS Doctoral School is accessible, transparent, and reliable. Thanks to a well-developed system of passing classes, mid-term evaluation, annual reports, and ongoing analysis of scientific activity, the school ensures a comprehensive and objective assessment of knowledge, skills, and social competencies. This process is constantly improved based on feedback and monitoring, which guarantees its effectiveness and adequacy to the changing demands of science. The final confirmation of the qualification is the doctoral school completion certificate, which confirms the doctoral student's preparation for independent scientific work.

3. Qualifications of academic teachers or research staff conducting education at the doctoral school

In the years 2019-2025, during which PDS IPAS doctoral students were educated, several dozen courses were conducted covering a wide range of topics in the scientific disciplines represented by the Institutes co-running the School, included in six educational programs, in which the subject matter of a given discipline predominated. The courses were selected to ensure that over the four-year period of education, doctoral students received education in their chosen primary discipline. At the same time, we left doctoral students the option of attending classes covering topics from other disciplines. Classes were held both on-site and remotely, using multimedia techniques. Practical classes were also conducted in laboratories using scientific and research equipment. During their education, doctoral students always had the opportunity for additional consultations with lecturers, which they eagerly took advantage of. Additionally, in each semester, doctoral students participated in doctoral seminars, during which they learned how to conduct scientific discussions, ask questions, analyze presented results, establish cooperation in solving research tasks and problems, critically look at their own research, and also learned about systematic work, reporting, and preparing presentations.
Lecturers conducting doctoral education were invited based on their knowledge and scientific achievements in the subject area of the course. They gained experience in the country and in leading scientific centers abroad. They were characterized by experience in lecturing not only for doctoral students, involvement in science popularization, and improving their qualifications through work with students and high school pupils (supervision of master's theses, doctoral dissertations, supervision of interns and trainees, expert activity in the field of scientific studies, patents, reviews of articles, master's theses, doctoral dissertations, and habilitation theses) of domestic and foreign universities, in particular Poznań centers through their scientific and teaching cooperation. During long-term scientific internships in foreign units, the School's lecturers were involved in teaching, working with students of the host units. Our lecturers are, to a large extent, young people, full of energy and passion to share knowledge with younger adepts of science, but there are also experienced professors with many years of service. They are experts from various areas of the scientific disciplines represented at PDS IPAS. In addition, lecturers lead scientific projects that result in doctoral dissertations and master's theses.
The high commitment of PDS IPAS lecturers to cooperation with doctoral students, their positive attitude, and numerous and regular consultations meant that the organized lectures were usually positively received by doctoral students, who were supported with access to teaching materials and substantive support.
Self-assessment: Strengths - staff with great scientific achievements, knowledge, and teaching experience; Area for improvement - more training for lecturers, organized by PDS IPAS.

4. Quality of the recruitment process

Detailed information regarding the functioning of PDS IPAS is contained in the Rules of PDS IPAS, the Rules on Recruitment to PDS IPAS, and the Programme of Study at PDS IPAS. The aforementioned regulations were first adopted in April 2019 by the five Scientific Boards of the Institutes co-running the School and are updated almost annually. Those regulations are published at least five months before the start of the academic year on the School's website and on the BIPs of the Institutes. Shortly after, an English translation of these documents is also published. Additionally, with candidates and doctoral students in mind, an illustrated information about the course of education in the form of a "Time Line" was developed, with a description of the most important events and stages, available on the school's website in English. The Doctoral Students' Self-Government also prepared information leaflets for new education participants, adapted to each Institute.
The recruitment principles are clearly and unambiguously described in the Rules on Recruitment. Additionally, they are specified and supplemented with detailed information and requirements for a given competition in individual announcements. Announcements are published at least 30 days before the close of the competition on the School's website and the website of the Institute organizing the given competition, on the website of the project's financing institution, on the international Euraxess portal, and sometimes also on other recruitment portals, such as NAWA, pracuj.pl, or praca.pl. The application form for candidates is specified in an appendix to the Rules on Recruitment. The application forms for admission to the individual Institutes, supplemented with necessary information about the entity, are available for download in an editable format on the School's website. Recruitment to PDS IPAS takes place within open competitions for doctoral students throughout the calendar year and is closely related to obtaining research grants from science-financing agencies. Instead of one or two large recruitment drives per year, as is practiced at universities, we conduct approximately 20 to 50 competitions each year (with the exception of 2019).
The recruitment procedure is preceded by a request from the head of the scientific project to the Director of the relevant institute for the admission of a project executor and the holding of a competition for a doctoral student. After receiving consent, the project head, together with the coordinator or deputy of the relevant discipline, prepares a competition announcement according to the template established at the given institute. The announcement is checked by the scientific secretariat of the relevant institute, supplemented with a number by the School's secretariat, and sent for publication. The coordinator or deputy for each competition appoints a recruitment committee of at least three people, maintaining a representative gender balance whenever possible, consisting of: the discipline coordinator, the head of the scientific project within which the doctoral student will be admitted, a person with a habilitated doctor degree or a professor title with achievements similar to the project's topic. A representative of the doctoral students may be an observer on the recruitment committee. If the competition is announced in two disciplines, the committee includes the coordinators of each discipline. The chairman of the recruitment committee is one of the coordinators, their deputy, or a person designated by them, holding a habilitated doctor degree or a professor title. After the collection of application forms is completed, the first stage of recruitment takes place, which consists of analyzing the applications and selecting a maximum of three of the most qualified candidates for the second stage of recruitment. The second stage is an interview with the selected candidates. The person(s) who obtain the highest number of points, exceeding the minimum threshold given in the regulations, may be recommended for admission, depending on the number of available places in the given competition. This is usually one or two places. The chairman of the recruitment committee announces the results of the competition in the form of a ranking list on the School's website, with a list of the candidates' names, the points they obtained at each stage of the competition, and the annotation: qualified or not admitted. At the same time, they submit a recommendation to the director of the institute financing the doctoral student to admit the selected candidate to the doctoral school, with an indication of potential supervisors and the topic of the doctoral dissertation. The decision to admit a doctoral student to the Doctoral School is made by the Director of the Institute, who finances the salary for the given doctoral student. All rejected candidacies receive administrative decisions, which, in the case of foreigners, are translated into English.
In 2025, a new Rules of the PDS IPAS was adopted (enters into force on 1.10.2025), which declares the provision of necessary assistance to persons with disabilities who request it, in the process of education and the implementation of scientific activities: "§ 12. Para. 9) "Doctoral students having a decision on disability, a decision on the degree of disability, or a decision referred to in Article 5 and Article 62 of the Act of 27 August 1997 on vocational and social rehabilitation and employment of disabled persons may apply for support in the education process and in the implementation of scientific activities. The type and forms of support are determined individually, upon the doctoral student's request addressed to the appropriate Director of the institute co-running the Doctoral School."
By default, the aforementioned support can also be provided at the recruitment stage, upon the request of the interested person.
Candidates, in addition to a copy of their Master's diploma or a certificate of their completion, present their CV describing their previous education and employment, a cover letter with a justification for the intention to undertake education at the doctoral school. Documents proving the level of English proficiency are also important, and if the candidate does not have them, the level of English proficiency is checked during the interview. In the case of particularly promising candidates, it is possible to seek an opinion from a person indicated by the candidate. At this stage, all applications are evaluated on a scale of 0-12 in terms of the candidates' qualifications for scientific activity. Based on the analysis of the data and documents presented, the recruitment committee selects a maximum of three people with the most suitable qualifications to implement the given scientific project. In the second stage, at the beginning of the interview, candidates are asked to briefly report on their previous scientific work, e.g., their master's thesis, and to answer questions about their knowledge within the discipline in which the competition was announced and the topic of the scientific project. The candidates' knowledge is evaluated on a scale of 0-18. A candidate who receives at least 15 points in both stages of recruitment can be recommended for admission.
Over the years 2019-2025, the recruitment regulations have been updated several times to improve the recruitment process and make it easier for recruitment committees to select the most suitable candidates, while ensuring the fairest and most transparent course of recruitment. Discussions on the necessary changes usually take place initially at the forum of the

individual recruitment committees, which encounter various problems during the competitions, and then the conclusions resulting from them are presented by the coordinators or deputies at meetings of the Programme Committee, the purpose of which is to discuss the necessary changes in the regulations concerning the functioning of the School. The recruitment principles are consulted with the Doctoral Students' Self-Government, the Directors of the Institutes, and the Scientific Boards. An example of an update introduced at a Programme Committee meeting was the increase in the number of points that could be obtained in the second stage of recruitment from 12 to 18, to differentiate better the assessment of the level of knowledge among candidates who are asked the same questions, while also increasing the minimum total number of points qualifying for a recommendation for admission from 12 to 15. Another example of a change introduced in the recruitment principles was the clarification of the principles for verifying the qualifications and knowledge of candidates so that they are more adequate in relation to the planned project topic.
The reasons for the first appeals against the refusal decision were also discussed, which led to the replacement of a word that caused misunderstandings in the instruction that was part of the refusal decision. The phrase "re-examination" was replaced with "reconsideration" because it was sometimes misunderstood as a second chance for an interview, whereas it was meant to refer to a consideration of the correctness of the formal recruitment process for a given case.
In the years 2019-2025, single cases of appeals were recorded, which were rejected after consideration, due to the lack of formal errors in the recruitment process of the competitions to which they related. There were also inquiries from rejected candidates about the reason for a low score or for an indication of the weak and strong points of their application. These questions did not go without an exhaustive answer from the chairmen of the committees.
Self-assessment: Strengths - the recruitment principles and their results are fair, accessible, and transparent. Area for improvement - more clearly declare readiness to support people with disabilities.

5. Quality of scientific or artistic supervision and support for conducting scientific activities

In the case of PAS Institutes and the doctoral schools they run, the main source of funding for research and doctoral scholarships is grants for research projects. These are awarded by institutions such as NCS, NCRD, or FPS. The recruitment of doctoral students to PDS IPAS is closely linked to their role as project implementers, which is why the heads of these projects sit on recruitment committees and even chair them, especially if they have an appropriate scientific standing (habilitated doctor/professor). In this way, the grant leader becomes the scientific supervisor and later the doctoral student's supervisor (or auxiliary supervisor).
The Rules of PDS IPAS state that the Scientific Boards of the institutes appoint and dismiss supervisors (§8. par. 8). This happens at the request of the doctoral student, submitted to the discipline coordinator and presented to the institute's Scientific Board. The application form is available on the School's website and can be modified by the Institutes. Detailed procedures for appointing supervisors are described in the internal documents of each Institute. For example, in IBCH PAS, it is an appendix to the IBCH PAS Scientific Board Regulations.
A change in status from auxiliary supervisor to main supervisor happens quite often, usually after they obtain their habilitation. This does not involve a change in the doctoral student's Individual Research Plan (IRP). In one case, a change of supervisor resulted in a significant change in the doctoral topic and funding source. In three cases, it was possible to employ doctoral students in another project, which allowed them to continue their education at the doctoral school. In situations of conflict between the supervisor and the doctoral student, the frequent result was the doctoral student's resignation from further education (e.g., in IBCH - 3 people). Sometimes doctoral students resign without even trying to resolve the conflict. In one case at IBCH, a doctoral student was removed from the list at the justified request of the supervisor.
Actions taken to avoid or resolve conflicts and support cooperation:
Codes - IPG developed a doctoral student ethics code, and the Institutes also have anti-mobbing, anti-discrimination, and pro-equality regulations.
Advisory Teams: At IBCH, since 2023, in parallel with the appointment of a supervisor, a support team is appointed for each new doctoral student. It consists of two researchers (one proposed by the project leader, the other by the institute director) and meets twice a year with the doctoral student. At IHG, advisory doctoral committees have been operating for many years, discussing doctoral students' results and advising once a year.
Council of Young Researchers or Doctoral Councils - established at IHG and IPG, with the aim of helping to solve problems of, among others, doctoral students.
Evaluation Surveys: Annual reports on doctoral students' scientific activity have been combined with surveys evaluating the quality of doctoral student-supervisor cooperation (IBCH PAS - since 2023, other institutes - 2025). In case of difficulties, coordinators can intervene independently, organize a broader meeting, or refer the matter to management.
Additional Doctoral Student Evaluations - provided for in the PDS IPAS regulations to monitor the doctoral student's engagement and progress. The possibility of striking a doctoral student based on these has been abandoned.
Disciplinary Ombudsmen and Disciplinary Committees - ultimate instances aimed at stating the existence of reprehensible practices and punishing those responsible. So far, this tool has been used against one supervisor.
Currently, there are no doctoral students with disabilities at PDS IPAS. However, we are largely prepared, as the Institutes have made significant progress in recent years in adapting building accessibility for people with reduced mobility.
In the case of pregnancy, the doctoral student's IRP is updated to include the period of planned suspension. It is possible to agree with the supervisor on more convenient working hours or to arrange temporary or hybrid remote work. The extension of education for a doctoral student who is a young parent is guaranteed for the period of suspension, as well as the possibility of extending education for a fifth and sixth year. Whenever possible, after the right to a scholarship ceases, doctoral students are employed in the units.
In particularly justified cases, at the request of the doctoral student, the coordinator may agree to an individual course of study. In such a case, the coordinator or deputy, in agreement with the supervisor(s) and the doctoral student, establishes an individual program and schedule for the tasks necessary to complete the doctoral school.
One of the IBCH doctoral students conducted part of her research in a foreign center for a longer period. To ensure better substantive and organizational support, an auxiliary supervisor from that unit, specializing in the topic of the work, was appointed. There is also a considerable number of doctoral students going abroad for internships at leading scientific centers in Europe. It is less common to invite foreign specialists to our institution for a longer period due to costs. Since this year, IBCH has reactivated a foreign advisory team that visited the institute during the reporting session. On this occasion, the team also met with doctoral students. Doctoral students also meet with famous scientists visiting IBCH.
During the mid-term evaluation of a doctoral student, the work of the supervisor is also simultaneously evaluated. The analysis of annual reports on doctoral students' scientific activity is another opportunity to gain insight into supervisory care, especially if the annual reports are accompanied by supervisor evaluation surveys. These were introduced in 2023 at IBCH and in 2025 also in the other Institutes and are an important element enabling the early detection of irregularities. Another opportunity is the consideration of applications for the extension of education. These three situations are supervised by the discipline coordinators, who, in accordance with the regulations, are appointed to supervise the entire doctoral education process.
Due to the interdependence of the doctoral student and the supervisor and the impact of the doctoral students work on grant implementation, it is crucial to develop procedures for resolving conflicts and supporting their cooperation. Early detection of problems and openness of both parties are essential.
Self-assessment: Strengths: The strategies undertaken have already helped solve problems and lead to the timely completion of education, or enable doctoral students to continue their education after transfer. The way doctoral students are informed about ways and possibilities of resolving conflicts can be improved.

6. Integrity of the mid-term evaluation process

The principles of the PhD student's mid-term evaluation (ME) are described clearly and precisely in the "Rules of the PDS IPAS" § 7, paras. 18-21. It is available in electronic form, in two languages (both current and archived versions) on the School's website, the Institutes' BIPs, and in paper form in the doctoral secretariats. The basic criterion for ME is the implementation of the Individual Research Plan (IRP) based on the analysis of the PhD student's report. In case of discrepancies, the chances of rectifying them are analyzed based on the PhD student's progress and planned future undertakings. The report template and the MEC meeting protocol form are appendices to the PDS IPAS Rules.
A three-person ME Committee (MEC) is appointed by the coordinator or their deputy for a given discipline, individually for each PhD student, and they designate its chairman. The composition of the MEC is public and compliant with Art. 202 para. 4 of the Act. The chairman is the coordinator or their deputy, or in case of a conflict of interest, a person designated by them. At least two MEC members must hold a habilitated doctorate degree or a professor title. A MEC member from outside the entity co-creating PDS IPAS is a person with at least a habilitated doctor degree or a professor title in the discipline in which the doctoral dissertation is prepared, hereinafter referred to as the reviewer. In the case of appointing a reviewer from outside the country, this person must have at least a doctoral degree or equivalent and significant achievements in the relevant discipline. The coordinator checks the reviewer's qualifications and obtains their consent to participate in the MEC, along with a statement of no conflict of interest.
Neither the supervisor nor the auxiliary supervisor is a member of the MEC, nor can they be observers. In justified cases, they may be called upon to provide additional information/explanations. To ensure impartiality and the PhD student's psychological comfort, a representative of the PhD students' Self-Government may be present at the MEC meeting as an observer. At IBCH and IRG PAS, PhD students exercise this right in 90-100% of cases. The MEC meeting is held in a stationary or hybrid form whenever possible.
Actions taken to improve the process:
Initially, the supervisors could be present at the MEC meeting on a voluntary basis, but this was abandoned to standardize the MEC's composition and ensure the psychological comfort of the evaluated PhD student. During the difficult COVID-19 pandemic, the possibility of remote participation in MEC meetings was introduced and maintained. At IHG PAS, for some time now, the opinion of an additional expert from outside the Institute has been sought, whose achievements are close to the topic of the prepared doctoral dissertation, especially when it is difficult to find a reviewer from the medical sciences discipline who is also an expert in the topic of the evaluated doctoral dissertation.
The ME at PDS IPAS takes place halfway through the education period, i.e., between the last 2 months of the fourth semester of education and the 3rd month of the fifth semester of education. In the case of a 36-month education mode, the ME would take place in the last 2 months of the fourth semester, but there has been no such case yet. Due to the continuous recruitment applicable at PDS IPAS, the dates of mid-term evaluations are individually selected for each candidate. In individual, justified cases, the date of the MEC meeting was set at the end of the third year of education. This later date applied to PhD students whose education was suspended or whose IRP topic was changed. In these cases, education was extended by one or two years. To date, the dates of all MEs at PDS IPAS have been in accordance with applicable regulations.
We distinguish three main stages of ME. The first is the preparation of the IRP implementation report by the PhD student and its review by the supervisor and possibly the auxiliary supervisor. Subsequently, the aforementioned report is sent for review, understood as a written opinion of a MEC member - an external reviewer, characterized in the previous point of the self-assessment report. The review should contain an assessment of the progress in preparing the doctoral dissertation based on a comparison of the IRP and the aforementioned report. The aforementioned review should end with a recommendation regarding a positive or negative mid-term evaluation result and an appropriate justification. The review is made available to the PhD student and the supervisor. The last stage is the meeting of the MEC for the subject ME. During the MEC meeting, the PhD student usually presents their achievements in the form of a presentation and answers questions from the MEC. The reviewer who prepares a written opinion on the IRP implementation is usually present at the MEC meeting. At the MEC meeting, the reviewer's opinion is read out. In the case of IHG PAN, the Reviewer does not participate in the MEC meeting, nor is a PhD student's presentation to the MEC practiced, for the reason that such presentations to the advisory doctoral MEC take place at IHG PAN annually.
In the closed part of the meeting, the MEC agrees on a positive or negative ME and its justification, which is then recorded in the protocol. The MEC meeting protocol is signed by its Chairman, at least, and it is submitted to the PDS IPAS Secretariat to be included in the PhD student's file. The MEC meeting protocol template is an appendix to the PDS IPAS Rules. In case of a lack of unanimity, the result of the evaluation is decided by a majority of votes. The votes of all MEC members are equivalent. The PhD student is notified of the evaluation result no later than the next working day after the MEC meeting, based on information provided by the Chairman to the secretariat.
After receiving the signed protocol, the Secretariat publishes the ME result, along with the justification and selected information, on the website. In the case of sensitive data contained in the justification, a simplified justification is made public.
Actions taken to meet deadlines/improve the process:
At IBCH and IPG, no later than 2 months before the planned mid-term evaluation date, the PSD Secretariat reminds the PhD student of the need to submit the IRP implementation report. The PhD student is obliged to submit the report within 3 weeks of the notification.
The review is usually submitted electronically within 4 weeks to avoid delaying the MEC meeting date.
In 2021, to improve the mid-term evaluation process and ensure better accessibility and clarity of its rules, the description of evaluation rules in the PDS IPAS Regulations was expanded and detailed.
Self-assessment: Strengths: reliability and timeliness, care for the PhD student's well-being. To change: The provision in the Act on the selection of the MEC members should be based on the topic of achievements instead of discipline.

7. Internationalization

Internationalization is a very important element in scientific work because it has a very positive impact on the creativity of the scientific community. The education of a large number of doctoral students from various countries and continents at our Doctoral School is of particular value to us.
Degree of internationalization of staff, including scientific or artistic mobility and activity in the international environment of academic teachers or researchers conducting education at the doctoral school.
Among the lecturers conducting classes with doctoral students, we have several specialists from abroad (Konstantin Tertiakov, Gregory Franklin, Dibyendu Mondal, Leonard Kiirika). Furthermore, our local staff consists of lecturers who have completed long-term internships in world-renowned laboratories. They publish in renowned international journals. In addition, they conduct research in cooperation with scientists and prestigious scientific units from various countries. They also have experience in presenting to local and international audiences, e.g., at scientific conferences.
Degree of internationalization of the educational process at the doctoral school and the scientific activity of doctoral students, in particular conducted on the basis of individual research plans, including scientific or artistic mobility of doctoral students.
In the process of educating doctoral students, we enable them to undertake internships in other units, including foreign ones, and to participate in international conferences. Doctoral students publish the results of their research in international journals, and some, including Poles, submit their doctoral dissertations in English. Doctoral students affiliated with the Institutes co-running the School have the opportunity to participate in institute seminars, mostly conducted in English, and to attend lectures and meetings with eminent scientists from around the world, organized by the Institutes for their employees and doctoral students. All doctoral dissertations at PDS IPAS are carried out within scientific projects financed by Polish institutions. Sometimes, they are also carried out within international projects with foreign capital. Many doctoral students have had the opportunity to present the results of their research at international conferences. Longer research trips abroad (lasting one month or more) are also practiced as part of the IRPs implementation: Three doctoral students from the IBCH PAN spent 3-4 months on internships abroad, conducting research in Spain, Portugal, and Germany. Doctoral students from the IMP PAS completed internships in Sweden and Germany. Four doctoral students from the IPG PAS held internships ranging from 1-7 months in Germany and the UK. One doctoral student from the IHG PAS completed two research internships in Belgium (1 and 3 months), and one doctoral student from the ID PAS also had a three-month internship in Germany.
How are the needs of foreign doctoral students taken into account in the educational process at the doctoral school?
Bearing in mind the significant importance of openness to doctoral students from other countries, one of the actions is to conduct most lectures and other classes in English. Furthermore, all the most important documents and forms are bilingual or in two language versions, starting from competition announcements, PDS IPAS Regulations, Recruitment Regulations, Education Program, school and institute websites, and ending with most application forms. Additionally, correspondence with doctoral students is usually conducted in two language versions. We provide special care for newly admitted foreign doctoral students. We help them with essential formalities in offices, with finding accommodation, especially during the first period of work after arriving in Poland. This assistance comes from "Welcome point" staff and supervisors, or other administrative and technical personnel within individual scientific departments.
Ways to increase the recognition of the doctoral school abroad and its effectiveness.
The PAS Institutes forming the Poznań Doctoral School promote it on the international arena on their Institute websites and by publishing competition announcements on the international Euraxess portal. The effectiveness of this promotion is reflected in the significant percentage of doctoral students from other countries (32%) who have been admitted to PDS IPAS. Currently (as of May 11, 2025), there are 91 active participants in education, including 25 foreigners from countries such as: Spain (1), India (9), Iran (1), Cameroon (1), Lebanon (1), Morocco (1), Pakistan (2), Portugal (1), United States (1), Turkey (2), Ukraine (4), Vietnam (1).
Self-assessment: Strengths: When discussing the internationalization of the Doctoral School, it is important to remember the high degree of internationalization of the Institutes running the School and the scientific research conducted. However, this does not mean the necessity of foreign cooperation to improve the level of research, as many Polish scientific units and eminent scientists are among the world's leaders. The presence of a significant number of foreign doctoral students in our Doctoral School indicates the high level of research in the Institutes that form the Doctoral School, which attracts foreign doctoral students.
Acting in the same spirit, we intend to enrich the group of lecturers with people from outstanding foreign scientific units and people from native units currently working in prestigious foreign centers.
What certainly needs improvement is the operation of the Department for Foreigners of the Voivodeship Office in Poznań, because due to the long waiting times for subsequent residence permits, our foreign doctoral students sometimes cannot go to conferences or foreign internships.

8. Effectiveness of doctoral education

Percentage of individuals who obtained a doctoral degree	Doctoral students who applied for initiation of proceedings for the award of a doctoral degree	Doctoral students who were awarded a doctoral degree	Doctoral students who were denied the award of a doctoral degree
in the number of doctoral students who completed their education at the doctoral school during the evaluation period	88 %	38 %	0 %
in the total number of doctoral students who completed their education at the doctoral school	70 %	30 %	0 %

During the evaluation period of the PDS IPAS, from 1.10.2019 to 11.05.2025, 8 people completed their education, submitting their doctoral dissertations on time. Four of them were submitted before 48 months expired, and the other 4 within the extended period (not exceeding an additional two years). 7 people (87.5%) initiated the doctoral degree procedure, and 3 (37.5%) obtained their doctoral degrees. Given the short operating time of the school, the long-term nature of research, the COVID-19 pandemic, and the processes of publishing and obtaining a doctoral degree, a rate of 37.5% is a great success. It is expected that by the end of the current year, at least 7 of these 8 people will have been awarded a doctoral degree, which testifies to the good organization and high quality of education at PDS IPAS.

The level of scientific achievement of doctoral students varies, but is generally high. Almost all graduates or doctoral students in their 4th-6th year can demonstrate at least one co-authored publication in a peer-reviewed international journal related to their IRP topic.
Annual surveys are conducted regarding the evaluation of supervisors and lecturers. Additionally, surveys related to the HR certificate are conducted every three years. The results are analyzed to identify areas for improvement.
Due to the small number of graduates, it isn't easy to create a representative sample. Monitoring their careers is a challenge, as data submission is voluntary. Thanks to publicly available tools, we can track their scientific publications and affiliations, provided their names have not changed. In the future, we will also search for habilitated doctors and professors among graduates in scientific databases, the CSO, and Wikipedia. In the long run, this data can be used to strengthen the school's reputation, in comparison to other doctoral schools, in terms of the effectiveness of shaping scientific careers. This is not yet possible due to the young age of doctoral schools.

1. medical sciences

Achievement Description

KEY ACHIEVEMENTS OF PHD STUDENTS AT PSD IPAN IN MEDICAL SCIENCES - IHG PAS

Osiągnięcie 1. Joanna Jurczak

The analysis of the respiratory epithelium transcriptome at seven arbitrarily chosen stages of differentiation in human Airway Epithelial Cells (hAECs) using probe-based qRT-PCR (TaqMan Low-Density Array, TLDA), compared to the RNAseq method, proved to be an optimal approach for analyzing the expression of 14 genes crucial for differentiation. The use of TLDA allowed the expression of each of these genes to be assigned to a specific stage of respiratory epithelium differentiation. It was shown that the transcription of many genes in hAE cells from healthy donors differs depending on the differentiation stage.
Significance: Ciliary motility disorders are the basis of the genetically determined disease primary ciliary dyskinesia (PCD). The TLDA test is a reliable approach for studying the expression of selected PCD genes. This achievement will allow for a deeper understanding of respiratory epithelium differentiation processes and the differentiation processes that are disrupted in this disease. This is of great importance for developing new diagnostic tools and may contribute to future therapies for this disease.

ORIGINAL ARTICLE: In vitro differentiation of ciliated cells in ALI-cultured human airway epithelium – The framework for

functional studies on airway differentiation in ciliopathies; Z. Bukowy-Bieryłło, P. Daca-Roszak, **J. Jurczak**, H. Przystałowska-Macioła, R. Jaksik, M. Witt, E. Ziętkiewicz. Eur J Cell Biol. 2022

Achievement 2. Matisa Alla

A model was generated to study the impact of human infertility-causing mutations on the molecular mechanisms responsible for the formation and early stages of germ cell development, using the example of the NANOS protein, which interacts with RNA. A human W15 stem cell line with induced expression of the NANOS1 variant and wild-type NANOS1 was established, and conditions for differentiating these cells into germ cells were developed. Using eCLIP/RNAseq techniques, mRNAs interacting with NANOS1 were identified at the pre-mesendodermal (pre-me) stage and the primary germ cell (PGC) formation stage. A repressive effect of the NANOS1 variant was demonstrated, manifested by, among other things, disrupted WNT signaling, decreased expression of pluripotency markers such as SOX17, TFAP2C, and NANOS3, and a reduced number of PGCs compared to wild-type NANOS1. Inhibition of abnormally stimulated WNT signaling in PGCs in vitro led to the rescue of pluripotency factor and PGC marker expression.
Significance: Infertility affects approximately 15% of couples worldwide and is often caused by genetic variants. The created model is an achievement that allows for delving into the molecular basis of infertility in patients burdened with the NANOS1 variant associated with the absence of germ cells in the testes of infertile patients. This model will be used to develop new diagnostic tests for infertility and, in the longer term, therapies.

REVIEW ARTICLE: Navigation of Nanos germ cell specification factor to germ granules -posttranscriptional regulation hubs - across species; Lakshmi B, **Alla M**, Jaruzelska J. Biol Reprod. 2025 May 3:ioaf105. Online ahead of print.

Achievement 3. Monika Pieniawska

The importance of histone deacetylase HDAC10, an enzyme regulating chromatin structure and gene expression, in the pathogenesis of Sézary syndrome was demonstrated, as HDAC10 overexpression occurs in patients with Sézary syndrome. The localization of HDAC10 primarily in the cytoplasm of cancer cells was shown, suggesting a role for this deacetylase in other processes beyond histone deacetylation. Overexpression of HDAC10 promoted cancer cell survival by inhibiting apoptosis. In ZS cell lines in vitro, by applying a specific HDAC10 inhibitor in combination with an apoptosis-inducing drug, increased susceptibility of cells to treatment was demonstrated.
Significance: Sézary syndrome is a rare, aggressive form of cutaneous T-cell lymphoma. Understanding the molecular basis of this severe disease is crucial for developing effective therapies. The described achievement opens new therapeutic possibilities in this difficult-to-treat disease.

ORIGINAL ARTICLE: HDAC10 and its implications in Sézary syndrome pathogenesis; **M. Pieniawska**, K. Rassek, B. Skwara, M. Żurawek, I. Ziółkowska-Suchanek, L.Visser, M. Lodewijk, M. Sokołowska-Wojdyło, B. Olszewska, R. J Nowicki, T. Stein, A. Dańczak-Pazdrowska, A. Polańska, M. Szymoniak-Lipska, N. Rozwadowska, K. Iżykowska. Front Cell Dev Biol. 2025 Jan 31:13:1480192.

Achievement 4. Rim Ibrahim i Zuzanna Graczyk

Whole-genome sequencing (WGS) analysis of DNA from asthenozoospermic patients and their parents led to the identification of several potentially pathogenic variants in genes previously linked to infertility, as well as new candidates responsible for sperm motility and flagellar structure, such as: DNAH12, CFAP70, CFAP54, DYNC1LI2, G6PD, ODC1, GLRA2, and also for sperm viability and concentration, ZMYM1 and GLIS2.
Significance: Male infertility is a challenging medical problem. Understanding its underlying causes, e.g., by identifying variants of genes important for the reproductive system in the context of infertility in relation to asthenozoospermia and non-obstructive azoospermia, is crucial. This achievement enriches current knowledge about the genetic basis of male infertility and supports the development of more comprehensive diagnostic panels used in clinical practice.
Additionally, **Rim Ibrahim** received the following awards:

- 2nd Jury Prize in the 5th edition of the French competition "My PhD in 180 Seconds" – Polish Edition, 2023.
- 2nd Prize for best presentation at KONDOKPAN 2024, National Conference of PhD Students of the Polish Academy of Sciences in Warsaw. "Uncovering the genetic causes of asthenozoospermia using whole genome sequencing in three consanguineous families" (**Rim Ibrahim**, Agnieszka Malcher, Tomasz Stokowy, Alexander N Yatsenko and Maciej Kurpisz).

ORIGINAL ARTICLE: TKTL1: a new candidate gene in non-obstructive azoospermia; A. Malcher, Smolibowski, T. Stokowy, Hermann Bauer, A. Patyk, P. Jedrzejczak, J. Kostyk, **Z. Graczyk**, **R. Ibrahim**, K. Bednarek-Rajewska, A. Berger, A. N Yatsenko, M. Kurpisz. Reproductive BioMedicine Online. 2025;0(0). 4 March 2025, 104895

Achievement 5. Greta Sawicz

Silencing of miR-27b-3p in cHL cell lines: L540, SUP-HD1, and KM-H2 using a miRZip vector resulted in decreased cell proliferation ($p < 0.05$) in all tested lines, indicating an oncogenic role for miR-27b-3p in cHL. To investigate the mechanism of miRNA cluster overexpression, Oxford Nanopore sequencing and DNA pyrosequencing were performed within the AOPEP gene, which encodes this cluster. A cHL-specific epimutation in the form of extensive DNA demethylation in the enhancer region of the AOPEP gene (hg19; chr9:97,769,000-97,769,398) was demonstrated, compared to NHL and GCB cell lines. Demethylation of this region resulted in the expression of a short, non-canonical, non-coding variant of the AOPEP gene (ENST00000471978), which is not present in other hematological malignancies or GCB cells, and is therefore specific to Hodgkin lymphoma. This epimutation correlates with the overexpression of miR-27b and two other miRNAs, thus indicating epigenetic regulation of the miR-23b/27b/24-1 cluster.
Significance: Classical Hodgkin lymphoma (cHL) is a B-cell derived malignancy characterized by the presence of neoplastic Hodgkin and Reed-Sternberg (HRS) cells, which exhibit profound epigenetic changes shaping the cHL transcriptional profile. A significant aspect of this disease is changes within microRNAs, particularly determining the function of miR-27b-3p in cHL pathogenesis and investigating the underlying mechanism of overexpression of the entire miR-23b/27b/24-1 cluster in which it occurs. The presented achievement indicates the function of miR-27b-3p as an oncogenic miRNA (oncomiR) in cHL. Due to its oncogenic properties and characteristic epigenetic regulation, the miR-23b/27b/24-1 cluster represents a promising biomarker and potential therapeutic target in the treatment of Hodgkin lymphoma.

ORAL PRESENTATION: Epigenetic regulation of the onco-mir-27b-3p in cHL" **G. Sawicz**, K. Bednarek, E. Kowal-Wiśniewska, A. Ustaszewski, A. Fischer, R. Siebert, J. Kluiver, A. van den Berg, M. Giefing; 06-08.02.25 - 2nd Leopoldina meeting on Hodgkin Lymphoma, Halle, Niemcy.

2. physical sciences

Achievement Description

KEY ACHIEVEMENTS OF PSD IPAN DOCTORAL STUDENTS IN PHYSICAL SCIENCES - IFM PAN

Achievement 1. Joanna Marciniak

Conducted research using computational methods for ultrathin magnetic layers of several to a dozen atomic monolayers based on iron. The studied model systems were defined using crystal lattice parameters, considering individual atomic positions, and then DFT calculations were performed for the developed structures, allowing for the determination of physical properties without the use of fitting parameters to experiment. The size of the studied systems was up to a dozen non-equivalent atoms per computational cell, which, in the case of the thickest layers, constituted a huge numerical challenge, especially for the determined magnetic anisotropy energy. For this purpose, a computational cluster with an above-average amount of operating memory (512 GB per computational node) was used for the calculations. It was crucial to perform calculations and analyze the magnetic properties of ultrathin L10 FePt, L10 FeNi and FeCo layers with interstitial dopants. A key issue was determining the dependence of magnetic anisotropy energy on thickness for L10 structured layers and determining the effect of the doping element on the magnetic anisotropy energy of the layer in the case of FeCo layers with dopants. The data obtained from the research are significant from the point of view of practical applications of individual materials in spintronics. The research carried out by Eng. Joanna Marciniak is pioneering. FeCo layers with dopants represent the first approach to atomic-scale modeling of magnetic layers with dopants placed in interstitial positions, allowing for a more realistic reflection of their structure and, consequently, their physical properties. In contrast, the results obtained for L10 FeNi layers show, for the first time, the potential that DFT calculations can bring to the description of magnetic properties of L10 FeNi layers, thus complementing the last twenty years of experimental work on these layers. The conducted research and obtained results were reflected not only in scientific articles in renowned international journals, but also allowed Ms. Marciniak to get a scholarship within the project "Nano-skala studieravmagnoner med. Svepandetransmissions elektronmikroskopi" funded by the Olle Engkvist's Foundation for a postdoctoral internship at Uppsala University in Sweden. Ms. Joanna Marciniak studied at PSD IPAN, completing her doctoral dissertation at the Institute of Molecular Physics PAS. She obtained her Ph.D. degree in exact and natural sciences, in the discipline of physical sciences, on April 15, 2025, awarded by the Scientific Council of IFM PAN.

ORIGINAL ARTICLES:
FePt thin films with tilted and in-plane magnetic anisotropy: A first-principles study; **J Marciniak**, M Werwiński - Physical Review B, 2023 – APS

Magnetic anisotropy of L10 FeNi (001), (010), and (111) ultrathin films: A first-principles study; **Marciniak, J** and Werwinski, M; Nov 1 2024; JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS

Achievement 2. Justyn Snarski-Adamski

Utilization of an atomistic approach to model crystal structures with thicknesses from atomic monolayers (0.2 nm), through thin-film systems (100 nm), up to bulk materials in ferro-, ferri-, and antiferromagnetic ordered structures. The research was based on density functional theory calculations, employing the FPLO (full-potential local-orbital) computational code and relying on first-principles calculation results. Thanks to such a theoretical approach, it was possible to prepare structural models, optimize their geometry, and perform calculations for an extensive series of systems depending on the layer thickness, heterostructure component, and chemical composition. The main goal was to determine the magnetic configuration of the systems with particular emphasis on the magnetization direction and the value of magnetocrystalline anisotropy energy. In the conducted research, simulations of Bragg scattering for antiferromagnets were shown for the first time, obtaining a result consistent with Loundon's pioneering experimental research from 2012. The theoretical calculations that were conducted for the studied structures indicate specific cases in which it is possible to obtain materials that exceed the energetic criterion for hard magnetic materials. The obtained results are of significant importance for practical applications of the considered materials. Results for thin layers can be used in spintronic systems and in the construction of magnetic tunnel junctions with perpendicular anisotropy. In contrast, the results for CeFe12-based alloys provide important indications that are useful for manufacturing permanent magnets that do not contain neodymium and samarium. The significant contribution of the obtained results has been confirmed in international scientific publications (Physical Review Materials, Journal of Magnetism and Magnetic Materials, Ultramicroscopy) and allowed for obtaining funding, as part of the NAWA project, for a 6-month scientific internship at the Faculty of Physics and Astronomy, Uppsala University in Sweden. **Mr. Justyn Snarski-Adamski** studied at PSD IPAN, completing his doctoral dissertation at the Institute of Molecular Physics PAS. He was awarded his Ph.D. degree in exact and natural sciences, in the discipline of physical sciences, on June 24, 2025, by the Scientific Council of IFM PAN.

ORIGINAL ARTICLES:

Boundary-induced phase in epitaxial iron layers; Anna L. Ravensburg, Mirosław Werwiński, Justyna Rychły-Gruszecka, **Justyn Snarski-Adamski**, Anna Elsukova, Per O. Å. Persson, Ján Rusz, Rimantas Brucas, Björgvin Hjörvarsson, Peter Svedlindh, Gunnar K. Pálsson, and Vassilios Kapaklis; Phys. Rev. Materials 8, L081401 (2024) - Published 12 August, 2024
Magnetic properties of 3d, 4d, and 5d transition-metal atomic monolayers in Fe/TM/Fe sandwiches: Systematic first-principles study; Journal of Magnetism and Magnetic Materials; 15 March 2022; **Justyn Snarski-Adamski**, Justyna Rychły-Gruszecka, Mirosław Werwiński
Simulations of magnetic Bragg scattering in transmission electron microscopy; Ultramicroscopy May 2023; **Justyn Snarski-Adamski**, Alexander Edström, Ján Rusz;
Effect of transition metal doping on magnetic hardness of CeFe12-based compounds; Journal of Magnetism and Magnetic Materials; 15 July 2022; Justyn Snarski-Adamski, Mirosław Werwiński
Simulations of magnetic Bragg scattering in transmission electron microscopy; **J Snarski-Adamski**, A Edström, P Zeiger, JÁ Castellanos-Reyes, K Lyon, et al; Ultramicroscopy 247, 113698

Achievement 3. Daniel Kiphart

The development of methods, utilizing ion beam bombardment and crystal sublattice modification, allows for controlling the modified sublattice's influence on ferrimagnetic properties in thin magnetic layers. The support of the obtained experimental results with atomic-level simulations, using Monte Carlo methods, allowed for the first time a detailed explanation of the mechanisms controlling crystal sublattice modification processes using various experimental techniques. In particular, the conducted experimental studies and calculations for the cobalt/terbium-cobalt (Co/Tb-Co) bilayer provided insight into the complicated process of magnetization reversal of the bilayer system and showed that the addition of a cobalt layer is an effective alternative to ion bombardment. These results allow the creation of magnetic layers with desired magnetic properties dedicated to specific applications. The significance of the results is confirmed not only by publication in internationally recognized journals but also by obtaining funding for a research proposal submitted to the National Synchrotron Radiation Centre SOLARIS, which grants access and research time at the synchrotron. **MSc. Daniel Kiphart** is currently a 4th-year PSD IPAN student completing his doctoral dissertation at IFM PAN. So far, he has published four scientific articles, being the first author in two of them.

ORIGINAL ARTICLES:
Ferrimagnetic Tb/Co multilayers patterned by ion bombardment as substrates for magnetophoresis; M Urbaniak, **D Kiphart**, M Matczak, F Stobiecki… - Scientific Reports, 2024
Origin of ion bombardment induced Tb oxidation in Tb/Co multilayers; **D. Kiphart**, M. Krupiński, M. Mitura-Nowak, P.P.

Michałowski, M. Kowacz, M. Schmidt, F. Stobiecki, G.D. Chaves-O'Flynn, P. Kuświk - Applied Surface Science; Volume 685, 15 March 2025, 1620902025 - Elsevier

3. agriculture and horticulture

Achievement Description

KEY ACHIEVEMENTS OF PHD STUDENTS AT PDS IPAS – AGRICULTURE AND HORTICULTURE

Achievement 1. Deeksha Singh

This achievement concerns understanding the molecular mechanisms related to gall formation on the roots of brassicaceous plants. The disease (clubroot) is caused by the soil-borne obligate biotroph, *Plasmodiophora brassicae*. It has been documented that at least three PHLOEM EARLY DOF (PEAR) genes – PEAR1, DOF6, and HCA2 – are induced during gall development in proliferating phloem. However, mutations in these genes do not lead to a decrease in proliferation levels. It has been shown that their induction reflects an altered state of proliferation within the galls, rather than a direct effect of *P. brassicae* infection on excessive phloem production.

ORIGINAL ARTICLE: PHLOEM EARLY DOFs (PEARs) are induced within clubroot galls as a consequence of cambial stimulation and vascular reprogramming during *Plasmodiophora brassicae* infection in *Arabidopsis thaliana*. **Singh D.**, Blicharz S., Roszak P., Helariutta Y., Malinowski R. (2025). Journal of Experimental Botany. DOI: 10.1093/jxb/eraf225

Achievement 2. Anna Surma
This achievement concerns the development and validation of a set of PCR markers (including CAPS type) enabling molecular selection of extreme flowering time ecotypes of white lupin (*Lupinus albus L.*) – a legume crop that is still undergoing improvement of important utility traits. The study positively verified three DArT-seq markers, two silicoDArT markers, and seven INDEL markers for the *LalbFTc1* gene. The obtained markers allow for fast and accurate selection of white lupin genotypes for early flowering and thermoneutrality or late flowering and vernalization response, as well as for assessing the high genetic and phenotypic diversity of white lupin.

ORIGINAL ARTICLE: Development and validation of PCR marker array for molecular selection towards spring, vernalization-independent and winter, vernalization-responsive ecotypes of white lupin (*Lupinus albus* L.). **Surma A.**, Książkiewicz M., Bielski W., Kozak B., Galek R., Rychel-Bielska S. (2025). Scientific Reports. 15(1): DOI: 10.1038/s41598-025-86482-1

Achievement 3. Martyna Michałek
This achievement concerns the development of a review of works in the field of melatonin biosynthesis, which plays a key role in increasing plant resistance to environmental stresses by regulating physiological and biochemical responses. The complex interaction between melatonin and phytohormones, particularly auxins, cytokinins, and brassinosteroids, the antioxidant activity of melatonin and its derivatives, and their influence on photosynthesis were discussed. The importance of melatonin in crop improvement strategies to enhance abiotic stress resistance while promoting sustainable agricultural practices was also highlighted.

REVIEW ARTICLE: Melatonin in crop plants: from biosynthesis through pleiotropic effects to enhanced stress resilience. **Michałek M.**, Ogrodowicz P. , Kempa M. , Kuczyńska A., Mikołajczak K. (2025). Journal of Applied Genetics. DOI: 10.1007/s13353-025-00963-7

Achievement 4. Elsie Ayamoh Enow

This achievement concerns the development of a review of works on diseases of Asparagus officinalis (asparagus) – an important perennial vegetable crop whose productivity and longevity are often threatened by soil-borne pathogens such as Fusarium spp. This article summarizes knowledge of plant defense responses to Fusarium spp. infection and delves into the regulatory mechanisms of host metabolites involved in interactions with pathogenic fungi. Understanding the dynamics of these interactions is essential for developing strategies for effective Fusarium-related disease management and breeding disease-resistant asparagus varieties.

REVIEW ARTICLE: Host Metabolites in Asparagus–*Fusarium* Interaction: Mechanisms and Regulation. **Enow E.A.**, Urbaniak M., Stępień Ł. (2025). Plant Pathology. 74(1): 923-942. DOI: 10.1111/ppa.14083

Achievement 5. Deeksha Singh

In 2024, the PhD student received a prestigious **EMBO Scientific Exchange Grant**, enabling her to continue research on *Plasmodiophora brassicae*-induced developmental reprogramming in brassicaceous plants at the Sainsbury Laboratory Cambridge University (SLCU) in the UK. The PhD student is undertaking this internship in 2025.

4. chemical sciences

Achievement Description

ACHIEVEMENT 1

PhD student **Aleksandra Pawłowicz-Perczak** is one of two equally contributing first authors of a publication focusing on the role of divalent metals in the folding and activity of the 8-17 DNAzyme, a DNA molecule capable of catalyzing RNA strand cleavage at a precisely defined sequence point.
The PhD student took a leading role in the research on the 8-17 DNAzyme when a variant of this system optimal for NMR structural studies had already been identified, and its preliminary three-dimensional structure induced by zinc ions (Zn2+) had been determined. Although in a typical project this would be a very advanced research phase, in the case of the 8-17 DNAzyme, understanding the three-dimensional structure induced by Zn2+ ions proved to be only a starting point. The accepted model assumed the existence of two different active structures of the 8-17 DNAzyme depending on the type of cofactor – in the presence of Pb2+ ions, the DNAzyme was supposed to use the so-called "open" active form, while the binding of other metal ions, including Zn2+, was supposed to lead to further folding of the system into another "compact" active structure. NMR studies conducted at ICHB PAS showed DNAzyme folding in response to Zn2+ binding, but unexpectedly, the "compact" structure thus induced turned out to be remarkably similar to the previously crystallographically solved structure existing in the presence of Pb2+.
The PhD student's research led to the explanation of this apparent contradiction and the formulation of a new model of 8-17 DNAzyme interactions with metal ions. One of the important tasks carried out by the PhD student was to conduct structural studies of the 8-17 DNAzyme using solution NMR methods in the presence of a series of metal ions other than Zn2+. The results confirmed the folding of the 8-17 DNAzyme by Mg2+ or Na+ ions, as well as unexpected structural changes induced by Pb2+ ions, contrary to earlier reports. Moreover, 2D NMR spectral analysis showed that all these ions induce the same 8-17 DNAzyme structure as the previously studied Zn2+, which explains the similarity to the earlier crystallographic structure in the presence of Pb2+. However, the question remained why numerous earlier low-resolution studies (e.g., CD, FRET) consistently reported a lack of DNAzyme folding in response to the addition of Pb2+ ions. Detailed studies of the dependence of 8-17 DNAzyme catalytic activity on the concentration of the present cofactor (metal ion) were performed for three different metal ions – Zn2+, Mg2+, and Pb2+ – and provided the explanation for this puzzle. This stage of research required the PhD student to perform a huge amount of laboratory work, consisting of monitoring RNA strand cleavage reactions at a number of time points, under dozens of different solution conditions, while simultaneously monitoring reaction results using electrophoretic methods. This work allowed for the determination of the affinity of each of the studied metal ions to the binding site on the surface of the 8-17 DNAzyme directly involved in the RNA cleavage reaction. Comparison of the obtained results with the affinity estimated in parallel using experimental methods sensitive to DNAzyme molecule folding led to the unexpected observation that for Zn2+ and Mg2+, these affinities differ by several orders of magnitude. This meant that at least two metal ions must bind to the 8-17 DNAzyme – one responsible for its folding (with better affinity for Zn2+ and Mg2+) and the other directly involved in the RNA cleavage reaction. In the case of the Pb2+ ion, the affinities determined by the PhD student using these two methods turned out to be much more similar. This means that, unlike other cofactors, Pb2+ ions activate the 8-17 DNAzyme already at concentrations where the active form induced by the binding of these ions coexists with a significant fraction of other, unstructured DNAzyme molecules. This explained the different behavior of Pb2+ in earlier low-resolution studies, where the macroscopically observed effect is an average of the properties of the entire present set of conformations of the studied system.
In addition to the experimental contribution described above, the PhD student also made a significant contribution to the preparation of the mentioned publication.

ORIGINAL ART.: *Nature Communications*. 2024 May 17;15(1):4218. The 8-17 DNAzyme can operate in a single active structure regardless of metal ion cofactor; J. Wieruszewska #, **A. Pawłowicz** #, **Ewa Połomska**, K. Pasternak, Z. Gdaniec, W. Andrałojć

ACHIEVEMENT 2
In a publication prepared for Frontiers in Chemistry (2024), PhD student **Kinga Pokrywka** focused on developing variants of the ReAV protein containing mutations in the metal ion binding site, in order to better understand the catalytic mechanism of this enzyme.
An analysis of the degree of conservation of amino acid residues within the ortholog family was performed, mapping the obtained data onto the ReAV structure. This allowed for the identification of the most conserved regions, located in the presumed active site of the enzyme. It was assumed that high conservation of these residues might be crucial for its catalytic activity.
The PhD student began by preparing seven ReAV mutants using site-directed mutagenesis (C135A, K138A, H139A, Y156A, D187A, C189A, C249A). After confirming the correctness of the DNA sequence and the presence of desired mutations, she proceeded to protein production in a bacterial expression system. Subsequently, she purified them using nickel affinity chromatography and gel filtration (exclusion chromatography). The purified proteins were concentrated to an appropriate concentration and prepared for crystallization. The crystallization process was carried out by vapor diffusion, using the hanging drop technique. Screening of several hundred crystallization conditions allowed for obtaining crystals for five of the seven variants. For two mutants (Y156A and C249A), stable protein preparations could not be obtained, probably due to disturbances in their spatial structure caused by the mutations.
Mutational studies confirmed the initial hypothesis – modification of highly conserved residues, such as Cys135, Asp187, and Cys189, led to a complete loss of L-asparaginase activity. Importantly, the substitution of alanine at position Lys138, belonging to the zinc coordination sphere, resulted in only a partial decrease in enzyme activity. Since preventing zinc ion binding (C135A and C189A mutations) completely abolished activity, and its weakening (K138A mutation) was associated with a significant decrease in affinity for Zn2+, it was postulated that zinc ions may play an important role in the catalysis carried out by ReAV.
The next step planned was to use the K138A mutant for large-scale crystallization in the presence of L-asparagine and L-aspartic acid, to obtain a substrate/product complex. The kinetic and crystallographic results to date have provided many valuable insights into the enzyme's catalytic mechanism.

ORIGINAL ART.: *Front Chem.* 2024 Apr 4:12:1381032. Probing the active site of Class 3 L-asparaginase by mutagenesis. I. Tinkering with the zinc coordination site of ReAV; **K. Pokrywka**, M. Grzechowiak, J. Sliwiak, P. Worsztynowicz, J. I. Loch, M. Ruszkowski, M. Gilski, M. Jaskolski

ACHIEVEMENT 3
The results obtained during the work on the publication for Frontiers in Chemistry (2024) formed the basis for planning further research. It was shown that the K138A mutation weakens metal ion binding while slowing down enzyme activity, which creates favorable conditions for crystallization with substrate and product to obtain a complex that can help decipher the enzyme's catalytic mechanism.
Using kinetic and crystallographic data, PhD student **Kinga Pokrywka** prepared a new ReAV variant in which the Lys138 residue, involved in zinc ion coordination, was replaced by another basic amino acid, histidine (K138H). Kinetic studies showed that in the case of the wild-type protein (WT) and the K138A and K138H variants, the presence of Cd2+ ions further increases the enzyme's affinity for the substrate, while simultaneously slowing down its catalytic activity.
The PhD student then used K138H, K138A, and WT proteins for a series of co-crystallization experiments with L-asparagine (substrate) and L-aspartic acid (product). Additionally, crystallizations were performed in the presence of cadmium ions to further slow down the enzymatic reaction and improve substrate binding. As a result, three crystal structures of the ReAV enzyme and its variants in complex with L-asparagine were obtained.
Next, the PhD student analyzed the obtained structures for substrate binding. In the wild-type ReAV structures and the K138H variant, the substrate molecule is anchored to the cadmium ion via the α-amino and α-carboxyl groups. In the case of the K138A structure, the electron density map for the L-Asn ligand was ambiguous and reflected the orientational and conformational mobility of the substrate, resulting from the absence of a metal ion in the active site.
The next step was to analyze the stereochemistry of the nucleophilic attack. The obtained crystal structures of the WT enzyme and its two variants in complex with L-asparagine confirmed earlier assumptions that the Ser48 residue acts as a catalytic nucleophile, providing optimal stereochemical conditions for attacking the Cγ atom of the substrate. A two-step catalysis mechanism was proposed, but based on the available crystallographic data, it is not yet possible to fully describe the course of the enzymatic reaction, as information regarding the second nucleophilic attack is still missing.

ORIGINAL ART.: *FEBS J* 2025; 292(5):1159-1173; Controlling enzyme activity by mutagenesis and metal exchange to obtain crystal structures of stable substrate complexes of Class 3 L-asparaginase **K. Pokrywka**, M. Grzechowiak, J. Sliwiak, P. Worsztynowicz, J. Loch, M. Ruszkowski, M. Gilski and M. Jaskolski

5. forestry

Achievement Description

The first doctoral student in this discipline began his studies on April 1, 2025, and has no significant achievements yet.

6. biological sciences

Achievement Description

KEY ACHIEVEMENTS OF PDS IPAS PHD STUDENTS - BIOLOGICAL SCIENCES IBCH PAS AND ID PAS

Achievement 1. Marta Sztachera

The publication by M. Sztachera et al. (CELL REPORTS 2025) presents a high-throughput study of RNA-protein interactions in the brain using advanced molecular biology techniques. The work optimized brain tissue processing and adapted the XRNAX method for mouse brain samples. New protocols enabled in vivo analysis of RNA-protein complexes in healthy brains and in brains with myelination defects (a mouse model of Mbp gene mutation). It was shown that in myelin-deficient brains, significant disturbances in RNA-protein interactions occur, especially among canonical RNA-binding proteins involved in alternative splicing and cellular granule formation. Among other findings, increased accumulation of MBNL1 protein in the cell nucleus was identified, linked to reduced expression of circRNA circMbnl1(3,4,5,6) containing a nuclear localization signal. This suggests a novel mechanism of protein localization regulation through circRNA biogenesis, where enhanced nuclear MBNL1 localization affects changes in alternative splicing of genes regulated by this protein. It was also observed that PCBP1 protein in myelin-deficient brains forms numerous inclusions colocalizing with RNA in the hippocampus. Their number increased with animal age and neurological symptom severity (tremors, epileptic seizures), indicating potential pathological PCBP1 aggregation.
Significance: The published results are pioneering in developing tools for studying in vivo RNA-protein interactions in the brain, while providing new knowledge about molecular changes occurring in demyelination. The work was carried out by the ICHB PAS research group led by Dr. Monika Piwecka, DSc, in collaboration with PAS centers in Warsaw. Marta Sztachera was the main project executor.

ORIGINAL ART.: **M. Sztachera**, W. Wendlandt-Stanek, R.A. Serwa, L. Staszek, M. Smuszkiewicz, D. Wronka, M. Piwecka; Interrogation of RNA-bound proteome with XRNAX illuminates molecular alterations in the mouse brain affected with dysmyelination; CELL REPORTS 2025, 44, 115095;

Achievement 2. Daniel Fochtman
In December 2024, the prestigious Journal of Extracellular Vesicles (IF 15.5) published a review by researchers from the ICHB PAS Mass Spectrometry Laboratory. The article discusses current challenges related to precise proteomic profiling of small extracellular vesicles. These structures, secreted by almost all body cells into bodily fluids, contain bioactive molecules reflecting the state of parent cells, making them promising diagnostic and prognostic biomarkers. However, accurate analysis of their proteomic composition faces significant methodological difficulties. Overcoming these barriers could enable the use of vesicles as a form of "liquid biopsy," a non-invasive tool for early diagnosis and monitoring of civilization diseases, including cancer, neurodegenerative disorders, and cardiovascular diseases. The conclusions presented in the publication may contribute to the future development of non-invasive diagnostic methods based on small extracellular vesicle analysis. The work was prepared in collaboration with Prof. Monika Pietrowska from the National Oncology Institute in Gliwice.

REVIEW ART.: **D. Fochtman**, L. Marczak, M. Pietrowska, A. Wojakowska; Challenges of MS-based small extracellular vesicles proteomics; J EXTRACELL VES, 2024, 13, e70020

Osiągnięcie 3. Ha Linh Tran.
Plants utilize multi-step phosphorelay (MSP) pathways for signal transduction initiated by hormones like cytokines and ethylene, regulating growth, development, and stress responses. A key cytokinin receptor is CRE1, containing a hormone-binding CHASE domain, a histidine kinase (HK) domain, and a receiver (REC) domain. Signal transduction proceeds via: (i) cytokinin binding to the CHASE domain, (ii) CRE1 autophosphorylation at a conserved His residue, (iii) phosphate transfer to Asp in the REC domain, (iv) phosphate transfer to a histidine-containing phosphotransfer protein (HPt or AHP), and (v) activation of a response regulator (RR) that affects gene expression. The molecular basis of MSPs was investigated in two papers. The first determined the crystal structures of the REC domain of the CRE1 receptor from Arabidopsis thaliana and Medicago truncatula, revealing tight dimer formation with 3D domain swapping (1). This dimerization is consistent with the dimeric receptor form but incompatible with HPt binding, suggesting conformational changes are necessary for signal transduction. Functional studies confirmed that phosphorylation affects REC domain affinity for HPt. The second paper analyzed the AHP1/ARR1 complex (2). Structural data indicated that the GARP domain of the ARR1 regulator, responsible for DNA binding, must separate from the REC domain to allow DNA contact. Biophysical experiments showed moderate ARR1 preference for AHP1, indicating interaction flexibility and a potential role for ARR1 as a signal-integrating hub. AHP oligomerization analysis further showed that these proteins are monomers in their free state. In summary, these results deepen our knowledge of the dynamic protein interactions underlying MSP signaling in plants.

ORIGINAL ART.:
Tran LH, A. Urbanowicz, M. Jasiński, M. Jaskolski, M. Ruszkowski (2021). Front Plant Sci, 12:756341.*3D Domain Swapping Dimerization of the Receiver Domain of Cytokinin Receptor CRE1 From Arabidopsis thaliana and Medicago truncatula*
Tran LH & Ruszkowski M (2025). Front Plant Sci, 16:1537021. *ARR1 and AHP interactions in the multi-step phosphorelay system*

Achievement 4. Dr. Quadri Agbolade Anibaba
This achievement presents the potential use of spontaneous vegetation succession in the reclamation of coal mining dumps, detailing their economic and ecological benefits. It significantly contributes to biological sciences, specifically plant ecology and invasion biology. It was shown that native plant community characteristics influence alien species invasion levels and their ecological success. Seed mass and plant height were found to be good predictors of alien species cover. The negative impact of successional inhibitors on diversity indices was strongly dependent on the successional stage on post-mining dumps. Species richness, functional diversity, Shannon and phylogenetic diversity, and functional dispersion differed between successional stages. Although the intermediate successional stage boasts the highest species richness and diversity, it is most vulnerable to successional inhibitors. Biotic interactions, especially competition, play a key role, highlighting the importance of ecological dynamics and environmental context crucial for effective conservation and management of post-industrial areas. The results can serve as a basis for further research on succession in anthropogenic environments and support the formation of reclamation strategies in nature conservation practice.

ORIGINAL ART.:
Anibaba QA, Dyderski MK, Woźniak G, Jagodziński AM. 2023. Native plant community characteristics explain alien species success in post-industrial vegetation. *NeoBiota*, 85:1-22
Anibaba QA, Dyderski MK, Woźniak G, Jagodziński AM 2024. The inhibitory tendency of *Calamagrostis epigejos* and *Solidago spp.* depends on the successional stage in post-industrial vegetation. *Land Degrad Dev* 36:121-132.
Anibaba QA, Dyderski MK, Woźniak G, Jagodziński AM 2024. Remote sensing for site selection in vegetation survey along a successional gradient. *Ecol Evol* 14:e70200.

Achievement 5. Sebastian Bury
Despite extensive work on the impact of invasive tree species on forest ecosystems, how their influence scales across a gradient of neophyte abundance has not yet been investigated. This gap was filled by the work of **Sebastian Bury**. Analysis of understory vegetation biodiversity revealed both positive and negative impacts of black cherry and black locust, depending on the forest community type and biodiversity measure. The studied neophytes did not affect the growth increment of native tree species but limited their regeneration capacity. Areas with a higher proportion of these species showed increased densities of young shrub generations and admixture species typical of richer habitats. They also transform the species composition of the understory vegetation, reducing specialized components and leading to the loss of floristic distinctiveness of the studied systems. The obtained results expand current knowledge by indicating diverse mechanisms of invasive tree species' impact along a gradient of their abundance. This allows for assessing their impact based on invasion level and for further research on mitigating their effects.

ORIGINAL ART.:
Bury S. Dyderski MK. Invasive tree species affect terricolous bryophytes biomass and biodiversity in nutrient-poor but not nutrient-rich temperate forests. *Sci Rep* 2025 15:5272.
Bury S, Dyderski MK. No effect of invasive tree species on aboveground biomass increments of oaks and pines in temperate forests. *For Ecosyst* 2024 11:100201.
Bury S, Dyderski MK. Invasive *Prunus serotina* vs. *Robinia pseudoacacia*: How does temperate forest natural regeneration respond to their quantity? *NeoBiota* 2025 97:179-213.
Bury S, Jagodziński AM, Dyderski MK. In search of per capita effects of *Prunus serotina* Ehrh. invasion on temperate forest understory alpha diversity. *Biol* 2024 79:3011–25.
Bury S, Dyderski MK. Invasive *Prunus serotina* and *Robinia pseudoacacia* impact on understory vegetation is species-, habitat, and season-specific. *NeoBiota*, *in press* 2025.

ATTACHMENTS

Adequacy of the education program and individual research plans to the learning outcomes for qualifications at PRK level 8 and their implementation

No.	File type	Filename
1	Education programmes during the evaluation period	programme_study_PDSIPAS_2019.pdf
2	Education programmes during the evaluation period	template_course_card_PSDIPAN_2019
3	Education programmes during the evaluation period	Programme-of-Study_with-appendix_1-
4	Education programmes during the evaluation period	Programme_of_Study_2024_with_appe
5	Education programmes during the evaluation period	Programme_of_Study_with_appendix_1
6	Education programmes during the evaluation period	Detailed Programme of Study 2019_20
7	Education programmes during the evaluation period	Detailed Programme of Study_2020_21
8	Education programmes during the evaluation period	Detailed Programme_2021-22.pdf
9	Education programmes during the evaluation period	Detailed Programme_2022-23.pdf
10	Education programmes during the evaluation period	Detailed Programme_2023-24.pdf
11	Education programmes during the evaluation period	Detailed Programme_2024_25.pdf

Method of verifying learning outcomes for qualifications at PRK level 8

No.	File type	Filename
1	The method of assessing the learning outcomes for qualifications at level 8 of the PQF	Sposób weryfikacji_method of verifying_ 8PRK.pdf

Qualifications of academic teachers or research staff conducting education at the doctoral school

No.	File type	Filename
1	biological sciences	Profiles of lecturers in the Programmes featuring biology.pdf
2	chemical sciences	Profiles of lecturers in the discipline of chemical sciences_EN.pdf
3	physical sciences	Profiles of lecturers in the discipline of molecular physics_EN.pdf
4	medical sciences	Profiles of lecturers in the Programme featuring medical sciences_EN_pop.pdf
5	agriculture and horticulture	Profiles of lecturers in the Programme featuring agriculture_EN.pdf
6	forestry	nauki leśne_forestry.pdf

Quality of scientific or artistic supervision and support for conducting scientific activities

No.	File type	Filename
1	Internal regulations that pertain to the midterm evaluation and that are in force during the evaluation period, such as evaluation rules and criteria	MID-TERM EVALUATION PROCEDURE.pdf
2	Internal regulations that pertain to the midterm evaluation and that are in force during the evaluation period, such as evaluation rules and criteria	Translation of_Zasady organizacji oceny śródokresowej w Instytucie Dendrologii PAN.pdf
3	Internal regulations that pertain to the midterm evaluation and that are in force during the evaluation period, such as evaluation rules and criteria	Powołanie komisji do przeprowadzenia oceny śródokresowej_IGC PAN.pdf
4	Internal regulations that pertain to the midterm evaluation and that are in force during the evaluation period, such as evaluation rules and criteria	Attachment 1 Report on the implementation of the IRPpdf.pdf
5	Internal regulations that pertain to the midterm evaluation and that are in force during the evaluation period, such as evaluation rules and criteria	Individual Research Plan_form__2024(PL_EN).pdf

STATEMENTS

- I hereby declare that the information contained in the self-assessment report is fully consistent with the factual and legal status.
- I hereby declare that the information contained in the self-assessment report in Polish and English is fully identical in substance.
- I hereby declare that the documents attached to the self-assessment report in Polish and English are fully identical in substance.

Signature

Luiza Handschuh

Elektronicznie podpisany przez Luiza Handschuh
Data: 2025.08.04 12:13:16 +02'00'

AUTHORIZATIONS

Added files

PROGRAMME OF STUDY

at the Poznań Doctoral School of Institutes of the Polish Academy of Sciences (PDS IPAS)

§ 1

The PDS IPAS programme of study leads to educational attainments at level 8 of the Polish Qualifications Framework, for the gaining of a doctoral degree, and prepares the student for work in research, research and development, and teaching.

§ 2

1. In studying at PDS IPAS, a doctoral student is obliged:

1.1. To carry out an individual research plan agreed with his or her supervisor;

1.2. To obtain at least **35** ECTS points by:

a) participating in obligatory classes, activities and seminars in the student's discipline; the student should obtain at least **14** ECTS points in total.

b) participating in non-obligatory classes and activities run by PDS IPAS in selected scientific disciplines offered by PDS IPAS and, with the supervisor's consent, also outside PDS IPAS; the student should obtain at least **8** ECTS points in total.

c) participating in classes and activities developing general competences; the student should obtain at least **6** ECTS points in total.

d) performing teaching and public information work; the student should obtain at least **2** ECTS points in total.

2. A detailed study programme, including a list of lecture courses, workshops, tutorials, practical activities and other classes and activities conducted at the PDS IPAS Institutes in a given academic year, together with corresponding numbers of ECTS points, is published on the PDS IPAS website at least one month before the beginning of the academic year.

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Załącznik do Programu Kształcenia
w Poznańskiej Szkole Doktorskiej IPAN

Wzór Karty Przebiegu Kształcenia

Pieczęć/Stamp

KARTA PRZEBIEGU KSZTAŁCENIA / COURSE CARD

Doktorant(ka)/PhD student:..... Nr legitymacji/Student Card No. ……
Imię i Nazwisko/Name and Surname

Promotor(rzy)/Supervisor(s): .....

Promotor pomocniczy/Auxiliary supervisor.....

ZAJĘCIA/COURSES

Przedmiot/Subject	Wykładowca/Lecturer	Zaliczenie/Credits			Egzamin/Exam			ECTS[1]
		Ocena/Grade	Data/Date	Podpis/Signature	Ocena/Grade	Data/Date	Podpis/Signature	

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Miejsce/Place	Data/Date	Rodzaj/Type	Opis/Description	Podpis/Signature	ECTS[1]

[1] ECTS - European Credit Transfer and Accumulation System

Wymagane jest udokumentowanie aktywności

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Szczegółowy program kształcenia PSD IPAN na rok akademicki 2019/2020

Detailed study programme of PDS IPAS for academic year 2019/2020

DYSCYPLINA/ DISCIPLINE **MIEJSCE** LOCATION	**semestr zimowy** winter semester	**semestr letni** summer semester
NAUKI CHEMICZNE/ CHEMICAL SCIENCES **ICHB PAN**	**Dr Jacek Kolanowski** Wykład fakultatywny ***(non-obligatory class)*** **– Eng.** ***Sondy molekularne i ich zastosowanie w biologii*** ***Molecular probes for biological applications*** ECTS -2 p. **Dr hab. Anna Pasternak prof. ICHB** Wykład fakultatywny ***(non-obligatory class)*** **– Eng.** ***Oligonukleotydy jako terapeutyczne narzędzia molekularne – koncepcje struktur i mechanizmy działania*** ***Oligonucleotides as therapeutic molecular tools – concepts of structures and working mechanisms*** ECTS -2 p. **Prof. dr hab. Jacek Stawiński ICHB PAN** ***Wybrane zagadnienia z chemii i biologii molekularnej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.	**Prof. dr hab. Jacek Stawiński ICHB PAN** Wykład kursowy ***(obligatory class)*** **– Pol. slides-Engl.** ***Fizyczna chemia organiczna z elementami chemii analitycznej*** ***Physical organic chemistry with elemnts of analytical chemistry*** ECTS -4 p. **Prof. dr hab. Jacek Stawiński ICHB PAN** ***Wybrane zagadnienia z chemii i biologii molekularnej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.

NAUKI BIOLOGICZNE/ BIOLOGICAL SCIENCES **ICHB PAN**	**Prof. dr hab. Idzi Siatkowski** Wykład fakultatywny ***(non-obligatory class)*** – **Pol**. ***Metody statystyczne w opracowaniu wyników eksperymentów*** ***Statistical methods for experimental data*** ECTS -2 p. **Dr hab. Anna Kurzyńska-Kokorniak prof. ICHB** Wykład fakultatywny ***(non-obligatory class)*** – **Eng**. ***Białka oddziałujące z kwasami nukleinowymi*** ***Proteins interacting with nucleic acids*** ECTS -2 p. **Prof. dr hab. Jan Barciszewski ICHB PAN** ***Wybrane zagadnienia z chemii i biologii molekularnej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.	**Prof. dr hab. Ryszard Słomski IGC PAN** Wykład kursowy ***(obligatory class)*** – ***Pol***. ***Biologia molekularna*** ***Molecular biology*** ECTS - 4 p. **Prof. dr hab. Jan Barciszewski ICHB PAN** ***Wybrane zagadnienia z chemii i biologii molekularnej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.
NAUKI BIOLOGICZNE/ BIOLOGICAL SCIENCES **ID PAN**	**Prof. dr hab. Jacek Oleksyn, ID PAN** ***Odcisk palca zmian klimatycznych na szwedzkich lasach sosnowych*** ***Expanding knowledge on the impact of climate change on the characteristics of Scots pine*** jeden z wykładów w cyklu: ***Wpływ zmian klimatu na rolnictwo - obecna sytuacja i perspektywy*** ***Climate change impact on agriculture - current situation and prospects for the future*** miejsce - **IGR PAN**	

NAUKI MEDYCZNE/ MEDICAL SCIENCES **IGC PAN**	**Prof. dr hab. Jadwiga Jaruzelska IGC PAN** ***Genetyka rozwoju człowieka*** ***Genetics of human development*** Wykład kursowy ***(obligatory class)*** **– Eng.** ECTS - 3 p. 20 godzin/jednorazowo 45 min lub 2 x 45 min środy 9:00 (od 2 października) **Prof. dr hab. Jadwiga Jaruzelska IGC PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p. 8 godzin/jednorazowo 1 godzina czwartek co dwa tygodnie 9:00 (od 3 października, przez cały semestr)	
ROLNICTWO I OGRODNICTWO /AGRICULTURE AND HORTICULTURE **IGR PAN**	**Prof. dr hab. Zbigniew W. Kundzewicz, IŚRiL (IGR - koordynator)** **Prof. dr hab. Jacek Oleksyn, Instytut Dendrologii PAN** **Dr hab. Jerzy Kozyra, Instytut Uprawy Nawożenia i Gleboznawstwa – prof. PIB** **Prof. dr hab. Małgorzata Mańka, UP** **Dr hab. Arkadiusz Kosmala, prof. IGR PAN** ***Wpływ zmian klimatu na rolnictwo - obecna sytuacja i perspektywy*** ***Climate change impact on agriculture - current situation and prospects for the future*** Wykłady fakultatywne ***(non-obligatory class)*** – **Eng**. ECTS - 2 p. 16 x 45 min syllabus z planem szczegółowym na stronie IGR PAN details on the IPG PAS site	

NAUKI FIZYCZNE/ PHYSICAL SCIENCES **IFM PAN**	**Dr hab. Maria Pugaczowa-Michalska, Dr hab. Maciej Zwierzycki** Wykład kursowy ***(obligatory class)*** **– *Pol*.** ***wykład z fizyki fazy skondensowanej "Struktura elektronowa i właściwości elektryczne"*** ***lecture on condensed matter physics "Electronic structure and electrical properties"*** ECTS - 4 p. **Prof. dr hab. Jadwiga Tritt-Goc, dr hab. Michał Bielejewski** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.	**Dr hab. Adam Rachocki, Dr hab. Michał Bielejewski** Wykład fakultatywny ***(non-obligatory class)*** – **Pol**. ***Rezonans Magnetyczny w praktycznych zastosowaniach*** ***Magnetic Resonance in practical applications*** ECTS -2 p. **Prof. dr hab. Jadwiga Tritt-Goc, dr hab. Michał Bielejewski** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.
Zajęcia kształtujące kompetencje uniwersalne/ general competences class	**Dr Leszek Ratajczak (lektor UAM)** Lektorat/Konwersacja (***conversation***)**– Eng.** ECTS - 1 p. 1 X w tygodniu/jednorazowo 2 x 45 min (przez cały rok ak.) **ICHB PAN** **Dr Leszek Ratajczak (lektor UAM)** Konwersacja (***conversation***) Lektorat obowiązkowy ***(obligatory class)*** **– Eng.** 32 godziny ECTS - 1 p. 1 X w tygodniu/jednorazowo 2 x 45 min (przez cały semestr) **IGC PAN** **Dr hab. inż. Katarzyna Filipiak (PP)** ***Wybrane zagadnienia ze statystyki matematycznej*** Wykłady fakultatywne ***(non-obligatory class)*** – **Pol**. ECTS - 2 p. 12 x 90 + 2 x 135 min (od 4 października przez cały semestr) plan szczegółowy na stronie IGR PAN details on the IPG PAS site **IGR PAN**	**Dr Leszek Ratajczak (lektor UAM)** Lektorat/Konwersacja (***conversation***)**– Eng.** 1 X w tygodniu/jednorazowo 2 x 45 min (przez cały rok ak.) **ICHB PAN** **Prof. dr hab. Józef Dobosz Instytut Historii UAM** Wykład fakultatywny ***(non-obligatory class)*** ***Historia Polski ....*** ECTS -2 p. **ICHB PAN**

Wykład fakultatywny *(non-obligatory class) – 12–15 godzin lekcyjnych/lesson hours*

Wykład kursowy *(obligatory class) – 25–30 godzin lekcyjnych/lesson hours*

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NAUKI CHEMICZNE/ CHEMICAL SCIENCES **ICHB PAN**	**Prof. dr hab. Jacek Stawiński ICHB PAN** Wykład kursowy ***(obligatory lecture)*** – **Pol./Eng.** ***Chemia organiczna z elementami chemii bioorganicznej*** ***Organic chemistry with elements of bioorganic chemistry*** ECTS -4 p. **Prof. dr hab. Jacek Stawiński ICHB PAN** ***Wybrane zagadnienia z chemii i biologii molekularnej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.	**Prof. dr hab. Maciej Stobiecki** Wykład fakultatywny ***(non-obligatory class)*** – **Eng**. ***Biologia systemów –zastosowania spektrometrii mas w biologii I medycynie*** ***Systems biology -applications of mass spectrometric techniques in biology and medicine*** ECTS -2 p. **Dr Witold Andrałojć** Wykład fakultatywny ***(non-obligatory class)*** – **Eng**. ***Współczesne metody spektroskopii NMR*** ***Modern method of NMR spectroscopy*** ECTS -2 p. **Prof. dr hab. Jacek Stawiński ICHB PAN** ***Wybrane zagadnienia z chemii i biologii molekularnej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.

NAUKI BIOLOGICZNE/ BIOLOGICAL SCIENCES **ICHB PAN**	**Prof. dr hab. Michał Jasiński ICHB PAN** Wykład kursowy *(**obligatory lecture**)* – **Eng**. ***Białka ABC - ATPazy błony komórkowej jako obiekty badań podstawowych i narzędzia biotechnologiczne*** ***ABC proteins – cellular membrane ATPazes as an objects of basic studies and tools for biotechnology*** **Prof. dr hab. Jan Barciszewski ICHB PAN** ***Wybrane zagadnienia z chemii i biologii molekularnej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.	**Prof. dr hab. Mirosława Naskręt-Barciszewska** Wykład fakultatywny - *(**non-obligatory class**)* – **Pol**. ***Molekularne podstawy biosyntezy białka***. ECTS - 2 p **Prof. dr hab. Jan Barciszewski** Wykład fakultatywny – *(**non-obligatory class**)* – **Eng**. ***Epigenetyka*** ***Epigenetics*** ECTS - 2 p **Prof. dr hab. Jan Barciszewski ICHB PAN** ***Wybrane zagadnienia z chemii i biologii molekularnej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.
NAUKI BIOLOGICZNE/ BIOLOGICAL SCIENCES **ID PAN**	**dr hab. Ewelina Ratajczak, prof. ID PAN** ***Wybrane zagadnienia z biologii roślin drzewiastych*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.	**dr hab. Joanna Mucha, prof. ID PAN (koordynator tematu)** Wykład kursowy *(**obligatory lecture**)* – **Pol.** ***Ekologia roślin drzewiastych*** ***Ecology of woody plants*** ECTS -4 p. **dr hab. Ewelina Ratajczak, prof. ID PAN** ***Wybrane zagadnienia z biologii roślin drzewiastych*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.

NAUKI MEDYCZNE/ MEDICAL SCIENCES **IGCz PAN**	**dr Marcin Sajek IGCz PAN** Wykład fakultatywny *(**optional lecture**)* – **Ang.** ***Bioinformatyka i Statystyka*** ***Bioinformatics and Statistics*** ECTS - 2 p. **Prof. dr hab. Jadwiga Jaruzelska IGCz PAN** ***Ph.D Seminar* (obligatory seminar) – Ang.** ***Seminarium doktoranckie*** ECTS - 3 p.	**Prof. dr hab. Jadwiga Jaruzelska IGCz PAN** Wykład kursowy *(**obligatory lecture**)* – **Ang.** ***Epigenetyka*** ***Epigenetics*** ECTS - 3 p. **Prof. dr hab. Jadwiga Jaruzelska IGCz PAN** ***Ph.D Seminar* (obligatory seminar) – Ang.** ***Seminarium doktoranckie*** ECTS - 3 p.
ROLNICTWO I OGRODNICTWO /AGRICULTURE AND HORTICULTURE **IGR PAN**	**Prof. dr hab. Adam Kraszewski ICHB PAN** Wykład kursowy *(**obligatory lecture**)* – **Ang.** ***The basics of chemical synthesis of oligonucleotide*** ECTS - 2 p. **Prof. dr hab. Barbara Naganowska IGR PAN** **Dr hab. Lidia Błaszczyk IGR PAN** ***Genetyka roślin V*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.	

NAUKI FIZYCZNE/ PHYSICAL SCIENCES **IFM PAN**	**Prof. dr hab. Arkadiusz Brańka,** **dr hab. Maria Augustyniak-Jabłokow prof. IFM PAN** Wykład kursowy ***(obligatory lecture)*** **– Pol**. ***Budowa i dynamika fazy skondensowanej*** ECTS -4 p. **Prof. dr hab. Jadwiga Tritt-Goc,** **dr hab. Michał Bielejewski IFM PAN** ***Wybrane zagadnienia z fizyki*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.	**dr hab. Zbigniew Śniadecki IFM PAN** Wykład fakultatywny ***(non-obligatory class)*** – **Pol**. ***Szkła metaliczne i inne układy metastabilne*** ECTS -2 p. **Prof. dr hab. Jadwiga Tritt-Goc,** **dr hab. Michał Bielejewski IFM PAN** ***Wybrane zagadnienia z fizyki*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.
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Detailed study programme of PDS IPAS for academic year 2021/2022

DYSCYPLINA/ DISCIPLINE **MIEJSCE** LOCATION	**semestr zimowy** winter semester	**semestr letni** summer semester
NAUKI CHEMICZNE/ CHEMICAL SCIENCES **ICHB PAN**	**Dr hab. Agnieszka Kiliszek prof. ICHB PAN** Wykład fakultatywny ***(non-obligatory lecture) – Eng.*** ***Metody określania i ewaluowania struktur przestrzennych biomolekuł*** ***Methods for determination and evaluation of three-dimensional structure of biomolecules*** ECTS - 2 p **Prof. dr hab. Adam Kraszewski** Wykład fakultatywny ***(non-obligatory lecture) – Eng.*** ***Chemiczne podstawy syntezy oligonukleotydów*** ***Chemical basics of oligonucleotide synthesis*** ECTS - 2 p **Prof. dr hab. Jacek Stawiński** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Wybrane zagadnienia z chemii i biologii molekularnej*** ECTS - 2 p	**Prof. dr hab. Jacek Stawiński** Wykład kursowy ***(obligatory lecture) – Eng.*** ***Podstawy fizycznej chemii organicznej*** ***Elements of Physical Organic Chemistry*** ECTS - 4 p **Dr hab. Michał Sobkowski prof. ICHB PAN** Wykład fakultatywny ***(non-obligatory lecture) – Eng.*** ***Stereochemia*** ***Stereochemistry*** ECTS - 2 p **Prof. dr hab. Jacek Stawiński** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Wybrane zagadnienia z chemii i biologii molekularnej*** ECTS - 2 p

NAUKI BIOLOGICZNE/ BIOLOGICAL SCIENCES **ICHB PAN**	**Prof. dr hab. Jadwiga Jaruzelska IGCz PAN** Wykład fakultatywny ***(non-obligatory lecture) – Eng.*** ***Biologia rozwoju*** ***Developmental biology*** ECTS - 2 p **Prof. dr hab. Jan Barciszewski** ***Wybrane zagadnienia z chemii i biologii molekularnej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p	**Dr hab. Andrzej Pacak, prof. UAM** Wykład kursowy ***(obligatory lecture) – Eng.*** ***Molecular Biology: RNA and DNA - data source and place for improvements*** ECTS - 4 p **Dr hab. Marta Olejniczak prof. ICHB PAN** Wykład fakultatywny ***(non-obligatory lecture) – Eng.*** ***Technologia CRISPR-Cas9: Perspektywy i Wyzwania*** ***CRISPR-Cas9 technology: Prospects and Challenges*** ECTS - 2 p **Dr hab. Marta Szachniuk prof. IChB PAN** Wykład fakultatywny ***(non-obligatory lecture) – Eng.*** ***Wprowadzenie do bioinformatyki strukturalnej*** ***Introduction to structural bioinformatics*** ECTS - 2 p **Prof. dr hab. Jan Barciszewski** ***Wybrane zagadnienia z chemii i biologii molekularnej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p
NAUKI BIOLOGICZNE/ BIOLOGICAL SCIENCES **ID PAN**	**Dr hab. Ewa M. Kalemba (koordynator tematu)** Wykład kursowy ***(obligatory lecture)*** **– Eng.** ***Nowe wyzwania w biologii drzew*** ***New challenges in tree biology*** ECTS - 4 p. **Dr hab. Daniel J. Chmura (koordynator tematu)** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Wybrane zagadnienia z biologii roślin drzewiastych*** ECTS - 2 p.	**Dr hab. Daniel J. Chmura (koordynator tematu)** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Wybrane zagadnienia z biologii roślin drzewiastych*** ECTS - 2 p.

NAUKI MEDYCZNE/ MEDICAL SCIENCES **IGCz PAN**	**Dr hab. Maciej Giefing IGCz PAN** Wykład kursowy ***(obligatory lecture)*** ***Molekularne podstawy nowotworów*** ***Molecular basis of cancer*** ECTS – 3 p. **Prof. dr hab. Jadwiga Jaruzelska IGCz PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Omawianie bieżącej literatury naukowej lub projektów badań*** ECTS -1,5 p.	**Dr Joanna Malinowska Wydział Filozoficzny UAM** Wykład fakultatywny ***(optional lecture)*** ***Filozofia z elementami etyki oraz kwestie prawne związane z testami genetycznymi*** ECTS – 2 p. **Prof. dr hab. Jadwiga Jaruzelska IGCz PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Omawianie bieżącej literatury naukowej lub projektów badań*** ECTS -1,5 p.
ROLNICTWO I OGRODNICTWO /AGRICULTURE AND HORTICULTURE **IGR PAN**	**Dr hab. Lidia Błaszczyk IGR PAN – coordinator** **Prof. dr hab. Arkadiusz Kosmala, Dr hab. Agnieszka Kiełbowicz-Matuk, Dr hab. Michał Książkiewicz, Dr hab. Karolina Susek, Dr Magdalena Kroc IGR PAN** Wykład kursowy ***(obligatory lecture)*** – ***Eng.*** ***Functioning of plant genomes in relation to the environment – part I*** ECTS - 2 p. **Prof. dr hab. Barbara Naganowska IGR PAN** **Dr hab. Lidia Błaszczyk IGR PAN** ***Genetyka roślin VII*** ***Plant genetics part VII*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar) – Eng.*** ECTS - 2 p.	Wykład kursowy ***(obligatory lecture) – Eng.*** ***Functioning of plant genomes in relation to the environment – part II*** ECTS - 2 p. **Prof. dr hab. Barbara Naganowska IGR PAN** **Dr hab. Lidia Błaszczyk IGR PAN** ***Genetyka roślin VIII*** ***Plant genetics part VIII*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** – **Eng.** ECTS - 2 p.

NAUKI FIZYCZNE/ PHYSICAL SCIENCES **IFM PAN**	**Prof. dr hab. Wojciech Kempiński, Dr hab. Tomasz Toliński prof. IFM PAN, Dr hab. Grzegorz Michałek** Wykład kursowy ***(obligatory lecture)* – Pol**. ***Magnetyzm i nadprzewodnictwo*** ECTS -4 p. **Prof. dr hab. Jadwiga Tritt-Goc, Dr hab. Michał Bielejewski IFM PAN** ***Seminarium z fizyki doświadczalnej i teoretycznej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.	**Dr inż. Natalia Bielejewska, Dr inż. Sławomir Pieprzyk** Wykład fakultatywny ***(non-obligatory class)*** – **Pol**. ***Wybrane zagadnienia z fizyki ciekłych kryształów*** ECTS -2 p. **Prof. dr hab. Jadwiga Tritt-Goc, Dr hab. Michał Bielejewski IFM PAN** ***Seminarium z fizyki doświadczalnej i teoretycznej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p.
Zajęcia kształtujące kompetencje uniwersalne/ general competences class	**Dr Justyna Małkuch-Świtalska; Dr Agnieszka Bożek,** Zajęcia kształtujące umiejętności uniwersalne **- *Eng.*** ***Effective presentation of research results*** ECTS - 2 p **Dr Leszek Ratajczak (lektor UAM)** Lektorat/Konwersacja *(conversation)*– ***Eng***.	**Dr Leszek Ratajczak (lektor UAM)** Lektorat/Konwersacja *(conversation)*– ***Eng***.

Wykład fakultatywny *(non-obligatory class) – 12–15 godzin lekcyjnych/lesson hours*

Wykład kursowy *(obligatory class) – 25–30 godzin lekcyjnych/lesson hours*

Szczegółowy program kształcenia PSD IPAN na rok akademicki 2022/2023

Detailed study programme of PDS IPAS for academic year 2022/2023

DYSCYPLINA/ DISCIPLINE **MIEJSCE** LOCATION	**semestr zimowy** winter semester	**semestr letni** summer semester
NAUKI CHEMICZNE/ CHEMICAL SCIENCES **ICHB PAN**	**Dr Jacek Kolanowski** Wykład fakultatywny ***(non-obligatory class)*** **– Eng.** ***Sondy molekularne i ich zastosowanie w biologii*** ***Molecular probes for biological applications*** ECTS -2 p. **Dr hab. Anna Pasternak prof. ICHB** Wykład fakultatywny ***(non-obligatory class)*** **– Eng.** ***Oligonukleotydy jako terapeutyczne narzędzia molekularne – koncepcje struktur i mechanizmy działania*** ***Oligonucleotides as therapeutic molecular tools – concepts of structures and mechanisms of action*** ECTS -2 p. **Prof. dr hab. Jacek Stawiński** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Wybrane zagadnienia z chemii i biologii molekularnej*** ECTS - 2 p	**Prof. dr hab. Jacek Stawiński** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Wybrane zagadnienia z chemii i biologii molekularnej*** ECTS - 2 p

NAUKI BIOLOGICZNE/ BIOLOGICAL SCIENCES **ICHB PAN**	**Prof. dr hab. Jan Barciszewski** ***Wybrane zagadnienia z chemii i biologii molekularnej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p	**Prof. dr hab. Jan Barciszewski** ***Wybrane zagadnienia z chemii i biologii molekularnej*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 2 p **Dr hab. Magdalena Łuczak, prof. ICHB PAN** Wykład kursowy ***(obligatory lecture) – Eng.*** ***Proteins, proteomics and mass spectrometry: modern technologies and their applications*** ***Białka, proteomika i spektrometria mas: nowoczesne technologie i ich zastosowania*** ECTS - 4 p **Prof. dr hab. Jacek Stawiński** Wykład fakultatywny ***(non-obligatory lecture) – Eng.*** ***Chemia organiczna dla biologów*** ***Organic chemistry for biologists*** ECTS - 2 p **Dr hab. Agata Świątkowska** Wykład fakultatywny ***(non-obligatory lecture) – Eng.*** ***Regulacja homeostazy w komórkach ssaczych*** ***Homeostasis regulation in mammalian cells*** ECTS - 2 p

NAUKI BIOLOGICZNE/ BIOLOGICAL SCIENCES **ID PAN**	**Dr hab. Tomasz Leski, prof. ID PAN** (koordynator tematu) Wykład kursowy ***(obligatory lecture) – Eng.*** ***Ekologia roślin drzewiastych*** ***Ecology of woody plants*** ECTS - 4 p **Dr hab. Daniel J. Chmura, prof. ID PAN** (koordynator tematu) Seminarium doktoranckie obowiązkowe ***(obligatory seminar) – Eng.*** ***Wybrane zagadnienia z biologii roślin drzewiastych*** ***Selected topics in woody plant biology*** ECTS - 2 p	**Dr hab. Daniel J. Chmura, prof. ID PAN** (koordynator tematu) Seminarium doktoranckie obowiązkowe ***(obligatory seminar) – Eng.*** ***Wybrane zagadnienia z biologii roślin drzewiastych*** ***Selected topics in woody plant biology*** ECTS - 2 p
NAUKI MEDYCZNE/ MEDICAL SCIENCES **IGCz PAN**	**Prof. dr hab. Ewa Ziętkiewicz IGC PAN** Wykład kursowy ***(obligatory lecture)*** ***Ewolucja i zmienność ludzkiego genomu w zdrowiu i chorobie*** ***Human Genome Evolution and Variability in Health and Disease*** ECTS – 3 p. **Prof. dr hab. Jadwiga Jaruzelska IGCz PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Omawianie bieżącej literatury naukowej lub projektów badań*** ***Discussing current scientific literature or research projects including participation in the Institute's seminars*** ECTS – 1,5 p	**Prof. dr hab. Jadwiga Jaruzelska IGC PAN** Wykład fakultatywny ***(non-obligatory class)*** **– Eng.** ***Nowoczesne metody w molekularnej genetyce człowieka /*** ***Modern methods in molecular human genetics*** ECTS -2 p. **Prof. dr hab. Jadwiga Jaruzelska IGCz PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Omawianie bieżącej literatury naukowej lub projektów badań*** ***Discussing current scientific literaturę or research projects including participation in the Institute's seminars*** ECTS – 1,5 p

ROLNICTWO I OGRODNICTWO /AGRICULTURE AND HORTICULTURE **IGR PAN**	**Dr hab. Lidia Błaszczyk, prof. IGR PAN – Coordinator** Prof. dr hab. Tomasz Pniewski; dr hab. Gregory Franklin, prof. IGR PAN; Dibyendu Mondal, PhD; Leonard Kiirika, PhD Wykład kursowy ***(obligatory lecture) – Eng***. **Bio- and nanotechnology in plant research** ECTS - 2 p. **Prof. dr hab. Barbara Naganowska, IGR PAN** **Dr hab. Lidia Błaszczyk, prof. IGR PAN, IGR PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)* – Eng.** ***„Genetyka roślin" IX*** ***"Plant genetics" part IX*** ECTS - 2 p.	**Dr hab. Lidia Błaszczyk, prof. IGR PAN – Coordinator** Prof. Marko Vinceković, PhD, University of Zagreb Faculty of Agriculture; prof. IGR dr hab. Gregory Franklin; Dr hab. Wojciech Juzwa, prof UP; Poznań University of Life Sciences Department of Biotechnology and Food Microbiology; Prof. Vadim Kessler, PhD, Swedish University of Agricultural Sciences, Department of Molecular Sciences **Wykład kursowy *(obligatory lecture) – Eng*.** **Bio- and nanotechnology in plant research, part II** ECTS - 2 p. **Prof. dr hab. Barbara Naganowska, IGR PAN** **Dr hab. Lidia Błaszczyk, prof. IGR PAN, IGR PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)* – Eng.** ***„Genetyka roślin" X*** ***"Plant genetics" part X*** ECTS - 2 p.
NAUKI FIZYCZNE/ PHYSICAL SCIENCES **IFM PAN**	**Dr hab. Maciej Zwierzycki, dr inż. Damian Krychowski** Wykład kursowy *(**obligatory lecture**)* **– Eng**. ***Electronic structure and electrical properties*** ECTS -4 p. **Prof. dr hab. Jadwiga Tritt-Goc, dr hab. Michał Bielejewski IFM PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Seminarium z fizyki doświadczalnej i teoretycznej*** ECTS - 2 p.	**dr hab. Konstantin Tretiakov, prof. IFM PAN** Wykład fakultatywny ***(obligatory class)*** – **Eng**. ***Computational methods in condensed matter - classical approach.*** ECTS -2 p. **Prof. dr hab. Jadwiga Tritt-Goc, dr hab. Michał Bielejewski IFM PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Seminarium z fizyki doświadczalnej i teoretycznej*** ECTS - 2 p.

Zajęcia kształtujące kompetencje uniwersalne/ general competences class	**Paweł Kaczmarek (PPNT)** Zajęcia kształtujące umiejętności uniwersalne *general competences class* **- *Eng.*** ***Przygotowanie skutecznych wniosków grantowych o finansowanie ze źródeł krajowych i zagranicznych. Warsztat badacza na początkowym etapie rozwoju kariery naukowej*** ***Preparation of effective grant applications for financing from domestic and foreign sources. Researcher's workshop at the initial stage of scientific career development*** ECTS - 2 p **Dr Leszek Ratajczak (lektor UAM)** Lektorat/Konwersacja *(conversation)*– ***Eng***.	**Dr Leszek Ratajczak (lektor UAM)** Lektorat/Konwersacja *(conversation)*– ***Eng***.

Wykład fakultatywny *(non-obligatory class) – 12–15 godzin lekcyjnych/lesson hours*

Wykład kursowy *(obligatory class) – 20–30 godzin lekcyjnych/lesson hours*

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NAUKI CHEMICZNE/ CHEMICAL SCIENCES **ICHB PAN**	**Dr hab. prof. Tomasz Cytlak, UAM** Wykład kursowy ***(obligatory lecture) – Eng.*** ***Wprowadzenie do retrosyntezy – planowanie, projektowanie i strategie w syntezie organicznej*** ***Introduction to retrosynthesis – planning, designing and strategies in organic synthesis*** ECTS - 4 p. **Dr hab. Aneta Sawikowska** Wykład fakultatywny ***(non-obligatory lecture) – Eng.*** ***Metody statystyczne w opracowaniu wyników eksperymentów*** ***Statistical methods in the development of results of experiments*** ECTS -2 p. **Prof. dr hab. Jacek Stawiński** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Wybrane zagadnienia z chemii*** ***Selected topics in chemistry*** ECTS - 2 p.	**Prof. dr hab. Jacek Stawiński** Wykład fakultatywny ***(non-obligatory lecture) – Eng.*** ***Elementy kinetyki w badaniach mechanizmów reakcji chemicznych*** ***Elements of kinetics in the study of chemical reaction mechanisms*** ECTS -2 p. **Prof. dr hab. Jacek Stawiński** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Wybrane zagadnienia z chemii*** ***Selected topics in chemistry*** ECTS - 2 p.

NAUKI BIOLOGICZNE/ BIOLOGICAL SCIENCES **ICHB PAN**	**Dr hab. Katarzyna Rolle, prof. ICHB PAN** Wykład fakultatywny ***(non-obligatory class)*** **– Eng.** ***Kwasy nukleinowe w naukach biomedycznych*** ***Nucleic acids in biomedical sciences*** ECTS -2 p. **Prof. dr hab. Jan Barciszewski** ***Wybrane zagadnienia z biologii molekularnej*** ***Selected topics in molecular biology*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** **– Eng.** ECTS - 2 p.	**Prof. dr hab. Michał Jasiński, ICHB PAN** Wykład kursowy ***(obligatory lecture) – Eng.*** ***Białka ABC - ATPazy błony komórkowej jako obiekty badań podstawowych i narzędzia biotechnologiczne*** ***ABC proteins – cellular membrane ATPazes as an objects of basic studies and tools for biotechnology*** ECTS - 4 p. **Prof. dr hab. Jan Barciszewski** Wykład fakultatywny ***(non-obligatory lecture) – Eng.*** ***Epigenetyka Epigenetics*** ECTS - 2 p. **Dr hab. Katarzyna Rolle, prof. ICHB PAN** ***Wybrane zagadnienia z biologii molekularnej*** ***Selected topics in molecular biology*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** **– Eng.** ECTS - 2 p.
NAUKI BIOLOGICZNE/ BIOLOGICAL SCIENCES **ID PAN**	**Dr hab. Daniel J. Chmura, prof. ID PAN (koordynator tematu)** Seminarium doktoranckie obowiązkowe (***obligatory seminar***) – **Eng.** **Wybrane zagadnienia z biologii roślin drzewiastych** ***Selected topics in woody plant biology*** ECTS - 2 p.	**Prof. dr hab. Grzegorz Iszkuło** **Dr inż. Kinga Nowak** Wykład kursowy (***obligatory lecture***) **– Eng.** ***Dendrologia Dendrology*** ECTS - 4 p **Dr Łukasz Walas** Wykład fakultatywny (***non-obligatory lecture***) – **Eng.** ***Wykorzystanie środowiska R w badaniach ekologicznych*** ***Application of the R environment in ecological research*** ECTS – 2 p. **Dr hab. Daniel J. Chmura, prof. ID PAN (koordynator tematu)** Seminarium doktoranckie obowiązkowe (***obligatory seminar***) – **Eng.** **Wybrane zagadnienia z biologii roślin drzewiastych** ***Selected topics in woody plant biology*** ECTS - 2 p.

NAUKI MEDYCZNE/ MEDICAL SCIENCES **IGCz PAN**	**Prof. dr hab. Jadwiga Jaruzelska** Wykład obowiązkowy ***(obligatory class)*** **– Eng.** **Genetyka rozwoju człowieka** ***Genetics of human development*** ECTS -3 p. **Prof. dr hab. Jadwiga Jaruzelska IGCz PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** **– Eng.** **Omawianie bieżącej literatury naukowej lub projektów badań** ***Discussing current scientific literature or research projects including participation in the Institute's seminars*** ECTS - 1,5 p.	**Prof. UAM, dr hab. Tomasz Górecki** Wykład fakultatywny ***(non-obligatory lecture – you can chose another lecture instead) – Eng.*** **Biologia systemowa** ***Systems biology*** ECTS - 2 p. **Prof. dr hab. Jadwiga Jaruzelska IGCz PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** **– Eng.** **Omawianie bieżącej literatury naukowej lub projektów badań** ***Discussing current scientific literature or research projects including participation in the Institute's seminars*** ECTS - 1,5 p.
ROLNICTWO I OGRODNICTWO /AGRICULTURE AND HORTICULTURE **IGR PAN**	**Dr hab. Robert Malinowski, prof. IGR PAN** Wykład kursowy **(*obligatory lecture*) – Eng**. **Funkcjonalna anatomia roślin** ***Functional plant anatomy, part 1*** ECTS - 2 p. **Prof. dr hab. Barbara Naganowska, IGR PAN** **Dr hab. Lidia Błaszczyk, prof. IGR PAN** Seminarium obowiązkowe ***(obligatory seminar)*** – **Eng.** **Wybrane zagadnienia z genetyki roślin** ***Selected topics in plant genetics*** ECTS - 2 p.	**Dr hab. Robert Malinowski, prof. IGR PAN** Wykład kursowy **(*obligatory lecture*) – Eng**. **Funkcjonalna anatomia roślin** ***Functional plant anatomy, part 2*** ECTS - 2 p. **Prof. dr hab. Barbara Naganowska, IGR PAN** **Dr hab. Lidia Błaszczyk, prof. IGR PAN** Seminarium obowiązkowe ***(obligatory seminar)*** – **Eng.** **Wybrane zagadnienia z genetyki roślin** ***Selected topics in plant genetics*** ECTS - 2 p.

NAUKI FIZYCZNE/ PHYSICAL SCIENCES **IFM PAN**	**Dr hab. Iwona Olejniczak, dr hab. Zbigniew Śniadecki,** **Dr inż. Adam Ostrowski, dr inż. Paweł Ławniczak,** **Dr hab. Piotr Kuświk, prof. IFM PAN,** **Dr hab. inż. Michał Bielejewski, prof. IFM PAN** Wykład kursowy ***(obligatory lecture) – Eng***. **Wybrane metody eksperymentalne w fizyce** ***Selected experimental methods in physics*** ECTS - 4 p. **Prof. dr hab. Jadwiga Tritt-Goc, dr hab inż. Michał Bielejewski** **Seminarium z fizyki doświadczalnej i teoretycznej** ***Seminar on experimental and theoretical physics*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 1 p.	**Dr hab. Bartłomiej Andrzejewski, prof. IFM PAN** Wykład fakultatywny ***(non-obligatory class)*** **– Eng.** ***Wprowadzenie do nadprzewodnictwa*** ***Introduction to superconductivity*** ECTS -2 p. **Prof. dr hab. Jadwiga Tritt-Goc, dr hab inż. Michał Bielejewski** **Seminarium z fizyki doświadczalnej i teoretycznej** ***Seminar on experimental and theoretical physics*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ECTS - 1 p.
Zajęcia kształtujące kompetencje uniwersalne/ general competences class	**Mgr Paweł Kaczmarek (PPNT)** Zajęcia kształtujące umiejętności uniwersalne *general competences class* **- *Eng.*** **Przygotowanie i zarządzanie projektami** ***Projects' preparation and management*** ECTS - 2 p. **Dr Leszek Ratajczak (lektor UAM)** Lektorat/Konwersacja *(conversation)*– ***Eng***. – at the ICHB	**Dr hab. Piotr Siuda. Prof. UKW** Zajęcia kształtujące umiejętności uniwersalne *general competences class* **- *Eng.*** **Pisanie akademickie do celów publikacji naukowych** ***Academic writing for research publication purposes*** ECTS - 2 p. **Dr Leszek Ratajczak (lektor UAM)** Lektorat/Konwersacja *(conversation)*– ***Eng***. – at the ICHB

Wykład fakultatywny *(non-obligatory class) – 12–15 godzin lekcyjnych/lesson hours*

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DYSCYPLINA/ DISCIPLINE **MIEJSCE** LOCATION	**semestr zimowy** winter semester	**semestr letni** summer semester
NAUKI CHEMICZNE/ CHEMICAL SCIENCES **ICHB PAN**	**Dr Witold Andrałojć** Wykład fakultatywny ***(non-obligatory lecture)* –** Eng**.** ***Nowoczesne metody w spektroskopii NMR*** ***Modern methods of NMR spectroscopy*** ECTS -2 p. **Prof. dr hab. Jacek Stawiński** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Wybrane zagadnienia z chemii*** ***Selected topics in chemistry*** ECTS - 2 p.	**Prof. dr hab. Ryszard Kierzek** Wykład fakultatywny ***(non-obligatory lecture)* –** Eng. ***Termodynamika kwasów nukleinowych*** ***Thermodynamics of nucleic acids*** ECTS -2 p. **Prof. dr hab. Jacek Stawiński** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** ***Wybrane zagadnienia z chemii*** ***Selected topics in chemistry*** ECTS - 2 p**.**
NAUKI BIOLOGICZNE/ BIOLOGICAL SCIENCES **ICHB PAN**	**Dr Arkadiusz Kajdasz** Wykład fakultatywny ***(non-obligatory class)* –** Eng. ***Bioinformatyka dla biologów*** ***Bioinformatics for biologists*** ECTS -2 p. **Prof. dr hab. Jan Barciszewski** Wykład fakultatywny ***(non-obligatory lecture)*** – Eng. ***Biochemia kwasów nukleinowych*** ***Biochemistry of nucleic acids*** ECTS - 2 p. **Dr hab. Katarzyna Rolle, prof. ICHB PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)* –** Eng. ***Wybrane zagadnienia z biologii molekularnej*** ***Selected topics in molecular biology*** ECTS - 2 p.	**Dr hab. Andrzej Pacak, prof. UAM** Wykład kursowy ***(obligatory lecture)* – Eng**. ***Molecular Biology: RNA and DNA - data source and place for improvements*** ECTS - 4 p. **Dr hab. Katarzyna Rolle, prof. ICHB PAN** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)* –** Eng**.** ***Wybrane zagadnienia z biologii molekularnej*** ***Selected topics in molecular biology*** ECTS - 2 p.

NAUKI BIOLOGICZNE/ BIOLOGICAL SCIENCES **ID PAN**	**Dr hab. Marcin Pietras, prof. ID PAN** Wykład fakultatywny (***non-obligatory lecture***) – Eng. ***Ekologia grzybów*** ***Ecology of fungi*** ECTS - 2 p. **Dr hab. Daniel J. Chmura, prof. ID PAN (koordynator tematu)** Seminarium doktoranckie obowiązkowe (***obligatory seminar***) – Eng. ***Wybrane zagadnienia z biologii roślin drzewiastych*** ***Selected topics in woody plant biology*** ECTS - 2 p.	**Dr hab. Ewa M. Kalemba, prof. ID PAN (koordynator tematu)** Wykład kursowy (***obligatory lecture***) **–** Eng. ***Nowe wyzwania w biologii drzew*** ***New challenges in tree biology*** ECTS - 3 p. **Dr hab. Daniel J. Chmura, prof. ID PAN (koordynator tematu)** Seminarium doktoranckie obowiązkowe (***obligatory seminar***) – Eng. ***Wybrane zagadnienia z biologii roślin drzewiastych*** ***Selected topics in woody plant biology*** ECTS - 2 p.
NAUKI MEDYCZNE/ MEDICAL SCIENCES **IGCz PAN**	**Prof. dr hab. Jadwiga Jaruzelska** Wykład obligatoryjny ***(obligatory lecture)*** – Eng. ***Epigenetyka rozwoju*** ***Epigenetics of development*** ECTS -3 p. **Prof. dr hab. Jadwiga Jaruzelska** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)* –** Eng. ***Wybrane zagadnienia z biologii molekularnej*** ***Selected topics in molecular biology*** ECTS -2 p. Seminarium: omawianie bieżącej literatury naukowej lub projektów badań oraz udział w seminariach instytutowych	**Dr Marcin Sajek** Wykład fakultatywny ***(non-obligatory lecture)* –** Eng. ***Bioinformatyka i statystyka*** ***Bioinformatics and statistics*** ECTS -2 p. **Prof. dr hab. Jadwiga Jaruzelska** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)* –** Eng. ***Wybrane zagadnienia z biologii molekularnej*** ***Selected topics in molecular biology*** ECTS -2 p. Seminarium: omawianie bieżącej literatury naukowej lub projektów badań oraz udział w seminariach instytutowych

ROLNICTWO I OGRODNICTWO /AGRICULTURE AND HORTICULTURE **IGR PAN**	**Prof. dr hab. Arkadiusz Kosmala (IGR PAN)** **Dr hab. Danuta Babula-Skowrońska (IGR PAN)** **Dr hab. Izabela Pawłowicz (IGR PAN)** **Dr Dawid Perlikowski (IGR PAN)** Wykład kursowy **(*obligatory lecture*) –** Eng. ***Fizjologia roślin, część 1*** ***Plant physiology, part 1*** ECTS - 2 p. **Prof. dr hab. Arkadiusz Kosmala, IGR PAN** **Dr hab. Lidia Błaszczyk, prof. IGR PAN** Seminarium obowiązkowe ***(obligatory seminar)*** – Eng**.** ***Wybrane zagadnienia z genetyki roślin*** ***Selected topics in plant genetics*** ECTS - 2 p.	**Prof. dr hab. Arkadiusz Kosmala (IGR PAN)** **Dr hab. Danuta Babula-Skowrońska (IGR PAN)** **Dr hab. Izabela Pawłowicz (IGR PAN)** **Dr Dawid Perlikowski (IGR PAN)** Wykład kursowy **(*obligatory lecture*) –** Eng. ***Fizjologia roślin, część 2*** ***Plant physiology, part 2*** ECTS - 2 p. **Prof. dr hab. Arkadiusz Kosmala, IGR PAN** **Dr hab. Lidia Błaszczyk, prof. IGR PAN** Seminarium obowiązkowe ***(obligatory seminar)*** – Eng**.** ***Wybrane zagadnienia z genetyki roślin*** ***Selected topics in plant genetics*** ECTS - 2 p.
NAUKI FIZYCZNE/ PHYSICAL SCIENCES **IFM PAN**	**Dr inż. Krzysztof Ptaszyński** Wykład kursowy ***(obligatory lecture)* –** Eng. ***Fizyka zjawisk silnie nierównowagowych*** ***Physics of far-from-equilibrium phenomena*** ECTS - 4 p. **Dr hab inż. Michał Bielejewski, prof. IFM PAN** **Dr inż. Karol Synoradzki** ***Seminarium z fizyki doświadczalnej i teoretycznej*** ***Seminar on theoretical and experimental physics*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)*** – Eng. ECTS - 1 p.	**Dr hab. inż. Mirosław Werwiński, prof. IFM PAN** Wykład fakultatywny ***(non-obligatory class)*** – Eng. ***Obliczenia z pierwszych zasad z zastosowaniem uczenia maszynowego*** ***First-principles calculations using machine learning*** ECTS -2 p. **Dr hab inż. Michał Bielejewski, prof. IFM PAN** **Dr inż. Karol Synoradzki** ***Seminarium z fizyki doświadczalnej i teoretycznej*** ***Seminar on theoretical and experimental physics*** Seminarium doktoranckie obowiązkowe ***(obligatory seminar)* – Eng.** ECTS - 1 p.

Zajęcia kształtujące kompetencje uniwersalne/ General competences class	**Dr Justyna Małkuch-Świtalska** Zajęcia kształtujące umiejętności uniwersalne **-** Eng. ***Efektywna współpraca z promotorem i przygotowanie rozprawy doktorskiej*** ***Effective cooperation with the supervisor and preparation of the doctoral dissertation*** ECTS - 2 p. On-line **Dr Leszek Ratajczak (lektor UAM)** Lektorat/Konwersacja *(conversation)*– Eng. at the ICHB	**Dr Justyna Małkuch-Świtalska** Zajęcia kształtujące umiejętności uniwersalne - Eng. ***Autoprezentacja i przedstawianie wyników badań*** ***Autopresentation and presenting of research results*** ECTS - 2 p. On-line **Dr Leszek Ratajczak (lektor UAM)** Lektorat/Konwersacja *(conversation)*– Eng. at the ICHB

Wykład fakultatywny *(non-obligatory class) – 12–15 godzin lekcyjnych/lesson hours*

Wykład kursowy *(obligatory class) – 20–30 godzin lekcyjnych/lesson hours*

W PSD IPAN, sposób weryfikacji efektów kształcenia na poziomie 8 Polskiej Ramy Kwalifikacji (PRK) nie jest wyszczególniony w osobnym dokumencie, ale jest częściowo opisany w Regulaminie PSD IPAN, Programie Kształcenia i sylabusach przedmiotów.

At the PDS IPAS, the method of verifying learning outcomes at level 8 of the Polish Qualifications Framework (PRK) is not specified in a separate document, but is partially described in the PDS IPAS Regulations, the Programme of Study, and subject syllabi.

Lecturers – PDS IPAS – Programmes of study featuring biology

Lecturer	**Prof. Dr. hab. Jan Barciszewski** IBCH PAS, AMU
A short CV, professional titles and academic degrees, and place of employment	Employment: 1.10.2016 - present: Adam Mickiewicz University in Poznań 6.02.1988 - 30.06.2021: Institute of Bioorganic Chemistry PAS Degrees and titles: 1993 - Professor, field of biological sciences 1985 - Habilitated Doctor, field of natural sciences / biology-biochemistry Degree awarded by: Institute of Biochemistry and Biophysics PAS 1974 - Doctor, field of chemical sciences/chemistry Degree awarded by: Adam Mickiewicz University in Poznań 1970 - Master, chemistry Degree awarded by: Adam Mickiewicz University in Poznań Functions: Member of the Presidium - Polish Biochemical Society Member of the Scientific Council - Institute of Bioorganic Chemistry PAS Member of the Board - Polish Biochemical Society Memberships: Polish Academy of Sciences, Committee of Biotechnology Polish Academy of Sciences, Committee of Molecular and Cell Biology
Description of interests, most important scientific achievements	His interests and achievements are expressed in the publications presented below.
List of publications from the last 4-5 years	Differential morphophysiological and epigenetic responses during in vitro multiplication of Quercus robur depending on donor age and plant growth regulators; Rodrigues Martins JP, Wawrzyniak MK, Kalemba EM, Ley-López JM, Mendes MM, Naskręt-Barciszewska MZ, Barciszewski J, Chmielarz P; Plant Cell Tissue and Organ Culture 159(3):62. doi.org/10.1007/s11240-024-02914-2 Low bias charge transport in DNA. Wiesner M, Barciszewski J, Belter A, Sierakowski A, Drzazga A, Chmielewski MK Sci Rep 2024, 14(1):22405. doi: 10.1038/s41598-024-74133-w. The forerunners and successful partnerships behind the BioNTech mRNA vaccine. Aygün I, Barciszewski J J Appl Genet. 2024, 65(1):47-55. doi: 10.1007/s13353-023-00793-5. [Lycopene – the impact of supplementation on the skin aging process]. Wawrzyniak D, Rolle K, Barciszewski J Postepy Biochem. 2023, 69(1):47-53. doi: 10.18388/pb.2021_482.

	Identification of DNA Methylation Changes in European Beech Seeds during Desiccation and Storage. Michalak M, Plitta-Michalak BP, Suszka J, Naskręt-Barciszewska MZ, Kotlarski S, Barciszewski J, Chmielarz P. Int J Mol Sci. 2023, 24(4):3557. doi: 10.3390/ijms24043557. DNA Methylation as an Early Indicator of Aging in Stored Seeds of "Exceptional" Species Populus nigra L. Michalak M, Plitta-Michalak BP, Naskręt-Barciszewska MZ, Barciszewski J, Chmielarz P. Cells. 2022, 11(13):2080. doi: 10.3390/cells11132080 [Epigenetic on Earth and in Space]. Korczmar E, Belter A, Naskręt-Barciszewska MZ, Jurga S, Barciszewski J. Postepy Biochem. 2022, 68(2):169-178. doi: 10.18388/pb.2021_437. [100 years of RNA. The Diamond Jubilee of Information RNA]. Korczmar E, Belter A, Naskręt-Barciszewska M, Jurga S, Barciszewski J. Postepy Biochem. 2021, 67(3):212-222. doi: 10.18388/pb.2021_393. Reducing SARS-CoV-2 pathological protein activity with small molecules. Pluskota-Karwatka D, Hoffmann M, Barciszewski J. J Pharm Anal. 2021,11(4):383-397. doi: 10.1016/j.jpha.2021.03.012. The model structure of the hammerhead ribozyme formed by RNAs of reciprocal chirality. Wyszko E, Popenda M, Gudanis D, Sarzyńska J, Belter A, Perrigue P, Skowronek P, Rolle K, Barciszewski J. Biosci Rep. 2021, 41(1):BSR20203424. doi: 10.1042/BSR20203424. A new molecular mechanism of RNA circularization and the microRNA sponge formation. Belter A, Popenda M, Sajek M, Woźniak T, Naskręt-Barciszewska MZ, Szachniuk M, Jurga S, Barciszewski J. J Biomol Struct Dyn. 2022, 40(7):3038-3045. doi: 10.1080/07391102.2020.1844802. <u>Books:</u> S. Jurga, J. Barciszewski, Epitranscriptomics (seria RNA Technologies, Vol. 12), Springer, 2021, ISBN: 978-3-030-71611-0, DOI 10.1007/978-3-030-71612-7 S. Jurga, J. Barciszewski, Messenger RNA Therapeutics (seria RNA Technologies, Vol. 13), Springer, 2022, ISBN: 978-3-031-08415-7, doi.org/10.1007/978-3-031-08415-7 J. Barciszewski, RNA Structure and Function (seria RNA Technologies, Vol. 14), Springer, 2023, ISBN: 978-3-031-36389-4, doi.org/10.1007/978-3-031-36390-0

	J. Barciszewski, Systems Biology II (serie RNA Technologies, Vol. 15), Springer, 2024, ISBN: 978-3-031-62177-2, doi.org/10.1007/978-3-031-62178-9 J. Barciszewski, Decoding Aging and Neurodegeneration: The Role of Nucleic Acid Epigenetics (serie RNA Technologies, Vol. 16), Springer, 2025, ISBN: 978-3-031-91071-5, doi.org/10.1007/978-3-031-91072-2
Managing and participating in research projects	Projects: "New, multifunctional nanoparticles in combined geno- and phototherapy", OPUS, 13.04.2017 - 12.10.2021, team leader. Aminoacyl-tRNA and aminoacyl-tRNA synthetases in the cell nucleus, 1.01.2006 - 30.12.2006; executor. Protein kinase inhibitors as potential anticancer and antiviral drugs, 13.12.2005 - 12.12.2008; executor.
Scientific cooperation with international and domestic research centers	Review of 35 promotion proceedings, including doctoral dissertations and professorship proceedings.
Lectures delivered in Poland and abroad	Berlin, Free University of Berlin, Aarhus University, Aarhus Denmark, Palacky University, Olomouc, Helsinki University, Helsi nki, Argonne National Laboratory, USA, National Cancer Center, Yokyo, Japan, Institute of Cell Biology Chinese Academy of Sciences, Shanghai, Beijing University, Beijing China. …
Previous experience in educating doctoral students and students	Long-term lecturer, conducting doctoral seminars and lectures for the Partnership-based Doctoral Program at the IBCH PAS and the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences. Supervisor of seven doctorates: Therapeutic use of nucleic acids Characterization of eukaryotic methionyl-tRNA synthetases Plant methionyl-tRNA synthetase Structure and evolution of ribosomal 5S RNA Eukaryota Characterization of cDNA encoding PO protein of yellow lupine and its expression Structure and properties of aminoacyl-tRNA synthetases from plants Structure of ribosomal 5S RNA

Lecturer	**Prof. Dr. hab. Ryszard Słomski**
A short CV, professional titles and academic degrees, and place of employment	Employment: 1.10.2024 - present: Academy of Social and Media Culture in Toruń 21.12.2022 - 31.01.2025: Institute of Natural Fibres and Medicinal Plants - National Research Institute 16.11.1974 - 23.07.2024: Institute of Human Genetics PAS 1.09.1993 - 29.02.2020: Poznań University of Life Sciences Degrees and titles: 1990 - Professor, medical sciences 1982 - Habilitated Doctor, medical sciences/cell biology 1976 - Doctor - natural sciences/biology 1973 - Master, biology with biochemistry specialization Functions (current and past): Head of the Institute of Medical Sciences - Academy of Social and Media Culture in Toruń (since 2024) Deputy Director for Scientific Affairs - Institute of Human Genetics PAS (until 2022) Head of the Department of Biochemistry and Biotechnology - Poznań University of Life Sciences (1997-2020) Head of the Department of Biotechnology - Institute of Natural Fibres and Medicinal Plants - National Research Institute (2022-2025) Chairman of the Scientific Council - Institute of Genetics and Animal Biotechnology PAS (since 2011) Chairman of the Scientific Council - Institute of Natural Fibres and Medicinal Plants - National Research Institute Member of the Scientific Council - Institute of Human Genetics PAS (2003-2024) Member of the Scientific Council - Institute of Bioorganic Chemistry PAS Member of the Scientific Council - Institute of Animal Science - National Research Institute (since 2017) Member of the Scientific Council of the NanoBioMedical Center UAM (since 2011) Member of the Scientific Council - Institute of Natural Fibres Member of the Faculty Council - Faculty of Agriculture and Bioengineering, Poznań University of Life Sciences (until 2020) Member of the Faculty Council - Faculty of Agriculture, Poznań University of Life Sciences Honorary Chairman - Committee of Human Genetics and Molecular Pathology PAS (since 2020) Chairman - Committee of Human Genetics and Molecular Pathology, PAS (2009-2020) Vice-President of the College of Laboratory Medicine in Poland (2015-2022)

	Honorary Member of the College of Laboratory Medicine in Poland, founding member <u>Memberships:</u> Central Commission for Degrees and Titles, Section III - Biological, Agricultural, Forestry and Veterinary Sciences, Member (2013-2020) National Committee for Cooperation with the InterAcademy Panel on International Issues (IAP), 2015-present Polish Academy of Sciences Member of the Committee on the Prohibition of Biological and Toxin Weapons, Biological and Toxic Weapons Convention, UN Geneva (2012-2020) National Committee for Cooperation with the International Science Council (ISC), 2017-present Member of the Biotechnology Commission – Poznań Branch of the Polish Academy of Sciences 2019-present Member of the Biotechnology Committee of the Polish Academy of Sciences, Biotechnology Commission, 2011-present Member of the Committee of Human Genetics and Molecular Pathology, 2024-present EFSA Scientific Network for Risk Assessment of GMOs, 2020-present
Description of interests, most important scientific achievements	<u>Most important scientific achievements:</u> Characterization of TL mouse surface antigens. Implementation of DNA research into disease diagnostics. Introduction of genetic individual identification based on DNA analysis in the country. Execution and dissemination of in vitro DNA amplification (PCR) in the country, cooperation with Prof. Adam Kraszewski. Obtaining transgenic animals for biomedical purposes, cooperation with Prof. Zdzisław Smorąg. <u>Awards, prizes, distinctions</u>: Awards of the Scientific Secretary of PAS (1976 and 1977) J. Śniadecki Awards (1988 and 2000) Awards of Division VI PAS (1979 and 1982), Award of Pol. Biochem. Soc. (1975) Scientific Award of M. Poznań (1999) J. Śniadecki Medal (2002) KEN Medal (2003) 1st Degree Award of the Ministry of Science and Higher Education for scientific achievements in biochemistry and biotechnology (2009) Award of the Marshal of the Wielkopolska Voivodeship "i-Wielkopolska – Innovators for Wielkopolska" (2012) Medal for Merit to UPP (2012) Gold Medal for Long Service (2013) Knight's Cross of the Order of Polonia Restituta (2014) Honorary Badge "Merited for Agriculture" (2016)

	Hipolit's Honorary Statuette and the Dignity of "Leader of Organic Work". Hipolit Cegielski Society (2019) Medal of the 100th Anniversary of Poznań University (2019) Officer's Cross of the Order of Polonia Restituta (2020) Silver Medal "Merited for Polish Science Sapientia et Veritas". Minister of Education and Science (2023) Medal "Verba Docent – Exempla Trahunt" of the Hipolit Cegielski Society (2023) Humboldt Foundation Scholar (1990-1991)
List of publications from the last 4-5 years	1 Relationship of visfatin with obesity and osteoporosis in patients with inflammatory bowel disease: a narrative review. Ratajczak-Pawłowska AE, Szymczak-Tomczak A, Hryhorowicz S, Zawada A, Skoracka K, Rychter AM, Skrzypczak-Zielińska M, Słomski R, Dobrowolska A, Krela-Kaźmierczak I. Front Immunol. 2025 Mar 18;16:1533955. doi: 10.3389/fimmu.2025.1533955. eCollection 2025. 2 The role of leptin and ghrelin in the regulation of appetite in obesity. Skoracka K, Hryhorowicz S, Schulz P, Zawada A, Ratajczak-Pawłowska AE, Rychter AM, Słomski R, Dobrowolska A, Krela-Kaźmierczak I. Peptides. 2025 Apr;186:171367. doi: 10.1016/j.peptides.2025.171367. Epub 2025 Feb 19.. Review. 3 History of Biological Databases, Their Importance, and Existence in Modern Scientific and Policy Context. Danielewski M, Szalata M, Nowak JK, Walkowiak J, Słomski R, Wielgus K. Genes (Basel). 2025 Jan 18;16(1):100. doi: 10.3390/genes16010100. 4 Cannabis sativa L. Extract Increases COX-1, COX-2 and TNF-α in the Hippocampus of Rats with Neuropathic Pain. Bartkowiak-Wieczorek J, Jamka M, Kujawski R, Hołysz M, Bienert A, Czora-Poczwardowska K, Szulc M, Mikołajczak P, Bogacz A, Wizner AM, Wielgus K, Słomski R, Mądry E. Molecules. 2025 Jan 6;30(1):194. doi: 10.3390/molecules30010194. 5 Cannabis sativa L. Extract Alleviates Neuropathic Pain and Modulates CB1 and CB2 Receptor Expression in Rat. Bartkowiak-Wieczorek J, Bienert A, Czora-Poczwardowska K, Kujawski R, Szulc M, Mikołajczak P, Wizner AM, Jamka M, Hołysz M, Wielgus K, Słomski R, Mądry E. Biomolecules. 2024 Aug 26;14(9):1065. doi: 10.3390/biom14091065. 6 The Role of Host Genetics and Intestinal Microbiota and Metabolome as a New Insight into IBD Pathogenesis. Zakerska-Banaszak O, Zuraszek-Szymanska J, Eder P, Ladziak K, Slomski R, Skrzypczak-Zielinska M.

	Int J Mol Sci. 2024 Sep 4;25(17):9589. doi: 10.3390/ijms25179589. 7 Mutations in Helicobacter pylori infected patients with chronic gastritis, intestinal type of gastric cancer and familial gastric cancer. Hnatyszyn A, Szalata M, Zielińska A, Wielgus K, Danielewski M, Hnatyszyn PT, Pławski A, Walkowiak J, Słomski R. Hered Cancer Clin Pract. 2024 Jun 12;22(1):9. doi: 10.1186/s13053-024-00282-8. 8 From an understanding of etiopathogenesis to novel therapies-what is new in the treatment of celiac disease? Skoracka K, Hryhorowicz S, Tovoli F, Raiteri A, Rychter AM, Słomski R, Dobrowolska A, Granito A, Krela-Kaźmierczak I. Front Pharmacol. 2024 Apr 18;15:1378172. doi: 10.3389/fphar.2024.1378172. eCollection 2024. 9 In Vitro Evidence of Selective Pro-Apoptotic Action of the Pure Cannabidiol and Cannabidiol-Rich Extract. Śledziński P, Nowak-Terpiłowska A, Rzymski P, Słomski R, Zeyland J. Molecules. 2023 Dec 1;28(23):7887. doi: 10.3390/molecules28237887. 10 Genetic, Immunological, Dietary, Gut Microbiota, and Environmental Determinants of Osteoporosis in the Course of Celiac Disease: Which Factor Plays the First Violin in This Orchestra? Skoracka K, Hryhorowicz S, Tovoli F, Raiteri A, Rychter AM, Słomski R, Dobrowolska A, Granito A, Krela-Kaźmierczak I. Calcif Tissue Int. 2024 Feb;114(2):98-109. doi: 10.1007/s00223-023-01155-3. Epub 2023 Dec 5. 11 Are variants of the RBP4 gene associated with serum retinol-binding protein 4 concentrations and carotid intima-media thickness values in women with obesity? Rychter AM, Skrzypczak-Zielińska M, Naskręt D, Michalak M, Zawada A, Walczak M, Słomski R, Dobrowolska A, Krela-Kaźmierczak I. Gene. 2024 Jan 30;893:147909. doi: 10.1016/j.gene.2023.147909. Epub 2023 Oct 18. 12 Genetic variants of MTHFR gene in relation to folic acid levels and bone mineral density in Polish patients with inflammatory bowel disease. Ratajczak-Pawłowska AE, Hryhorowicz S, Szymczak-Tomczak A, Wysocka E, Michalak M, Kaczmarek-Ryś M, Lis-Tanaś E, Bielawska L, Pławski A, Słomski R, Dobrowolska A, Krela-Kaźmierczak I. J Appl Genet. 2024 Feb;65(1):73-81. doi: 10.1007/s13353-023-00792-6. Epub 2023 Oct 11.

	13 THC-Reduced Cannabis sativa L.-How Does the Solvent Determine the Bioavailability of Cannabinoids Given Orally? Bartkowiak-Wieczorek J, Mądry E, Książkiewicz M, Winkler-Galicki J, Szalata M, Szalata M, Jiménez UE, Wielgus K, Grześkowiak E, Słomski R, Bienert A. Nutrients. 2023 Jun 6;15(12):2646. doi: 10.3390/nu15122646. 14 Scaffolds for drug delivery and tissue engineering: The role of genetics. Zielińska A, Karczewski J, Eder P, Kolanowski T, Szalata M, Wielgus K, Szalata M, Kim D, Shin SR, Słomski R, Souto EB. J Control Release. 2023 Jul;359:207-223. doi: 10.1016/j.jconrel.2023.05.042. Epub 2023 Jun 8. 15 Tocilizumab-coated solid lipid nanoparticles loaded with cannabidiol as a novel drug delivery strategy for treating COVID-19: A review. Zielińska A, Eder P, Karczewski J, Szalata M, Hryhorowicz S, Wielgus K, Szalata M, Dobrowolska A, Atanasov AG, Słomski R, Souto EB. Front Immunol. 2023 Mar 22;14:1147991. doi: 10.3389/fimmu.2023.1147991. eCollection 2023. 16 Association of the ILR1 and FAS gene variants with primary nonresponse to anti-tumor necrosis factor therapy in patients with Crohn disease. Lykowska-Szuber L, Skrzypczak-Zielinska M, Zuraszek J, Walczak M, Stawczyk-Eder K, Krela-Kazmierczak I, Michalak M, Slomski R, Dobrowolska A. Pol Arch Intern Med. 2023 Oct 26;133(10):16461. doi: 10.20452/pamw.16461. Epub 2023 Mar 14. 17 Alterations in Gut Microbiota Composition in Patients with COVID-19: A Pilot Study of Whole Hypervariable 16S rRNA Gene Sequencing. Mańkowska-Wierzbicka D, Zuraszek J, Wierzbicka A, Gabryel M, Mahadea D, Baturo A, Zakerska-Banaszak O, Slomski R, Skrzypczak-Zielinska M, Dobrowolska A. Biomedicines. 2023 Jan 27;11(2):367. doi: 10.3390/biomedicines11020367. 18 Why are western diet and western lifestyle pro-inflammatory risk factors of celiac disease? Skoracka K, Hryhorowicz S, Rychter AM, Ratajczak AE, Szymczak-Tomczak A, Zawada A, Słomski R, Dobrowolska A, Krela-Kaźmierczak I. Front Nutr. 2023 Jan 20;9:1054089. doi: 10.3389/fnut.2022.1054089. eCollection 2022.

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Does the VDR gene polymorphism influence the efficacy of denosumab therapy in postmenopausal osteoporosis?
Wawrzyniak A, Skrzypczak-Zielińska M, Michalak M, Kaczmarek-Ryś M, Ratajczak AE, Rychter AM, Skoracka K, Marcinkowska M, Słomski R, Dobrowolska A, Krela-Kaźmierczak I.
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	Lykowska-Szuber L, Walczak M, Skrzypczak-Zielinska M, Suszynska-Zajczyk J, Stawczyk-Eder K, Waszak K, Eder P, Wozniak A, Krela-Kazmierczak I, Slomski R, Dobrowolska A. Front Immunol. 2021 Mar 9;12:615539. doi: 10.3389/fimmu.2021.615539. eCollection 2021. 38 What Role Does the Endocannabinoid System Play in the Pathogenesis of Obesity? Schulz P, Hryhorowicz S, Rychter AM, Zawada A, Słomski R, Dobrowolska A, Krela-Kaźmierczak I. Nutrients. 2021 Jan 26;13(2):373. doi: 10.3390/nu13020373. 39 Dysbiosis of gut microbiota in Polish patients with ulcerative colitis: a pilot study. Zakerska-Banaszak O, Tomczak H, Gabryel M, Baturo A, Wolko L, Michalak M, Malinska N, Mankowska-Wierzbicka D, Eder P, Dobrowolska A, Slomski R, Skrzypczak-Zielinska M. Sci Rep. 2021 Jan 25;11(1):2166. doi: 10.1038/s41598-021-81628-3.
Managing and participating in research projects	**Projects since 2010:** • Ministry of Science and Higher Education Technological Initiative 1 13910 Obtaining sage (Salvia officinalis) with anti-caries properties, 2007-2010 Project Manager: Prof. Ryszard Słomski, Poznań University of Life Sciences • Ministry of Science and Higher Education Technological Initiative 1 13913 Obtaining recombinant human albumin in the mammary gland of transgenic goats, 2008-2010 Project Manager: Prof. Ryszard Słomski, Poznań University of Life Sciences • Ministry of Science and Higher Education N N401 014435 Genetic basis of selected hamartomatous polyposis syndromes Promotional project, 2008-2010. Ms. Marta Podralska Project Manager: Prof. Ryszard Słomski, Institute of Human Genetics PAS • Ministry of Science and Higher Education N N402 209835 Genetic factors involved in the response to thiopurine drugs in patients with inflammatory bowel diseases, 2008-2012 Project Manager: Prof. Ryszard Słomski, Institute of Human Genetics PAS • Ministry of Science and Higher Education N N403 209635 Association analysis between polymorphisms of selected genes and abdominal aortic aneurysm or aorto-iliac occlusion Executor: Prof. Ryszard Słomski Manager: Dr. Marcin Gabriel, 2008-2010 Institute of Human Genetics PAS

	• Key Project within the Innovative Economy Operational Program POIG.01.03.01-00-004/08, priority 1: Research and development of modern technologies: Functional nano- and micro-textile materials. Acronym Nanomitex Task no. PZ III.3. Bionanofibers as virus barriers. Obtaining non-pathogenic gene constructs for assessing the barrier properties of filter inserts - 12 months. Task no. PZ III.4. Assessment of the barrier properties of filter inserts against non-pathogenic gene constructs - 12 months. Leader: Institute of Textile Industry in Łódź. 2008-2011 Partner: Poznań University of Life Sciences Task Manager: Prof. R. Słomski • Project: Support study for the identification of potential needs and possibilities for an integrated European infrastructure network of animal facilities in ruminant physiology and breeding Acronym: ERIN Grant agreement no.: 227750 18 months, 2008-2010 Manager: Prof. Z. Smorąg, cooperation Prof. R. Słomski • Ministry of Science and Higher Education N N402 287436 Analysis of selected gene polymorphisms' association with differentiated thyroid cancer risk, clinical course, and treatment response Executor: Prof. Ryszard Słomski, Institute of Human Genetics PAS Manager: Ms. Marta Kaczmarek, 2009-2011 • Ministry of Science and Higher Education N N402 471437 Comparison of the genetic background of abdominal aortic aneurysm and aorto-iliac occlusion based on association analysis of selected matrix metalloproteinase genes and their inhibitors' polymorphisms. Promotional project, Ms. Joanna Mikołajczyk-Stecyna Project Manager: Prof. Ryszard Słomski, Institute of Human Genetics PAS, 2009-2012 • Development Project No. N R12 0036 06/2009 Obtaining transgenic pigs as tissue and organ donors for human transplantation and their biotechnological, physiological, and medical characterization. Manager: Prof. Z. Smorąg, IZ-PIB Task 1. Preparation of modifying, regulating, and inactivating gene constructs for xenotransplantation and multi-transgenic pig cells for somatic cloning. Task Manager: Prof. Ryszard Słomski, Poznań University of Life Sciences, 2009-2012 • Development Project N R12 0036 06/2009 Obtaining transgenic pigs as tissue and organ donors for human transplantation and their biotechnological, physiological, and medical characterization.

	Manager: Prof. Z. Smorąg, IZ-PIB Task 5. Molecular and cytogenetic characterization of transgenic pigs and assessment of transgene expression at the transcription and translation levels. Task Manager: Prof. Ryszard Słomski, Institute of Human Genetics PAS in Poznań, 2009-2013 • Development Project N R13 0075 06/2009 Transgenic heart valve bioprostheses created using tissue engineering techniques. Manager: Dr. Romuald Antoni Cichoń, Foundation for the Development of Cardiac Surgery in Zabrze Task: "Molecular and cytogenetic characterization of potentially transgenic pigs," hereinafter referred to as "the task." Task Manager: Prof. Ryszard Słomski, Institute of Human Genetics PAS in Poznań, 2009-2012 • Development Project N R13 0018 06 Inhibition of coagulation system activation and systemic inflammatory response during extracorporeal respiratory support in an animal model Task: Analysis of genetic variability of piglets for xenotransplantation and somatic cloning Manager: Dr. Wiesław Zygmunt Królikowski, CM UJ Task Manager: Prof. Z. Smorąg, cooperation Prof. R. Słomski, 2009-2012 • Own Project - Ministry of Science and Higher Education N N401 037838 Analysis of gene polymorphisms determining the response to anesthetic agents in patients under general anesthesia and the response to analgesics in the postoperative period. 2010-2014 Executor: Prof. Ryszard Słomski. Project Manager: Dr. Adam Mikstacki Institute of Human Genetics PAS • Own Project - Ministry of Science and Higher Education N N303 457238 Determination of the degree of genetic determination in auxological prenatal examinations - analysis of genetic variability of twins. 2010-2014 Executor: Prof. Ryszard Słomski. Project Manager: Prof. Krystyna Cieślik Institute of Human Genetics PAS • Project under the Innovative Economy Operational Program "Biotechnological conversion of glycerol to polyols and dicarboxylic acids," no. POIG.01.01.02-00-074/09 Priority 1. Research and development of modern technologies, Measure 1.1 Support for scientific research for building a knowledge-based economy, Sub-measure 1.1.2 Strategic programs for scientific research and development works. Leader: Poznań University of Life Sciences 2010-2014 Task 1.4. Genetic improvement of microorganisms. Manager: Prof. R. Słomski • UDA/POIG.01.04.00-24-002/11-00 Project of the Innovative Economy Operational Program 2007-2013 under Measure 1.4 Support for targeted projects of priority axis 1 Research and development of modern technologies. "Research on the

	development of technology for producing an effective kidney transplant fluid," Project Manager: Prof. Florian Ryszka, Pharmaceutical Research and Production Plant "BIOCHEFA" Research task: "Development of methodology for determining zygosity of piglets for kidney xenotransplantation and a repeatable animal model." Task Manager: Prof. Ryszard Słomski, Institute of Human Genetics PAS in Poznań, 2012-2013 • National Centre for Research and Development. Applied Research Project. 181111. Development of innovative technology for producing second-generation bioethanol from sorghum (Sorghum sp.) and miscanthus (Miscanthus sp.) biomass. Project Manager: Prof. Ryszard Słomski, Poznań University of Life Sciences, 2012-2016 • "Sharing Advances on Large Animal Models (SALAAM)", COST Action BM1308. Management Committee Member. 19.05.2014-18.05.2018 Coordinator: Prof. Eckhard Wolf (Germany). Task Executor: Prof. Ryszard Słomski, Poznań University of Life Sciences SALAAM website COST BM1308 • INNOMED/I/11/NCBR/2014 National Centre for Research and Development. INNOMED. Development of technology for obtaining cannabinoids from low-THC hemp as supportive agents for treating oncology patients. Acronym ONKOKAN. Project Leader: Prof. Ryszard Słomski, Poznań University of Life Sciences, 2014-2018. • INNOMED/I/17/NCBR/2014 Development of innovative technology for using transgenic pig tissues for biomedical purposes. Acronym: MEDPIG Project Leader: Prof. Ryszard Słomski, Poznań University of Life Sciences, 2014-2018. • PBS 245112 National Centre for Research and Development. PBS Program. STRIIFORMIS. Search for sources of wheat resistance to infection by Puccinia striiformis (yellow rust) as an element of integrated plant protection. Executor. Leader: Poznań University of Life Sciences Task Manager: Dr. Łukasz Wolko, Poznań University of Life Sciences, 2015-2018. Leader: UPP • SALVITRO – "Healthy sage seedlings from in vitro cultures for ornamental and spice purposes". Innovation Incubator 4.0 Project of "PLANT-TECH 4.0" Operational Program Intelligent Development 2014-2020. Project duration: 2022 – 2023 Executor: Prof. Ryszard Słomski. Task Manager: Dr. Aleksandra Deja, Institute of Natural Fibres and Medicinal Plants PIB
Research fellowships	Gene Mapping Center, Max-Delbrück Center for Molecular Medicine, Berlin-Buch, Germany, 2002 PienGen Biomedical Corporation, Knoxville, TN, U.S.A., since 1998

	Division of Experimental Medicine, Harvard Medical School, Boston, U.S.A., 5 months, 1996-1997 Institute of Human Genetics, University of Goettingen, FRG, 2 years, 1990-1991 Department of Microbiology and Immunology, University of Illinois, Chicago, U.S.A., 3 years, 1979-2020 La Rabida Children Hospital, University of Chicago, U.S.A., 1 year, 1978
Scientific cooperation with international and domestic research centers	**Scientific cooperation with foreign and domestic research centers** Gene Center and Department of Biochemistry Molecular Animal Breeding and Biotechnology, Ludwig-Maximilians-Universität München Gene Mapping Center, Max-Delbrück Center for Molecular Medicine, Berlin-Buch, Germany PienGen Biomedical Corporation, Knoxville, TN, U.S.A. Division of Experimental Medicine, Harvard Medical School, Boston, U.S.A. Institute of Human Genetics, University of Goettingen, Germany Department of Microbiology and Immunology, University of Illinois, Chicago, U.S.A. La Rabida Children Hospital, University of Chicago Institute of Plant Genetics PAS Institute of Bioorganic Chemistry PAS Institute of Human Genetics PAS Eugeniusz Piasecki University of Physical Education in Poznań Institute of Natural Fibres and Medicinal Plants PIB Karol Marcinkowski Medical University of Poznań Adam Mickiewicz University Institute of Genetics and Animal Biotechnology PAS in Jastrzębiec National Research Institute of Animal Production in Balice Medical University of Silesia Burn Treatment Centre in Siemianowice Śląskie Foundation for the Development of Cardiac Surgery in Zabrze Academy of Social and Media Culture in Toruń
Lectures delivered in Poland and abroad	- Participation with invited presentations at 15 international conferences (Boston 1997, Gifu 1999, Munich 2004, Berlin 2005, Houston 2006, České Budějovice 2008, Beijing 2010, Geneva 2013-2016, Moscow 2014). - 11 times as a visiting professor (Max-Delbrück Center for Molecular Medicine, Berlin; PienGen Biomedical Corporation, Knoxville; Harvard Medical School, Boston; University of Goettingen; University of Illinois; University of Chicago, Bundeswehr Institute of Microbiology). - Repeatedly presented the position of the Biosecurity Working Group of IAP at the UN headquarters in Geneva. Member of the Management Committee COST Action BM1308 Sharing advances on large animal models (SALAAM) 2014. Polish representative at the UN in Geneva on Biological Weapon Convention matters.

Previous experience in educating doctoral students and students	**Didactic activities:** Supervisor of 31 doctoral dissertations, 104 master's theses. Reviewed 88 doctoral dissertations, 48 habilitation theses, 42 applications for professorship. **Classes for students and doctoral candidates:** Poznań University of Life Sciences, Adam Mickiewicz University in Poznań, Karol Marcinkowski Medical University of Poznań, Academy of Social and Media Culture in Toruń, Institutes of the Polish Academy of Sciences in Poznań. **Subjects:** genetics, immunology, molecular biology, medical biotechnology.

Lecturer	**Prof. Dr. hab. Mirosława Z. Naskręt-Barciszewska** IBCH PAS
A short CV, professional titles and academic degrees, and place of employment	Employment: 15.06.1975 – 06.02.1988 – Department of Stereochemistry of Natural Products PAS and Department of Bioorganic Chemistry PAS 6.02.1988 – present Institute of Bioorganic Chemistry PAS Degrees and titles: 1997 - Professor, field of biological sciences 1989 - Habilitated Doctor, field of natural sciences / biology-biochemistry Degree awarded by: Institute of Biochemistry and Biophysics PAS 1975 – Doctor, field of chemical sciences / chemistry Degree awarded by: Adam Mickiewicz University in Poznań 1969 – Master, chemistry Degree awarded by: Adam Mickiewicz University in Poznań Functions: Head of the Department of Medical Biology Institute of Bioorganic Chemistry PAS Head of research projects financed by the National Science Centre (NSC) Memberships: Member of the Scientific Council of IBCH PAS in the years 1991 – 2018 Chairperson of the commission for doctoral proceedings
Description of interests, most important scientific achievements	Searching for new molecular markers of neoplastic diseases and developing new therapeutic strategies for high-grade brain gliomas. The aim is to understand the role of epigenetic modifications, mainly DNA methylation, in various cellular processes such as differentiation and cell death. DNA methylation is an epigenetic marker that determines where and when genes are expressed, both in normal and cancerous cells. It is known that DNA methylation, which causes gene repression, can be controlled by low molecular weight chemical

	compounds. The aim of the research is to analyze the influence of small molecules on the activation of genes silenced by DNA methylation. Searching for new compounds or selecting known drugs that can effectively change DNA methylation in brain tumor cells.
List of publications from the last 4-5 years *[*]. Korczmar E, Belter A, Naskręt-Barciszewska MZ, Jurga S, Barciszewski J. Postepy Biochem. 2022, 68(2):169-178. doi: 10.18388/pb.2021_437. .	1.Patrick M. Perrigue *, Magdalena Rakoczy, Kamila Pawlicka, Agnieszka Belter, Małgorzata Giel-Pietraszuk, Mirosława Naskręt-Barciszewska, Jan Barciszewski, Marek Figlerowicz. (2020) Cancer stem cell-inducing media activates senescence reprogramming in fibroblasts. Cancers (Basel). 12(7):E1745. doi: 10.3390/cancers12071745. 2. Beata P. Plitta-Michalak , Mirosława Z. Naskręt-Barciszewska , Jan Barciszewski , Paweł Chmielarz , Marcin Michalak. Epigenetic integrity of orthodox seeds subjected to water content adjustment, conventional and cryostorage storage. Forests 2021, 12(3), 288; doi.org/10.3390/f12030288 3. Emilia Korczmar, Agnieszka Belter, Mirosława Naskręt-Barciszewska, Stefan Jurga; Jan Barciszewski. [100 years of RNA. The Diamond Jubilee of Information RNA]. Postępy biochemii 67 (3) 2021 4. Emilia Korczmar, Agnieszka Belter, Mirosława Naskręt-Barciszewska, Stefan Jurga; Jan Barciszewski. [Epigenetic on Earth and in Space]. Postępy biochemii 2022, 68(2):169-178 DOI:10.18388/pb.2021_437 5. Agnieszka Belter, Mariusz Popenda, Marcin Sajek, Tomasz Woźniak, Mirosława Z. Naskręt-Barciszewska, Marta Szachniuk, Stefan Jurga, Jan Barciszewski. A new molecular mechanism of RNA circularization and the microRNA sponge formation. Journal of Biomolecular Structure and Dynamics 2022, 40(7),3038-3045 doi: 10.1080/07391102.2020.1844802 6. Marcin Michalak , Beata Patrycja Plitta-Michalak, Mirosława Zofia Naskręt-Barciszewska, Jan Barciszewski, Paweł Chmielarz. DNA methylation as an early indicator of aging during the storage of the “exceptional” seed species Populus nigra L. Cells 2022, 11, 2080. https://doi.org/10.3390/cells11132080 7. Anna-Maria Barciszewska, Agnieszka Belter, Iwona Gawrońska, Małgorzata Giel-Pietraszuk, Mirosława Naskręt-Barciszewska. Cross-reactivity between histone demethylase inhibitor valproic acid and DNA methylation in glioblastoma cell lines. Front. Oncol., 2022, 12, Sec. Cancer Molecular Targets and Therapeutics https://doi.org/10.3389/fonc.2022.1033035 8. Barciszewska A, Belter A, Głodowicz P, Naskręt-Barciszewska M. Valproic acid changes total DNA methylation level and influences temozolomide effect in glioblastoma cell lines. Neuro-ONCOLOGY , 2022, 24(2) SI 9. Michalak M, Plitta-Michalak BP, Suszka J, Naskret-Barciszewska MZ, Kotlarski Sz, Barciszewski J, Chmielarz P. Identification of DNA methylation changes in European beech seeds during desiccation and storage. IJMS, 2023, 24(4) 3557 10. Barciszewska AM, Belter A, Gawrońska I, Giel-Pietraszuk M, Naskręt-Barciszewska MZ. Juglone in Combination with

	Temozolomide Shows a Promising Epigenetic Therapeutic Effect on the Glioblastoma Cell Line. IJMS, 2023, 24(8) 6998 11. Barciszewska AM, Belter A, Barciszewski JF, Gawrońska I, Giel-Pietraszuk M, Naskręt-Barciszewska MZ. Mechanistic Insights on Metformin and Arginine Implementation as Repurposed Drugs in Glioblastoma Treatment. IJMS, 2024, 25(17), 9460 12. Martins JPR, Wawrzyniak MK, Kalemba EM, Ley-Lopez JM, Mendes MM, Naskręt-Barciszewska MZ, Barciszewski J, Chmielarz P. Differential morphophysiological and epigenetic responses during in vitro multiplication of Quercus robur depending on donor age and plant growth regulators". Plant Cell, Tissue and Organ Culture (PCTOC), 2024,159; 62
Managing and participating in research projects	Research projects led, financed by the National Science Centre (NSC): - New method of global analysis of modified nucleic acid components and its application in clinical diagnosis of cancers (N N401 066338) - Anti-miRNAs ribozymes as potential therapeutics for the human brain tumors treatment (UDA-POIG.01.03.01-30-050/09-02) - Use of small molecules in epigenetic therapy of malignant brain gliomas (OPUS 19, since 2021)
Research fellowships	Institute of Biochemistry, Würzburg University (Dr H.J.Gross) Institute de Biologie Moleculaire et Cellulaire du CNRS, Strasbourg, (Dr G.Keith and Prof. G.Dirheimer) Institute of Molecular Biology, Moscow, USSR (Prof. L.L.Kisselev) Institute of Biochemistry, Liverpool University, Liverpool (Dr D.Jones) National Cancer Center Research Institute, Tokyo (Prof. S.Nishimura) Institute of Biochemistry, Free University, Berlin (Prof. V.A.Erdmann) Medical Research Council, Lab. of Mol. Biology, Cambridge, England (Prof. A.Klug and Dr D.Rhodes) Laboratory of Gene Expression, University of Aarhus (Dr H.Ch.Thögersen)
Scientific cooperation with international and domestic research centers	Institute de Biologie Moleculaire et Cellulaire du CNRS, Strasbourg Institute of Biochemistry, Free University, Berlin
Previous experience in educating doctoral students and students	Long-term lecturer for the Environmental Doctoral Studies and the Poznań Doctoral School of PAS Institutes. Supervisor of 8 doctoral theses Reviewer of 9 doctoral dissertations, 5 habilitations, and 2 professorship proceedings

Lecturer	**Dr. hab. Marcin Krzysztof Dyderski, prof. ID PAS**
A short CV, professional titles and academic degrees, and place of employment	• March 22, 2022: Awarded the degree of habilitated doctor in the field of exact and natural sciences, in the discipline of biological sciences, based on a series of publications entitled "The impact of alien tree species on the biodiversity of forest ecosystems," by the Scientific Council of the W. Szafer Institute of Botany, Polish Academy of Sciences in Krakow. • June 26, 2019: Defended doctoral dissertation entitled "Environmental determinants of ecological success of invasive species: Prunus serotina, Quercus rubra and Robinia pseudoacacia" at the Institute of Dendrology, Polish Academy of Sciences, under the supervision of dr hab. Andrzej M. Jagodziński, prof. ID PAN. The work was distinguished by the Scientific Council of the Institute of Dendrology, Polish Academy of Sciences in Kórnik. • June 26, 2015: Completed master's studies at the Faculty of Forestry, Poznań University of Life Sciences, with an individual study program (additional subjects in plant ecology and statistical methods at the Faculty of Biology, Adam Mickiewicz University in Poznań). Master's thesis entitled "The spread of red oak (Quercus rubra L.) in the Wielkopolski National Park" under the supervision of dr. Andrzej M. Jagodziński. Diploma grade: 5.0. The work was awarded the second-degree Professor Zwoliński Award for the best master's thesis completed at the Poznań University of Life Sciences. • February 2, 2014: Completed engineering studies at the Faculty of Forestry, Poznań University of Life Sciences, with an individual study program (additional subjects in plant ecology at the Faculty of Biology, Adam Mickiewicz University in Poznań). Engineering thesis entitled "Floristic differentiation of the ground cover in coniferous stands growing in reclaimed post-industrial areas (Bełchatów Forest District)" under the supervision of dr. Andrzej M. Jagodziński. Diploma grade: 5.0. <u>Professional Experience</u> • 2022-present: Institute Professor in the Department of Ecology, Institute of Dendrology, Polish Academy of Sciences in Kórnik • 2023: Employed as a visiting scientist (Gastwissenschaftler) at the Fachinstitut Waldbiodiversität & Naturschutz in the Bundesforschungszentrum für Wald, Vienna • 2020-2022: Assistant Professor in the Department of Ecology, Institute of Dendrology, Polish Academy of Sciences in Kórnik • 2019-2020: Assistant in the Ecology Laboratory, Institute of Dendrology, Polish Academy of Sciences in Kórnik • 2015-2019: Doctoral scholarship at the Institute of Dendrology, Polish Academy of Sciences in Kórnik, doctoral student at the Faculty of Forestry, Poznań University of Life Sciences
Description of interests, most important scientific achievements	• Identification of climatic determinants of selected plant species distribution and prognosis of changes in their geographical ranges under climate change (works no. 14, 22, 23, 29, 34, 45, 46, 47 in the list below)

	• Determination of invasion causes and the impact of alien tree species on biodiversity and functioning of forest ecosystems (1, 3, 4, 5, 12, 16, 17, 23, 24, 25, 30, 31, 47, 50, 51) • Identification of the influence of climate, geomorphology and stand characteristics on primary biomass production and its dynamics in mountain forests (6, 7, 19, 28, 39) • Determination of mechanisms responsible for the natural regeneration of common ash under conditions of dying stands (13, 24, 35)
List of publications from the last 4-5 years	1.Czortek P., Dyderski M.K., Jagodziński A.M. 2020. River regulation drives shifts in urban riparian vegetation over three decades. Urban Forestry & Urban Greening 47: 126524. IF2020=4,537 2.Czortek P., Delimat A., Dyderski M.K., Zięba A., Jagodziński A.M., Jaroszewicz B. 2020. Population and community-level compositional patterns shape realized niche of the rare arctic-alpine species Carex lachenalii Schkuhr. Nordic Journal of Botany, 38(5): e02522 IF2020=0,802 3.Dyderski M.K., Chmura D., Dylewski Ł., Horodecki P., Jagodzinski A.M., Pietras M., Robakowski P., Woziwoda B. 2020 Biological Flora of the British Isles: Quercus rubra. Journal of Ecology 108: 1199–1225. IF2020=6,256, 4.Dyderski M.K., Jagodziński A.M. 2020. Impacts of alien tree species on abundance and diversity of terricolous bryophytes. Folia Geobotanica 55: 351–363. IF2020=1,544 5.Dyderski M.K., Jagodziński A.M. 2020. Impact of Invasive Tree Species on Natural Regeneration Species Composition, Diversity, and Density. Forests 11 (4): #456. IF2020=2,633 6.Dyderski M.K. Pawlik Ł. 2020. Spatial distribution of tree species in mountain national parks depends on geomorphology and climate. Forest Ecology and Management 474: 118366. IF2020=3,558 7.Jagodziński A.M., Dyderski M.K., Horodecki P. 2020. Differences in biomass production and carbon sequestration between highland and lowland stands of Picea abies (L.) H. Karst. and Fagus sylvatica L. Forest Ecology and Management 474: 118329. IF2020=3,558 8.Jagodziński A.M., Dyderski M.K., Gęsikiewicz K., Horodecki P. 2020. Consequences of different sample drying temperatures for accuracy of biomass inventories in forest ecosystems. Scientific Reports 10:16009. IF2020=4,379 9.Kompała-Bąba A., Sierka E., Dyderski M.K., Bierza W., Magurno F., Bedenyei L., Błońska A., Ryś K., Jagodziński A.M., Woźniak G. 2020. Do the dominant plant species impact the substrate and vegetation composition of post-coal mining spoil heaps? Ecological Engineering 143: 105685. IF2020=4,035, 10.Paź-Dyderska S., Dyderski M.K., Szwaczka P., Brzezicha M., Bigos K., Jagodziński A.M. 2020. Leaf traits and aboveground biomass variability of forest understory herbaceous plant species. Ecosystems 23: 555–569. IF2020=4,217 11.Paź-Dyderska S., Dyderski M.K., Nowak K., Jagodziński A.M. 2020. On the sunny side of the crown – Quantification of intra-canopy SLA variation among 179 taxa. Forest Ecology and Management 472: 118254. IF2020=3,558

	12.Paź-Dyderska S., Ladach-Zajdler A., Jagodziński A.M., Dyderski M.K. 2020. Landscape and parental tree availability drive spread of Ailanthus altissima in the urban ecosystem of Poznań, Poland. Urban Forestry & Urban Greening 56: 126868. IF2020=4,537 13.Turczański K., Rutkowski P., Dyderski M.K., Wrońska-Pilarek D., Nowiński M. 2020. Soil pH and Organic Matter Content Affects European Ash (Fraxinus excelsior L.) Crown Defoliation and Its Impact on Understory Vegetation. Forests 11(1): #22. IF2020=2,633 14.Wierzcholska S., Dyderski M.K., Jagodziński A.M. 2020. Potential distribution of an epiphytic bryophyte depends on climate and forest continuity. Global and Planetary Change 193: 103270. IF2020=5,114 2021 15.Czortek P., Orczewska A., Dyderski M.K. 2021. Niche differentiation, competition or habitat filtering? Mechanisms explaining co-occurrence of plant species on wet meadows of high conservation value. Journal of Vegetation Science 32: e12983. IF2021=3,389, pkt. 16.Dyderski M.K., Jagodziński A.M. 2021. How do invasive trees impact shrub layer diversity and productivity in temperate forests? Annals of Forest Science, 78: #20. IF2021=3,775, pkt. 17.Dyderski M.K., Jagodziński A.M. 2021. Impacts of invasive trees on alpha and beta diversity of temperate forest understories. Biological Invasions 23: 235–252. IF2021=3,605 18.Dyderski M.K., Mucha J., Pietras M. 2021. 'Dendrobiology' – an open-access journal of tree biology and ecology. Dendrobiology 81: 1–3. IF2021=0,972 19.Dyderski M.K., Pawlik Ł. 2021. Drivers of forest aboveground biomass and its increments in the Tatra Mountains after 15 years. Catena 205: 105468. IF2021=6,367 20.Dylewski Ł., Dyderski M.K., Maćkowiak Ł., Tobółka M. 2021. Nests of the white stork as suitable microsites for the colonisation and establishment of ruderal plants in the agricultural landscape. Plant Ecology 22: 337–348. IF2021=1,990 21.Opalińska P., Wierzbicka A., Asman M., Rączka G., Dyderski M.K., Nowak-Chmura M. 2021. Fivefold higher abundance of ticks (Acari: Ixodida) on the European roe deer (Capreolus capreolus L.) forest than feld ecotypes. Scientific Reports 11: 10649. IF2021=4,996 22.Paź-Dyderska S., Jagodziński A.M., Dyderski M.K. 2021. Possible changes in spatial distribution of Juglans regia L. in Europe under warming climate and their driving factors. Regional Environmental Change 21:18. IF2021=4,704 23.Puchałka R., Dyderski M.K., Vítková M., Sádlo J., Klisz M., Netsvetov M., Prokopuk Y., Matisons R., Mionskowski M., Wojda T., Koprowski M., Jagodziński A.M. 2021. Black locust (Robinia pseudoacacia L.) range contraction and expansion in Europe under changing climate. Global Change Biology 27: 1587–1600. IF2021=13,211, pkt. MNiSW2021=200 24.Turczański K., Dyderski M.K., Rutkowski P. 2021. Ash dieback, soil and deer browsing influence natural regeneration of European ash (Fraxinus excelsior L.). Science of the Total Environment 752:141787. IF2021=10,753

	25.Woziwoda B., Dyderski M.K., Jagodziński A.M. 2021. Forest land use discontinuity and northern red oak Quercus rubra introduction change biomass allocation and life strategy of lingonberry Vaccinium vitis-idaea. Forest Ecosystems 8:9. IF2021=4,274 26.Woziwoda B., Dyderski M.K., Parzych A., Jonczak J., Jagodziński A.M. 2021. Loss in macronutrient pools in bilberry and lingonberry in mesic Scots pine forests after Northern red oak introduction. European Journal of Forest Research 140: 1499–1514. IF2021=3,140 27.Woźniak G., Dyderski M.K., Kompała-Bąba A., Jagodziński A.M., Pasierbiński A., Błońska A., Bierza W., Magurno F., Sierka E. 2021 Use of Remote Sensing to track post-industrial vegetation development. Land Degradation and Development 32: 1426–1439. IF2021=4,377 28.Zielonka A., Drewnik M., Musielok Ł., Dyderski M.K., Struzik D., Smułek G., Ostapowicz K. 2021. Biotic and Abiotic Determinants of Soil Organic Matter Stock and Fine Root Biomass in Mountain Area Temperate Forests—Examples from Cambisols under European Beech, Norway Spruce and Silver Fir (Carpathians, Central Europe). Forests 12: #823. IF2021=3,282 2022 29.Anibaba Q.A., Dyderski M.K., Jagodziński A.M. 2022. Predicted range shifts of invasive giant hogweed (Heracleum mantegazzianum) in Europe. Science of the Total Environment 825: 154053. IF2022=9,800 30. Dyderski M.K., Żarnowiec J., Stebel A., Chmura D. 2022. Propagule pressure and land-use are more important than climate for invasive bryophytes regional distributions. Landscape Ecology 37:1871-1884. IF2022=5,200 31.Gręda A., Woziwoda B., Dyderski M.K., Jagodziński A.M., Frelich L.E. 2022. Acorn production of introduced Quercus rubra is more strongly impacted by the weather than by the forest site (a case study from Poland). Agricultural and Forest Meteorology 327:109228. IF2022=6,200 32.Kamczyc J. Dyderski M.K., Horodecki P., Jagodziński A.M. 2022. Temperature and precipitation affect seasonal changes in mite communities (Acari: Mesostigmata) in decomposing litter of broadleaved and coniferous temperate tree species. Annals of Forest Science 79: 12. IF2022=3,000 33.Olszewski P., Dyderski M.K., Dylewski Ł., Bogusch P., Schmid-Egger Ch., Ljubomirov T., Zimmermann D., Le Divelec R., Wiśniowski B., Twerd L., Pawlikowski T., Mei M., Popa A.F., Szczypek J., Sparsk T., Puchałka R. 2022. European beewolf (Philanthus triangulum) will expand its geographic range as a result of climate warming. Regional and Environmental Change 22: 129. IF2022=4,200 34.Puchałka R., Klisz M., Koniakin S., Czortek P., Dylewski Ł., Paź-Dyderska S., Vítková M. Sádlo J, Rašomavičius V., Čarni A., De Sanctis M., Dyderski M.K. 2022. Citizen science helps predictions of climate change impact on flowering phenology: A study on Anemone nemorosa. Agricultural and Forest Meteorology 325:109133. IF2022=6,200 35.Turczański K., Dyderski M.K., Andrzejewska A. 2022. Drivers of ash (Fraxinus excelsior L.) natural regeneration spread into suboptimal

	sites – refugee or dead end? Forest Ecology and Management 505:119870. IF2022=3,700 36.Witkowski R., Dyderski M.K., Bełka M., Mazur A. 2022. Potential European Geographical Distribution of Gnathotrichus materiarius (Fitch, 1858) (Coleoptera: Scolytinae) under Current and Future Climate Conditions. Forests 13: #1097. IF2022=2,900 37.Woźniak G., Chmura D., Dyderski M.K., Błońska A., Jagodziński A.M. 2022. How different is the forest on post-coal mine heap regarded as novel ecosystem? Forest Ecology and Management 515:120205. IF2022=3,700 2023 38. Anibaba Q.A., Dyderski M.K., Woźniak G., Jagodziński A.M. 2023. Native plant community characteristics explain alien species success in post-industrial vegetation. NeoBiota 85: 1-22. IF2022=5,100 39. Dyderski M.K., Pawlik Ł., Chwistek K., Czarnota P. 2023. Tree aboveground biomass increment and mortality in temperate mountain forests: tracing dynamic changes along 25-year monitoring period. Forest Ecology and Management 540: 121054. IF2022=3,700 40. Dylewski Ł., Banaszak-Cibicka W., Maćkowiak Ł., Dyderski M.K. How do urbanization and alien species affect the plant taxonomic, functional, and phylogenetic diversity in different types of urban green areas? Environmental Science and Pollution Research 30: 92390-92403 IF2022=5,800 41. Kamczyc J., Skorupski M., Dyderski M.K., Horodecki P., Rawlik M., Jagodziński A.M. 2023 Diversity of soil mites (Acari: Mesostigmata) in streamside mountain forests. Land Degradation & Development 34: 4046-4056. IF2022=4,700 42. Kamieniarz R., Jakubowski M., Dyderski M.K., Górecki G., Nasiadka P., Okarma H., Pudełko M., Skubis J., Tomek A., Wajdzik M., Skorupski M. 2023. Applicability of wildlife drive counts conducted by a line of drivers in large-scale inventories of red deer Cervus elaphus in north-western Poland. Annals of Forest Research 66: 33-44. IF2022=2,800 43. Karpińska O., Kamionka-Kanclerska K., Czortek P., Dyderski M.K., Czeszczewik D. 2023? Spatial niche segregation between bird species in the Białowieża primeval forest (NE Poland). Forest Ecosystems, 10: 100129. IF2022=4,100 44. Latterini F., Dyderski M.K., Horodecki P., Picchio R., Venanzi R., Lapin K., Jagodziński A.M. 2023. The effects of forest operations and silvicultural treatments on litter decomposition rate: a meta-analysis. Current Forestry Reports 9: 276-290. IF2022=9,500 45. Puchałka R., Paź-Dyderska S., Woziwoda B., Dyderski M.K. 2023. Climate change will cause climatic niche contraction of Vaccinium myrtillus L. and V. vitis-idaea L. in Europe. Science of the Total Environment 892: 164483. IF2022=9,800 46. Puchałka R., Paź-Dyderska S., Dylewski Ł., Czortek P., Vítková M., Sádlo J., Klisz M., Koniakin S., Čarni A., Rašomavičius V., De Sanctis M., Dyderski M.K. 2023. Forest herb species with similar European geographic ranges may respond differently to climate change. Science of The Total Environment 905, 167303. IF2022=9,800

	47. Puchałka R., Paź-Dyderska S., Jagodziński A.M., Sádlo J., Vítková M., Klisz M., Koniakin S., Prokopuk Y., Netsvetov M., Nicolescu V-N., Zlatanov T., Mionskowski M., Dyderski M.K. 2023 Predicted range shifts of alien tree species in Europe. Agricultural and Forest Meteorology 341: 109650. IF2022=6,200 48. Wrońska-Pilarek D., Rymszewicz S., Gawryś R., Jagodziński A.M. Dyderski M.K. 2023. Temperate forest understory vegetation shifts after 40 years of conservation. Science of the Total Environment 895: 165164. IF2022=9,800 49. Wyka J., Piechnik Ł., Grzędzicka E., Lešo P., Dyderski M.K., Kajtoch Ł. 2023. The vertical form of the common ivy Hedera helix L. is associated with diverse and semi-natural forests in Central European highlands. Forest Ecology and Management 530: 120750. IF2022=3,700 2024 50. Czortek P., Adamowski W., Kamionka-Kanclerska K., Karpińska O., Zalewski A., Dyderski M.K. 2023 Patterns of Prunus cerasifera early invasion stages into a temperate primeval forest. Biological Invasions 26: 633-647. IF2022=2,900 51. Jagodziński A.M., Horodecki P., Jasińska A.K., Maliński T., Pilarek Z., Woźniak K., Wrońska-Pilarek D., Zieliński J., Dyderski M.K. 2024. ×Sorbaronia 'Mitschurinii' – an overlooked alien shrub rapidly expands in temperate Scots pine forests. Forestry w druku https://doi.org/10.1093/forestry/cpad058 IF2022=4,700 52. Latterini F., Dyderski M.K., Horodecki P., Rawlik M., Stefanoni W., Högbom L., Venanzi R., Picchio R., Jagodziński A.M. 2024. A Meta-analysis of the effects of ground-based extraction technologies on fine roots in forest soils. Land Degradation and Development 35: 9-21. IF2022=4,700 53. Latterini F., Pawlik Ł., Stefanoni W., Dyderski M.K. 2024. The effects of geomorphology, soil and climate on the trajectory of aboveground biomass accumulation of beech (Fagus sylvatica L.) at the southern range margin. Catena 237: 107787 IF2022=6,200 54. Wierzcholska S., Łubek A. Dyderski M.K., Horodecki P., Rawlik M., Jagodziński A.M. 2024. Ecological Informatics 80: 102475. IF2019=5,100 55. Anibaba Q.A., Dyderski M.K., Woźniak G., Jagodziński A.M. 2024. Remote sensing for site selection in vegetation survey along a successional gradient in post-industrial vegetation. Ecology and Evolution 14(8): e70200. IF2022 = 2,3 56. Bury S., Dyderski M.K. 2024. No effect of invasive tree species on aboveground biomass increments of oaks and pines in temperate forests. Forest Ecosystems 11: 100201. IF = 3,8 57. Bury S., Jagodziński A.M., Dyderski M.K. 2024. In search of per capita effects of Prunus serotina Ehrh. invasion on temperate forest understory alpha diversity. Biologia. IF = 1,4 58. Kamieniarz R., Szymański M., Dyderski M.K., Górecki G., Jaśkowski B.M., Skorupski M., Skubis J., Woźna-Wysocka M., Zalewski D. 2024. Less and less roe deer in the forest - population and habitat reasons. Sylwan 168(6): 408-422. IF = 0.654

	59. Kamieniarz R., Szymański M., Woźna-Wysocka M., Jaśkowski B.M., Dyderski M.K., Pers-Kamczyc E., Skorupski M. 2024. Roe deer reproduction in Western Poland: The late autumn rut phenomenon. Animals 14(21): 3078. 60. Karpińska O., Kamionka-Kanclerska K., Czortek P., Dyderski M.K., Czeszczewik D. 2024. Patterns of avian tree usage in the primeval temperate forests of Białowieża National Park. Ecology and Evolution 14(4): e11138. IF2022 = 2,3 61. Lapin K., Dyderski M.K. 2024. Expanding range of the invasive shrub Amorpha fruticosa under changing climate. Regional Environmental Change 24(4): 152. IF2023 = 3,4 62. Latterini F., Dyderski M.K., Horodecki P., Venanzi R., Picchio R., Jagodziński A.M. 2024. Evaluating small-scale harvesting disturbance to the forest soil in Mediterranean beech high forests. Land Degradation and Development 35(15): 4357-4710. IF = 3,6 63. Latterini F., Horodecki P., Dyderski M.K., Scarfone A., Venanzi R., Picchio R., Proto A.R., Jagodziński A.M. 2024. Mediterranean beech forests: Thinning and ground-based skidding are found to alter microarthropod biodiversity with no effect on litter decomposition rate. Forest Ecology and Management 569: 122160. IF = 3,8
Managing and participating in research projects	• 2020-2024: Research project "Impact of invasive tree species on ecosystem services: plant biodiversity, carbon and nitrogen cycling, and climate regulation" (2019/35/B/NZ8/01381), funded by the National Science Centre under the Opus 18 program. Amount obtained for research: PLN 1,465,980.00. Role: Principal Investigator. • 2016-2019: Research project "Ecophysiological and ecological determinants of tree and shrub invasiveness exemplified by Padus serotina, Quercus rubra and Robinia pseudoacacia" (2015/19/N/NZ8/03822), funded by the National Science Centre under the Preludium 10 program. Amount obtained for research: PLN 149,412.00. Role: Principal Investigator.
Research fellowships	• August 30 – September 6, 2015: Participation in the 26th European Dendroecological Fieldweek, organized by The Swiss Federal Institute for Forest, Snow and Landscape Research and the University of Silesia. During the workshops, I improved my knowledge of dendrochronological data analysis. • March 11 – 17, 2016: Scientific internship at the Białowieża Geobotanical Station of the University of Warsaw, under the supervision of dr. Sylwia Wierzcholska. During the internship, I analyzed patterns of co-occurrence of epiphytic bryophytes on the bark of various tree species. • May 8 – 14, 2017: Scientific internship at the Białowieża Geobotanical Station of the University of Warsaw, under the supervision of dr. Patryk Czortek. During the internship, I participated in analyzes of vegetation changes in the Tatra Mountains after 90 years and the analysis of factors determining the change in the altitudinal optimum of Carex lachenalii.

	• November 13 – 23, 2017: Scientific internship at the Department of Forest Biodiversity at the Faculty of Forestry, University of Agriculture in Krakow, under the supervision of dr hab. Anna Gazda. During the internship, I analyzed the usefulness of forest database resources for research on the spread of alien species. • August 2 – December 3, 2019: Scientific internship at the Laboratiorio de Invasiones Biológical (Universidad de Concepción, Chile) under the supervision of prof. Anibal Pauchard, funded by the National Science Centre under the Etiuda 6 program. Amount obtained for the internship and scholarship: PLN 74,656.00. During the internship, I analyzed patterns of functional traits of Central European plant species established in Chile, learned about the biogeographical diversity of Chile, and studied the impact of alien plant species on the homogenization of the phylogenetic structure of roadside vegetation in the Andes.
Scientific cooperation with international and domestic research centers	Faculty of Forestry and Wood Technology, Poznań University of Life Sciences; Białowieża Geobotanical Station, University of Warsaw; Nicolaus Copernicus University; Wrocław University of Environmental and Life Sciences; University of Łódź; Bundesforschungszentrum für Wald, Vienna; Plant Science and Biodiversity Centre, SAS Institute of Botany; Institute of Botany, Polish Academy of Sciences.
Lectures delivered in Poland and abroad	2020 1. Dyderski M.K. 2020. How data scientists can help in climate change studies? useR! 2020 EuropeanHub, breakout session 'Tackling Climate Change' – 7.07.2030, webinar – presentation. 2. Pawlik Ł., Dyderski M.K. 2020. Usefulness of machine learning methods for analyzing changes in forest ecosystems of the Tatra National Park. VI Conference "Nature of the Tatra National Park and Man: Changes in the Tatra Mountains – existing and potential threats", Zakopane, 8-10.10.2020 – presentation. 2021 3. Dyderski M.K., Jagodziński A.M. 2021. Spread of invasive tree species – what we can learn from natural regeneration assessment? Digital ALPTREES Conference, 25-26.02.2021, webinar – presentation. 4. Horodecki P., Nowiński M., Dyderski M.K., Jagodziński A.M. 2021. Humus layer development under various tree monocultures on a post-mining spoil heap. Forest and Landscape Restoration of Postmining Sites, 03-06.06.2021, online – presentation. 5. Kamczyc J., Horodecki P., Dyderski M.K., Smoczyk M., Wierzcholska S., Jagodziński A.M. 2021 Impact of long-term cultivation of Norway spruce (Picea abies (L.) H.Karst.) on the species diversity of soil mesofauna (Acari, Mesostigmata). Trees and forests in a changing environment, 11-13.10.2021, Kórnik-Poznań – presentation. 6. Lechowicz K., Dyderski M.K., Wrońska-Pilarek D., Wiatrowska B. 2021 Can the morphological variability of Rubus L. pollen grains be explained by climate variability? Trees and forests in a changing environment, 11-13.10.2021, Kórnik-Poznań – presentation. 7. Urbanowski C. K. Horodecki P., Dyderski M.K., Kamczyc J., Jagodziński A.M. 2021. Concrete retention tanks as a habitat for soil

	fauna in reclaimed post-mining areas. Trees and forests in a changing environment, 11-13.10.2021, Kórnik-Poznań – presentation. 8. Wierzcholska S, Dyderski M.K., Jagodziński A.M. 2021. Bryophytes as indicators of forest changes. Trees and forests in a changing environment, 11-13.10.2021, Kórnik-Poznań – presentation. 9. Wilgan R., Dyderski M.K., Pietras M., Walas Ł., Kolanowska M., Leski T. 2021. How will climate change affect the occurrence of truffles in Europe? Trees and forests in a changing environment, 11-13.10.2021, Kórnik-Poznań – presentation. 10. Wilgan R., Dyderski M.K., Pietras M., Leski T. 2021 Will climate change facilitate truffle cultivation in Poland? Present and future distribution of ecological niches for summer truffle and black truffle in Europe. 50th Congress of Botanical Gardens and Arboreta in Poland with a scientific conference "Research and Protection of Plant Diversity in Light of GSPC 2020 Goals in the Era of Global Climate Change". 17-18.06.2021, online – presentation. 11. Wilgan R., Dyderski M.K., Pietras M., Leski T. 2021 Truffles in a changing climate: present and future distribution of optimal ecological niches for Tuber melanosporum and Tuber aestivum in Europe. MycoRise Up! Young people in mycology 23-25.04.2021, online – presentation. 12. Woźniak G., Chmura D., Dyderski M.K., Jagodziński A.M., Błońska A., Anibaba Q. A. 2021. Can forests growing on spoil heaps be considered so-called novel ecosystems? Trees and forests in a changing environment, 11-13.10.2021, Kórnik-Poznań – presentation. 2023 13. Anibaba Q.A., Dyderski M.K., Jagodziński A.M. 2023. Predicted range shifts of invasive Giant Hogweed (Heracleum mantegazzianum) in Europe. III International Young Researchers Conference on Invasive Species, 22-23.05.2023, online – presentation. 14. Anibaba Q.A., Dyderski M.K., Woźniak G., Jagodziński A.M. 2023. Alien species and vegetation characteristics along successional gradients in post-mining sites. Scientific conference combined with the 90th Anniversary of the Institute of Dendrology, Polish Academy of Sciences in Kórnik, 10-12.10.2023, Poznań-Kórnik – presentation. 15. Bury S., Dyderski M.K. 2023. Impact of invasive tree species on aboveground biomass increment of pines and oaks. Scientific conference combined with the 90th Anniversary of the Institute of Dendrology, Polish Academy of Sciences in Kórnik, 10-12.10.2023, Poznań-Kórnik – poster. 16. Bury S., Dyderski M.K. 2023. Impact of Prunus serotina and Robinia pseudoacacia on temperate forests regeneration. III International Young Researchers Conference on Invasive Species, 22-23.05.2023, online – presentation. 17. Bury S., Dyderski M.K. 2023. How invasive tree species impact the growth of native trees in temperate forests? IBFRA Conference, Helsinki, 28-31.09.2023. 18. Dyderski M.K., Bury S. 2023. How do alien tree species affect natural regeneration in temperate forests? IBFRA Conference, Helsinki, 28-31.09.2023.

	19. Fuchs H., Staszak A., Serrato A.J., Klupczyńska E., Głodowicz P., Rolle K., Dyderski M.K., Barragan M.S., Ratajczak E. 2023. Comparative analysis of thioredoxin target proteins in Acer species: seeds, their protection and resistance to climate change. Scientific conference combined with the 90th Anniversary of the Institute of Dendrology, Polish Academy of Sciences in Kórnik, 10-12.10.2023, Poznań-Kórnik – presentation. 20. Kamczyc J., Skorupski M., Dyderski M.K., Horodecki P., Jagodziński A.M. 2023. Mountain riverside forests as reservoirs of species richness of mite communities (Acari, Mesostigmata) exemplified by the Stołowe Mountains National Park. Scientific conference combined with the 90th Anniversary of the Institute of Dendrology, Polish Academy of Sciences in Kórnik, 10-12.10.2023, Poznań-Kórnik – presentation. 21. Latterini F., Dyderski M.K., Horodecki P., Rawlik M., Stefanoni W., Högbom L., Venazi R., Picchio R., Jagodziński A.M. 2023. Ground-based forest operations significantly alter the presence of fine roots in the forest soil. Scientific conference combined with the 90th Anniversary of the Institute of Dendrology, Polish Academy of Sciences in Kórnik, 10-12.10.2023, Poznań-Kórnik – presentation. 22. Pawlik Ł., Dyderski M.K., Chwistek K., Czarnota P. 2023. Tree aboveground biomass increment and mortality in the Gorce National Park. Forum Carpaticum 2023 "Carpathian Futures - Critical Transitions", 25.-28.09.2023 Krakow – presentation. 23. Piechnik Ł., Wyka J., Grzędzicka E., Lešo P., Dyderski M.K., Kajtoch Ł. 2023. Preferences of vertical forms of common ivy (Hedera helix L.) in Central European highland forests. Scientific conference combined with the 90th Anniversary of the Institute of Dendrology, Polish Academy of Sciences in Kórnik, 10-12.10.2023, Poznań-Kórnik – presentation. 24. Pietras M., Kałucka I., Horodecki P., Rawlik M., Dyderski M.K., Jagodziński A.M. 2023. The impact of past forest management on fungal communities in the forests of the Stołowe Mountains National Park. Biology and ecology of woody plants. Scientific conference combined with the 90th Anniversary of the Institute of Dendrology, Polish Academy of Sciences in Kórnik, 10-12.10.2023, Poznań-Kórnik – presentation. 25. Turczański K., Kaźmierczak K., Andrzejewska A., Dyderski M.K. 2023. Status and prospects for survival of natural regeneration of European ash (Fraxinus excelsior L.) in stands with Scots pine (Pinus sylvestris L.). Scientific conference combined with the 90th Anniversary of the Institute of Dendrology, Polish Academy of Sciences in Kórnik, 10-12.10.2023, Poznań-Kórnik – poster. 26. Wierzcholska S., Dyderski M.K., Jagodziński A.M. 2023. How phorophytes shape the diversity of dependent epiphytic flora? Scientific conference combined with the 90th Anniversary of the Institute of Dendrology, Polish Academy of Sciences in Kórnik, 10-12.10.2023, Poznań-Kórnik – presentation. 27. Wrzosek M., Kisło K., Dyderski M.K., Kusińska B., Mazurkiewicz M., Rawlik K., Adamska A., Kuberski Ł., Czortek P. 2023. How plant invasion influence mycocoenoses? XIX Congress of European mycologists, 04.-04.09.2023 Perugia – presentation.

	2024 28. Dyderski M.K. 2024. The future of pine and spruce in the light of climate change. Conference "The Future of Wood" organized as part of the BUDMA2024 trade fair, Poznań – invited lecture.
Previous experience in educating doctoral students and students	Lectures within the IPAN doctoral school in Poznań, supervisor in the doctoral thesis of Sebastian Bury, MSc Eng., co-supervisor in the doctoral thesis of Cornelia Amon, MSc, assistant supervisor in the doctoral thesis of Quadri A. Anibaba, MSc.

Lecturer	**Prof. Dr. hab. Grzegorz Iszkuło** ID PAS
A short CV, professional titles and academic degrees, and place of employment	Professor of agricultural sciences in the discipline of forest sciences, April 25, 2022. Habilitated Doctor of biological sciences, discipline of biology, PAS Institute of Botany in Krakow, 2012, title: "Secondary sexual dimorphism in dioecious plants and its consequences on the example of selected gymnosperm species". Doctor of biological sciences in the discipline of biology, PAS Institute of Dendrology in Kórnik, 2005; title: "The influence of light intensity and nitrogen fertilization on the development of common yew (Taxus baccata L.) seedlings". Master of Engineering in forest sciences, Faculty of Forestry, August Cieszkowski University of Agriculture in Poznań, 1998, title: "Substitute communities of silver birch (Betula pendula Roth.) in the forest dieback zone in the Izera Mountains in Poland". 09/1999 – present: PAS Institute of Dendrology in Kórnik, position: assistant professor. 02/2009 – present: University of Zielona Góra, Faculty of Biological Sciences, position: professor. 12/2006-12/2009 - Poznań University of Life Sciences, Faculty of Forestry, position: head of a project
Description of interests, most important scientific achievements	The most important scientific achievements in the field of biological sciences cover issues including the following areas: The influence of common mistletoe on the host and ecosystem. Sex as a factor determining growth, development, defense strategies, and genetic differentiation of dioecious species. Dioecy in gymnosperms.

	Biology of common yew. Ecology and genetic variability of natural common horse-chestnut populations.
List of publications from the last 4-5 years	Boratyński A., Salvà-Catarineu M., Marcysiak K., Mazur M., Romo Á., Minissale P., Tan K., Iszkuło G., Witkowski R., Mazur A. (2024). Biology and ecology of the Juniperus phoenicea – J. turbinata – J. canariensis complex I. Taxonomy, structure and distribution. Dendrobiology 92: 1-31. Iszkuło G., Tyrala-Wierucka Z., Thomas P.A., Terlecka M., Walas Ł., Tomaszewski D. (2024). Should the relationship between leaf margin and temperature be re-defined for areas with colder climates? Journal of Biogeography 51: 1842–185 Thomas P.A., Dering M., Giertych M.J., Iszkuło G., Tomaszewski D., Briggs J. (2023). Biological Flora of Britain and Ireland: Viscum album: No. 303. Journal of Ecology 111: 701–739. (IF 2022: 5,5). Boratyński, A., Dönmez, A. A., Dagher-Kharrat, M. B., Romo, Á., Tan, K., Ok, T., Iszkuło, G., Sobierajska, K., & Marcysiak, K. (2023). Biology and ecology of Juniperus drupacea Labill. Dendrobiology, 90: 1–29. (IF 2022: 0,9). Lewandowska A., Boratyńska K., Marcysiak K., Gómez D., Romo A., Malicki M., Iszkuło G., Boratyński A. (2022). Phenotypic differentiation of Rhododendron ferrugineum populations. Dendrobiology, 87: 1–12. (IF 2022: 0,9). Walas, Ł., Kędziora, W., Ksepko, M., Rabska, M., Tomaszewski, D., Thomas, P.A., Wójcik, R., Iszkuło, G. 2022. The future of Viscum album L. in Europe will be shaped by temperature and host availability. Scientific Reports 12: 17072. (IF 2022: 4,6). Dering, M., Baranowska, M., Beridze, B. Chybicki, I.J., Danelia, I., Iszkuło, G., Kvartskhava, G., Kosiński, P., Rączka, G., Thomas, P.A., Tomaszewski, D., Walas, Ł., Sękiewicz, K. (2021). The evolutionary heritage and ecological uniqueness of Scots pine in the Caucasus ecoregion is at risk of climate changes. Scientific Reports 11, 22845. (IF 2021: 2,583). Stefanowska S., Meyza K., Iszkuło G., Chybicki I.J. 2021 Trunk perimeter correlates with genetic bottleneck intensity and the level of genetic diversity in populations of Taxus baccata L. Annals of Forest Science 78: 63 (IF 2020: 2,583). Thomas P.A., Leski T., Porta N.L., Dering M., Iszkuło G. 2021. Biological Flora of the British Isles: Crataegus laevigata. Journal of Ecology 109: 572-596 (IF 2020: 6,256).

	Nowak K., Giertych M.J., Pers-Kamczyc E., Thomas P.A., Iszkuło G. 2021. Defence is a priority in female juveniles and adults of Taxus baccata L. Forests 12: 844 (IF 2020: 2,633). Nowak K., Giertych M.J., Pers-Kamczyc E., Thomas P.A. Iszkuło G. 2021. Rich but not poor conditions determine sex-specific differences in growth rate of juvenile dioecious plants. Journal of Plant Research 134: 947–962 (IF 2020: 2,629). Rabska M., Warwick N.W.M. Iszkuło G., Gross C.L. 2021. Intersexual differences in leaf size and shape in dioecious Adriana tomentosa. Journal of Plant Ecology 16: 67-83 (IF 2020: 1,8653). Rabska M., Robakowski P., Ratajczak E., Żytkowiak R., Iszkuło G., Pers-Kamczyc E. 2021. Photochemistry differs between male and female Juniperus communis independently of nutritional availability. Trees 35: 27-42 (IF 2020: 2,529). Walas Ł., Iszkuło G. Barina Z. Dering M. 2021. Development of microsatellite markers for horse-chestnut (Aesculus hippocastanum), their polymorphism in natural Greek populations and cross-amplification in related species. Dendrobiology 85:105-116. (IF 2020: 1,089) Iszkuło G., Armatys L., Dering M., Ksepko M., Tomaszewski D., Ważna A., Giertych M.J. 2020. Jemioła jako zagrożenie dla zdrowotności drzewostanów iglastych. Sylwan 164: 226-236 (IF 2020: 0,287). Rabska M., Pers-Kamczyc E., Żytkowiak R., Adamczyk D., Iszkuło G. 2020. Sexual dimorphism in the chemical composition of male and female in the dioecious tree, Juniperus communis L., growing under different nutritional conditions. International Journal of Molecular Sciences 21: 8094. (IF 2020: 5,923).
Managing and participating in research projects	<u>Project Manager:</u> NSC grant implemented since 2021: Ecological consequences of clonality and dioecy on the example of Populus alba L. 020/39/O/NZ8/03019. NSC grant implemented in 2013-2018: Secondary sexual dimorphism in dioecious plants. Evolutionary adaptation or consequences of different resource allocation strategies? 2012/07/B/NZ9/01314. Ministry of Science and Higher Education grant implemented in 2009-2012: Taxonomic differentiation of the genus Abies in Pleistocene refugia around the Mediterranean Sea; N N303 412136. Ministry of Science and Higher Education grant implemented in 2006-2009 "POL-POSTDOC II": Use of leaf blade morphology of plants to assess the state and threat to biodiversity in Poland under global climate change; no. PBZ/MEiN/01/2006/28.

	KBN grant implemented in 2000-2001: Conditions for sowing, growth, and development of yew seedlings. <u>Executor in the project:</u> NSC grant implemented in 2015-2017: Relationship between inbreeding and fitness in dioecious plants: a case study of Taxus baccata. NSC grant implemented in 2013-2018: Ecophysiological aspects of co-occurrence of Cameraria ohridella and Guignardia aesculi on horse-chestnut (Aesculus hippocastanum) NSC no. 2012/07/B/NZ9/01315. State Forests National Forest Holding grant implemented in 2008-2011: Selection of genotypes and populations of common yew (Taxus baccata L.) for genetic variability conservation (Research supporting the yew restitution program in Poland). KBN grant implemented in 2004-2006: Isoenzymatic, morphological, and chemical variability of yew (Taxus baccata L.) in the Sudeten region against the background of selected habitat conditions; no. 2 P60L 023 26. KBN grant implemented in 2003-2005: Influence of light intensity and nitrogen fertilization on the development of common yew seedlings Taxus baccata L.; no. 3 P06L 049 25; main executor of the promotional grant. KBN grant implemented in 2003-2005: Influence of various ecological factors on the formation, survival, and growth of common fir (Abies alba Mill.) regeneration in the Sudetes; no. 3 P06L 039 24.
Research fellowships	1. Macedonia, Albania, research related to genetic diversity of common horse-chestnut, July 2019. 2. Azerbaijan, research related to genetic diversity of woody species, June 2019. 3. Georgia, research related to genetic diversity of woody species, August, September 2018, June-July 2017; September 2011. 4. Germany, consultations related to the conservation of common yew resources in the Bavarian National Park, September 2016. 5. Greece, research related to genetic diversity of common horse-chestnut, June 2015. 6. Greece - trip related to the implementation of the grant "Taxonomic differentiation of the genus Abies in Pleistocene refugia around the Mediterranean Sea", June-July 2010. 7. Morocco - trip related to the implementation of the project: "Differences between east- and west-Mediterranean populations of species of the genus Juniperus", June 2009. 8. United States, Michigan State University, Kościuszko Foundation scholarship: "Effects of Emerald ash borer (Agrilus planipennis) on the diversity and productivity of hardwood forests", July 3 - October 4, 2007. 9. Spain, Consejo Superior de Intestigaciones Científicas, Instituto Pirenaico de Ecología in Jaca and Institut Botànic de Barcelona, participation in research on tree and shrub ecology: 1)

	May 16 - June 6, 2006; 2) August 7-29, 2006; 3) August 25 - September 16, 2005; 4) September 13 - October 5, 2004. 10. Ukrainian Academy of Sciences, Institute of Botany in Kyiv, research on tree and shrub ecology: 1) June 24 - July 6, 2006; 2) August 8-20, 2005; 3) June 30 - July 15, 2004; 4) September 18-29, 2001.
Scientific cooperation with international and domestic research centers	School of Life Sciences, Keele University, Staffordshire, UK Department of Biology, Faculty of Science, Hacettepe University, Ankara, Turkey Laboratoire 'Caractérisation Génomique des Plantes', Faculté des Sciences, Université Saint-Joseph, Beirut, Lebanon Institute of Spanish Research Council, Barcelona, Spain Institute of Biology, University of Copenhagen, Denmark Sütçü İmam University, Department of Forest Botany, Faculty of Forestry, Kahramanmaraş, Turkey Faculty of Agricultural Science and Biosystems Engineering, Georgian Technical University, Tbilisi, Georgia National Botanical Garden of Georgia, Tbilisi, Georgia Forest Development Service, Ministry of Ecology and Natural Resources of Azerbaijan, Baku, Azerbaijan Department of Plant Biology, Faculty of Basic Sciences, University of Mazandaran, Babolsar, Iran Department of Forestry, Faculty of Natural Resources, Urmia University, Urmia, Iran Department of Botany, Hungarian Natural History Museum, H-1431 Budapest, Hungary School of Environmental and Rural Science, University of New England, Armidale, NSW 2351, Australia, Ecosystem Management, University of New England, Armidale, NSW 2351, Australia
Lectures delivered in Poland and abroad	Iszkuło G. The sex life of plants. 2015. From Biotechnology to Environmental Protection November, 12 – 15, 2015 Zielona Góra, Poland, <u>plenary lecture.</u> Iszkuło G. 2014. Taxus baccata declining. Whose fault - human or nature? IV International Yew Workshop. October, 23-25, 2014, Poblet, Spain, <u>invited lecture.</u> Iszkuło G. 2013. Weak competitive ability may explain decline of Taxus baccata. XX International Conference of Yew Pallazo Vecchiarelli-Rieti, Italy, 22-24 May 2013, <u>invited lecture.</u> Iszkuło G. 2010. Influence of biotic and abiotic factors on natural regeneration of European yew (Taxus baccata L.) in Poland. III International Workshop of Yew (Taxus baccata L.) Yew, Culture and Biodiversity. Ponferrada, León, Spain March 25-26, 2010, <u>invited lecture.</u> <u>Participation in international and domestic scientific conferences</u> Iszkuło G. 2023. Common mistletoe: a threat and an opportunity for forest ecosystems. Scientific conference combined with the celebration

	of the 90th anniversary of the PAS Institute of Dendrology in Kórnik, Kórnik–Poznań, October 9–11, 2023. Chybicki I.J., Suszka J., Iszkuło G., Oleksa A. 2018. Gene dispersion by pollen and seeds in common yew (Taxus baccata L.). In: Biology and ecology of woody plants. Scientific conference combined with the celebration of the 85th anniversary of the PAS Institute of Dendrology in Kórnik. Kórnik-Poznań June 11-15, 2018. Conference materials. Tomaszewski D., Jagodziński A.M. (eds.). Bogucki Wydawnictwo Naukowe, Poznań, pp. 122–123, paper. Iszkuło G., Thomas P.A., Tyrała-Wierucka Ż., Walas Ł. 2018. Are gymnosperms mainly monoecious plants? Relationship of sexual systems with ecological traits of gymnosperm plants. In: Biology and ecology of woody plants. Scientific conference combined with the celebration of the 85th anniversary of the PAS Institute of Dendrology in Kórnik. Kórnik-Poznań June 11-15, 2018. Conference materials. Tomaszewski D., Jagodziński A.M. (eds.). Bogucki Wydawnictwo Naukowe, Poznań, pp. 135–136, paper. Jagiełło R., Iszkuło G. 2018. An improved method for estimating the increase in cross-sectional area of woody plant stems. In: Biology and ecology of woody plants. Scientific conference combined with the celebration of the 85th anniversary of the PAS Institute of Dendrology in Kórnik. Kórnik-Poznań June 11-15, 2018. Conference materials. Tomaszewski D., Jagodziński A.M. (eds.). Bogucki Wydawnictwo Naukowe, Poznań, pp. 208–210, paper. Nowak K., Pers-Kamczyc E., Iszkuło G. 2018. Influence of fertilization on male and female common yew and common juniper individuals. In: Biology and ecology of woody plants. Scientific conference combined with the celebration of the 85th anniversary of the PAS Institute of Dendrology in Kórnik. Kórnik-Poznań June 11-15, 2018. Conference materials. Tomaszewski D., Jagodziński A.M. (eds.). Bogucki Wydawnictwo Naukowe, Poznań, pp. 240–241, poster. Pers-Kamczyc E., Rabska M., Kamczyc J., Wrońska-Pilarek D., Iszkuło G. 2018. Quantitative and qualitative analysis of Taxus baccata L. pollen grains under limited resources. In: Biology and ecology of woody plants. Scientific conference combined with the celebration of the 85th anniversary of the PAS Institute of Dendrology in Kórnik. Kórnik-Poznań June 11-15, 2018. Conference materials. Tomaszewski D., Jagodziński A.M. (eds.). Bogucki Wydawnictwo Naukowe, Poznań, pp. 243–244, poster. Pers–Kamczyc E., Wesoły J., Iszkuło G. 2018. Sex-dependent transcriptional activity of common yew (Taxus baccata L.). In: Biology and ecology of woody plants. Scientific conference combined with the celebration of the 85th anniversary of the PAS Institute of Dendrology in Kórnik. Kórnik-Poznań June 11-15, 2018. Conference materials. Tomaszewski D., Jagodziński A.M. (eds.). Bogucki Wydawnictwo Naukowe, Poznań, pp. 165–166, paper. Rabska M., Iszkuło G., Ratajczak E., Robakowski P., Pers-Kamczyc E. 2018. Sex-dependent photosynthetic efficiency of common juniper (Juniperus communis L.) seedlings under nutrient deficit conditions. In: Biology and ecology of woody plants. Scientific conference combined with the celebration of the 85th anniversary of the PAS Institute of Dendrology in Kórnik. Kórnik-Poznań June 11-15, 2018. Conference

	materials. Tomaszewski D., Jagodziński A.M. (eds.). Bogucki Wydawnictwo Naukowe, Poznań, pp. 245–246, poster. Walas Ł., Iszkuło G., Dering M. 2018. Influence of natural conditions on the genetic diversity of natural horse-chestnut populations. In: Biology and ecology of woody plants. Scientific conference combined with the celebration of the 85th anniversary of the PAS Institute of Dendrology in Kórnik. Kórnik-Poznań June 11-15, 2018. Conference materials. Tomaszewski D., Jagodziński A.M. (eds.). Bogucki Wydawnictwo Naukowe, Poznań, pp. 175–176, paper. Walas Ł., Iszkuło G., Dering M. 2018. Theoretical range of horse chestnut (Aesculus hippocastanum L.): past, present and future. In: Relict woody plants: linking the past, present and future. The International Scientific Conference. Kórnik-June 19th, 2018. Book of abstracts. Jasińska A.K., Jagodziński A.M., Fazan L., Sękiewicz K., Walas Ł. (eds.). Bogucki Wydawnictwo Naukowe, Poznań, pp. 62, poster. Nowak-Dyjeta K., Giertych M.J., Iszkuło G. 2016. Does sex influence seasonal changes in nitrogen and carbon content in needles of common yew and common juniper? In: Trees and forests in a changing environment. Scientific conference Kórnik-Poznań, October 17-19, 2016. Conference materials. Tomaszewski D., Jagodziński A.M. (eds.). Bogucki Wydawnictwo Naukowe, Poznań, pp. 309–311, poster. Kýpeťová M., Walas Ł., Jaloviar P., Iszkuło G. 2016. Long-term influence of Browse on the growth and development of common yew. In: Trees and forests in a changing environment. Scientific conference Kórnik-Poznań, October 17-19, 2016. Conference materials. Tomaszewski D., Jagodziński A.M. (eds.). Bogucki Wydawnictwo Naukowe, Poznań, pp. 283–284, poster. Iszkuło G., Walas Ł., Dering M., Ganatsas P., Pers-Kamczyc E. 2016. Demographic structure and diversified degree of infestation by horse-chestnut leaf miner in relict horse-chestnut populations in Greece. In: Trees and forests in a changing environment. Scientific conference Kórnik-Poznań, October 17-19, 2016. Conference materials. Tomaszewski D., Jagodziński A.M. (eds.). Bogucki Wydawnictwo Naukowe, Poznań, pp. 164-165, paper. Iszkuło G., Myślicka K. 2016. Does climate warming influence the prevalence of plants with entire leaf margins? Scientific conference Lublin, 57th Congress of the Polish Botanical Society, Lublin June 27–July 3, 2016. Conference materials. Szczuka E., Szymczak G., Śmigała M., Marciniec R. (eds.). Polish Botanical Society, Warsaw, p. 119, paper. Ratyńska H., Lewandowska A., Kmiecik M., Iszkuło G., Jasińska A. Boratyński A. 2016. Changes in vegetation in the Cisowy Jar reserve near Olecko (north-eastern Poland). Scientific conference Lublin, 57th Congress of the Polish Botanical Society, Lublin June 27–July 3, 2016. Conference materials. Szczuka E., Szymczak G., Śmigała M., Marciniec R. (eds.). Polish Botanical Society, Warsaw, pp. 142-143, poster. Walas Ł., Dering M., Ganatsas P., Pers-Kamczyc E., Iszkuło G. 2016. Status of common horse-chestnut in its natural occurrence area in Greece. Scientific conference Lublin, 57th Congress of the Polish Botanical Society, Lublin June 27–July 3, 2016. Conference materials. Szczuka E., Szymczak G., Śmigała M., Marciniec R. (eds.). Polish Botanical Society, Warsaw, p. 160 poster.

	Iszkuło G. The sex life of plants. 2015. " From Biotechnology to Environmental Protection" November, 12 – 15, 2015 Zielona Góra, Poland, plenary lecture. Robakowski P., Pers-Kamczyc E., Iszkuło G., Wang R. 2015. Photosynthetic efficiency of male and female Taxus baccata seedlings under nutrient deficit conditions. Photosynthesis – from DNA to ecosystem. June 30, 2015. Poznań. Poland, paper. Robakowski P., Pers-Kamczyc E., Rabska M., Iszkuło G., Wang R. 2015. Seasonal variation of photosynthesis in male and female individuals of Taxus baccata growing under different fertilization regimes. 10th International Conference. Plant Functioning under environmental stress, September 16-19, 2015, Krakow, Poland, paper. Iszkuło G. 2014. Taxus baccata declining. Whose fault - human or nature? IV International Yew Workshop. October, 23-25, 2014, Poblet, Spain, invited lecture. Iszkuło G. 2013. Regression of common yew: whose fault, human or nature? In: Tomaszewski D., Jagodziński A.M. (eds.). Biology and ecology of woody plants. Scientific conference combined with the celebration of the 80th anniversary of the PAS Institute of Dendrology in Kórnik. Kórnik-Poznań October 21-23, 2013. Conference materials. Bogucki Wydawnictwo Naukowe, Poznań, pp. 147-148, paper. Szmyt J., Iszkuło G. 2013. Spatial analyses in ecological research. In: Tomaszewski D., Jagodziński A.M. (eds.). Biology and ecology of woody plants. Scientific conference combined with the celebration of the 80th anniversary of the PAS Institute of Dendrology in Kórnik. Kórnik-Poznań October 21-23, 2013. Conference materials. Bogucki Wydawnictwo Naukowe, Poznań, pp. 249-250, paper. Iszkuło G. 2013 Secondary sexual dimorphism in dioecious plants and its consequences on the example of selected gymnosperm species. In: Interdisciplinary and applied significance of botanical sciences. Abstracts of oral presentations and posters of the 56th Congress of the Polish Botanical Society Olsztyn, June 24-30, 2013. Mantis Publishing, Olsztyn, pp. 79-80, paper. Sękiewicz K., Dering M., Litkowiec M., Iszkuło G., Boratyńska K., Boratyński A. 2013. Taxonomic differentiation of the genus Abies in Pleistocene refugia around the Mediterranean Sea. In: Tomaszewski D., Jagodziński A.M. (eds.). Biology and ecology of woody plants. Scientific conference combined with the celebration of the 80th anniversary of the PAS Institute of Dendrology in Kórnik. Kórnik-Poznań October 21-23, 2013. Conference materials. Bogucki Wydawnictwo Naukowe, Poznań, p. 230, poster. Iszkuło G. 2013. Weak competitive ability may explain decline of Taxus baccata. XX International Conference of Yew Pallazo Vecchiarelli-Rieti, Italy, 22-24 May 2013, invited lecture. Iszkuło G. 2011. Common yew past, present and future. International Year of Forests in Pomerania, Gniewino December 15-16, 2011, paper. Lewandowski A., Litkowiec M., Iszkuło G. 2011. Conservation and enrichment of genetic diversity in cultivated populations of forest tree species. International Year of Forests in Pomerania, Gniewino December 15-16, 2011, paper.

	Iszkuło G. 2011. Secondary sexual dimorphism in dioecious plants and its consequences on the example of selected gymnosperm species. 40th Białowieża Geobotanical Seminar. Białowieża November 15-17, 2011, paper. Iszkuło G. 2011. Common yew, past present and future. II National Conference Papal Trees. KUL Lublin April 15-16, 2011, invited lecture. Iszkuło G. 2010. Influence of biotic and abiotic factors on natural regeneration of European yew (Taxus baccata L.) in Poland. III International Workshop of Yew (Taxus baccata L.) Yew, Culture and Biodiversity. Ponferrada, León, Spain March 25-26, 2010, invited lecture. Cedro A., Iszkuło G. 2010. Do females differ from males? Dendrochronological study of Taxus baccata. III International Workshop of Yew (Taxus baccata L.) Yew, Culture and Biodiversity. Ponferrada, León, Spain March 25-26, 2010, paper. Ksepko M. Iszkuło G. 2008. Changing of water relations of the Augustowska Primeval Forest hydrogenic habitats and tree-rings width of selected tree species. III International Conference "Forest and Water". Mrągowo September 14-17, 2008, paper. Cedro, A. Iszkuło G. 2008. Do females differ from males? Dendrochronological study of Taxus baccata. Annual Conference of the Association for Tree-Ring Research – TRACE. Zakopane April 27-30, 2008, paper. Iszkuło G., Boratyński A. 2008. Factors influencing the dieback of yew seedlings in the Cisy Staropolskie im. L. Wyczółkowskiego reserve. Scientific seminar on the occasion of the 180th anniversary of yew protection in Wierzchlas. Cekcyn, October 16-17, 2008, paper. Iszkuło G., Boratyński A. 2008. Can dioecy affect the decreasing number of yews in the Staropolskie im. L. Wyczółkowskiego reserve? Scientific seminar on the occasion of the 180th anniversary of yew protection in Wierzchlas. Cekcyn, October 16-17, 2008, paper. Boratyński A., Iszkuło G., Golimowski R. 2008. Changes in the reserve "Cisy Staropolskie im. Leona Wyczółkowskiego" near Wierzchlas in Tuchola Forest. Scientific seminar on the occasion of the 180th anniversary of yew protection in Wierzchlas. Cekcyn, October 16-17, 2008, paper. Iszkuło G. 2006. Does competition between male and female individuals and lack of rainfall influence the sexual structure and greater risk of extinction of common yew? 35th Białowieża Geobotanical Seminar. Białowieża, November 13-17, 2006, paper. Iszkuło G. 2005. Influence of low temperatures in autumn on the reproductive success of common yew. XIV seminar of the Frost Resistance Section at KNO PAS at the PAS Institute of Dendrology in Kórnik. Kórnik, May 17-18, 2005, paper.
Previous experience in educating doctoral students and students	<u>Doctoral training and supervisory care.</u> Dr. Mariola Rabska, "Influence of environmental conditions on morphological and physiological intersexual differentiation of Juniperus communis L. and Adriana tomentosa Gaudich." – doctoral dissertation awarded by the Scientific Council of the PAS Institute of Dendrology, April 29, 2021.

	Dr. Łukasz Walas, "Genetic and ecological patterns of natural populations of common horse-chestnut (Aesculus hippocastanum L.)" – doctoral dissertation awarded by the Scientific Council of the PAS Institute of Dendrology, June 29, 2021. Dr. Eng. Kinga Nowak, "Sex as a factor determining growth and chemistry of dioecious plants – yew (Taxus baccata L.) and juniper (Juniperus communis L.)" – doctoral dissertation defended at the PAS Institute of Dendrology on December 9, 2021. Dr. Żanna Tyrała-Wierucka, "Leaf blade margin form in varied climatic conditions and its changes during leaf growth" doctoral dissertation defended at the Institute of Biological Sciences, University of Zielona Góra on December 14, 2022. Ms. Magdalena Terlecka, "Ecological consequences of clonality and dioecy on the example of Populus alba L.", supervisory care.

LECTURERS - PDS IPAS – CHEMICAL SCIENCES

Lecturer	**Prof. dr hab. Adam Kraszewski**
A short CV, professional titles and academic degrees, and place of employment	Alma Mater: Adam Mickiewicz University Habilitation 1985 Professorship 1999 Major positions held: Head of the Laboratory of Nucleic Acid Synthesis and Chemistry (1983–1987) From 1987 to 1991, Vice-Director of the Institute of Bioorganic Chemistry of the Polish Academy of Sciences in Poznań (IBCH PAS) Since 1991, Head of the Laboratory of Nucleotide Analogues and Oligonucleotides at the IBCH PAS After being appointed to the Institute, from January 2013 to June 30, 2021, Head of the Department of Nucleic Acid Chemistry. From January 1, 2004, to June 30, 2021, Head of the Partnership-based Doctoral Program at the IBCH PAS. From 2021 to the present, formally associated with the IBCH PAS on a voluntary basis.
Description of interests, most important scientific achievements	Professor Kraszewski's research focuses on the chemical properties, synthesis, and structure of nucleotides and oligonucleotides, and their analogues. His most important achievements undoubtedly include his participation in the first chemical synthesis of a biologically active human gene, the insulin gene, and its expression in E. coli cells. These results allowed for the introduction of human insulin obtained through genetic engineering methods into clinical practice, which represented a significant advance in the treatment of diabetes. Previously, human insulin had been unavailable to patients. Significant scientific awards and distinctions: 1976 – Award of the Scientific Secretary of the Polish Academy of Sciences – team award. 1980 – Award of the Scientific Secretary of the Polish Academy of Sciences – individual award. 1985 – Silver Cross of Merit, 2000 – Knight's Cross of the Order of Polonia Restituta, 2008 – Award of the President of the Polish Academy of Sciences for outstanding achievements in the management of doctoral studies. 2010 – Officer's Cross of the Order of Polonia Restituta
List of publications from the last 4-5 years	Professor Emeritus - selected publications:

	1. Adamiak, M. Z. Barciszewska, E. Biała, K. Grześkowiak, R. Kierzek, A. Kraszewski, W. T. Markiewicz, M. Wiewiórowski, Nucl. Acids Res., 3(12), 3397 - 3408, 1976. 2. Chemical synthesis of genes for human insulin. R. Crea, A. Kraszewski, T. Hirose, K. Itakura, Proc. Natl. Acad. Sci. USA, 75(12), 5765-5769, 1978. 3. Studies on aryl H-phosphonates. I. An efficient method for the preparation of deoxyribo- and ribonucleoside 3'-H-phosphonate monoesters by transesterification of diphenyl H-phosphonate. J. Jankowska, M. Sobkowski, J. Stawiński and A. Kraszewski, Tetrahedron Lett. 35(20), 3355, 1994. 4. Ribosome binding of dna analogs of transfer-rna requires base modifications and supports the extended anticodon. V. Dao, R. Guenther, A. Malkiewicz, B. Nawrot, E. Sochacka, A. Kraszewski, J. Jankowska, K. Everett, P. F. Agris, Proc Natl Acad Sci U S A, 15;91(6):2125-9, 1994 5. How to get most out of two phosphorus chemistries. Studies on H-phosphonates. Jacek Stawiński and Adam Kraszewski, Accounts of Chemical Research, 35(11), 952-960, 2002 6. H-Phosphonate Chemistry in the Synthesis of Electrically Neutral and Charged Antiviral and Anticancer Pronucleotides. A. Kraszewski, M. Sobkowski, J. Stawinski. Frontiers in Chemistry. 8, 1-18, 2020
Managing and participating in research projects	Leadership and participation in projects Searching for mutations in the preproinsulin gene in patients with type II diabetes. A. K. Project manager. Scientific Research Committee - project 1994-1996. Chemical synthesis of non-radioisotope molecular probes. A. K. Project manager. Scientific Research Committee project. 1994-1997. Aryl H-phosphonates, new derivatives with controlled reactivity in oligonucleotide synthesis. A. K. Contractor. . Scientific Research Committee - project 1997-1999 Nucleic acids and their analogues as potential therapeutics. Phosphonate-phosphates of nucleoside analogues - a new type of second-generation antiviral and anticancer pro-drugs. A. K. Project manager. Scientific Research Committee - commissioned project 2002-2007. Aryl nucleoside phosphate amides – a new generation of anti-HIV pro-nucleotides. A. K. Contractor. National Science Center project 2012-2016

	A new generation of anti-cancer pro-nucleotides. A. K. Contractor. National Science Center project 2012-2016.
Research fellowships	In 1977-1978, Prof. Kraszewski completed a postdoctoral fellowship at City of Hope, Duarte, USA, where, in a team led by Dr. K. Itakura, he achieved the first chemical synthesis of the gene encoding human insulin. Based on this gene, insulin identical to the human hormone was produced in bacteria. This event, the chemical synthesis of a "foreign" gene and its expression in bacteria, has been recognized as the beginning of genetic engineering.
Scientific cooperation with international and domestic research centers	Dr. P. La Colla et al., Department of Biomedical Sciences and Technologies, University of Cagliari, 09042 Monserrato (CA), Italy. Cooperation in the field of research on the anti-HIV activity of pronucleotides obtained in our Department of Nucleic Acid Chemistry, which I headed. Joint publications Dr. A. Piasek et al., National Medicines Institute, Warsaw. Cooperation in the field of research on the anti-HIV activity of pronucleotides obtained in our Department of Nucleic Acid Chemistry, which I headed. Joint implementation of NCN projects and publications. Prof. Ph.D. J. Stawiński et al., Department of Organic Chemistry, Arrhenius Laboratory, Stockholm University, S-10691 Stockholm, Sweden. Cooperation in the field of research on the chemistry of H-phosphonates, with particular application in the chemistry of nucleotides and oligonucleotides. Implementation of NCN projects (4 x Opus). Many joint publications. Prof. Ph.D. Wanda Horst-Sikorska, Medical University, Poznań, Prof. Ph.D. Ryszard Słomski et al. University of Life Sciences, Poznań, Institute of Human Genetics of the Polish Academy of Sciences in Poznań. Cooperation in the field of genetic testing (preproinsulin gene) of diabetic patients. Joint publications. Prof. Ph.D. Piotr Węgleński et al., Department of Genetics, University of Warsaw. Cooperation in obtaining a "Polish" gene encoding insulin identical to the human hormone and its expression in bacteria.
Lectures delivered in Poland and abroad	1978 Institute of Biochemistry and Biophysics PAS; Chemical synthesis of gene for insulin identical with human hormone and gene for mini-C-proinsulin and their expression in bacteria Escherichia coli. 1984 Moscow. IUPAC Congress. Functionalisation of phosphate residues of oligonucleotides in synthesis of non-radioactive molecular probes.

	1985 Centre d`Etudies Nucleaire de Grenoble, Departament de Recherche Fundamentale. Protective systems for nucleotides in oligonucleotide synthesis. 1986 Novo Research Institute, Bagsvaerd. Recent advances in oligonucleotide synthesis 2010 Jubilee Congress of Polish Diabetologic Society. How insulin, identical to human hormone, was obtained in bacteria Escherichia coli. **Lectures for universities and PhD Programmes:** Lecture (6 hrs) for PhD students of the Partnership-based Doctoral Program at the IBCH PAS. Phosphorus in the living cell. Lecture (12 hrs/3 years) for students of Biotechnology, Dept. Biology of Adam Mickiewicz University (AMU). The basics of chemical synthesis of oligonucleotides and their analogues. Lecture (12 hrs) for PhD students of Chemistry Dept. of AMU. The basics of chemical synthesis of oligonucleotides and their analogues. Lecture (12-15 hrs) for PhD students the Partnership-based Doctoral Program at the IBCH PAS. The basics of chemical synthesis of oligonucleotides and their analogues *Att: This lecture was given several times (3 or 4x) for the Partnership-based Doctoral Program at the IBCH PAS and the PDS IPAS* Lecture (12 hrs) for PhD students of Interdisciplinary PhD Programme of Poznań University of Technology. The basics of chemical synthesis of oligonucleotides and their analogues
Previous experience in educating doctoral students and students	In addition to lectures (see the list of lectures), my experience is related to the organization and conduct of doctoral studies as the head of the Partnership-based Doctoral Programme of the IBCH PAS. I held this position for 15 years and my activity consisted in selecting the substantive topics of education that would meet the requirements of doctoral students of four different institutes of the Polish Academy of Sciences in the Poznań environment (The Institute of Bioorganic Chemistry PAS, The Institute of Human Genetics PAS, The Institute of Plant Genetics PAS, The Institute of Dendrology PAS). The average number of doctoral students of the Partnership-based Doctoral Programme within the years 2006 – 2021 ranged from 100-120 participants each year. As an independent researcher at the IBCH, I supervised 7 PhD theses and several master's theses by students of the Faculty of Chemistry of the University of A. Mickiewicz and the Faculty of Pharmacy of the Medical University of Warsaw. K. Marcinkowski in Poznań.

Lecturer	**Prof. dr hab. Jacek Stawiński**
A short CV, professional titles and academic degrees, and place of employment	1968 M. Sc. (Chemistry), A. Mickiewicz University, Poznań. 1974 Ph. D. (Organic Chemistry), Institute of Organic Chemistry, Polish Academy of Sciences, Warsaw. 1982 Dr. hab. (Habilitation, professor's competence in Bioorganic Chemistry), Institute of Organic Chemistry, Polish Academy of Sciences, Warsaw. 1994 Professor of Chemistry (the title conferred by the President of the Republic of Poland). 1968-1969 Research Assistant, Department of Organic Chemistry, A. Mickiewicz University, Poznań. 1969-1974 Doctoral Studies, Institute of Organic Chemistry, Polish Academy of Sciences, Warsaw. 1974-1976 Postdoctoral Fellow at the National Research Council of Canada, Ottawa (Prof. S. A. Narang's lab.). 1976-1982 Assistant Professor at the Institute of Bioorganic Chemistry, Polish Academy of Sciences, Poznań. 1982-1984 Associate Professor at the Institute of Bioorganic Chemistry, Polish Academy of Sciences, Poznań; scientific director of the Institute. 1984-1986 Visiting scientist, Department of Organic Chemistry, Stockholm University, Stockholm. 1986 - 2013 - Professor of Organic Chemistry, Department of Organic Chemistry, Stockholm University/ the Institute of Bioorganic Chemistry, Polish Academy of Sciences, Poznań
Description of interests, most important scientific achievements	Jacek Antoni Stawiński: A Renowned Polish Chemist Jacek Antoni Stawiński (born February 26, 1946, in Leszno) is a Polish chemist and professor of chemical sciences specializing in the organic chemistry of phosphorus compounds, particularly in the chemistry and stereochemistry of nucleic acids and their components, including nucleosides, nucleotides, and oligonucleotide analogues. Research Focus Areas **1. Organic Chemistry of Nucleic Acids and Their Components.** • Methods for DNA and RNA synthesis. • Protecting groups, strategies. • Reagents for stereospecific transformations of P-chiral derivatives. • Nucleotide analogues modified at the phosphorus center. • Chemistry of unprotected synthetic oligonucleotides – post-synthetic modifications. **2. Chemistry and Stereochemistry of H-Phosphonates and Their Analogues, Derivatives of Natural Products.** • Basic research in the chemistry and stereochemistry of the aforementioned compounds. • Mechanistic and kinetic studies.

	• New methods for synthesizing biologically active phosphorus compounds based on H-phosphonate chemistry. **3. Synthetic and Structural Studies of Biologically Active Phosphorus Compounds, Components of Nucleic Acids, Phospholipids, Phosphorylated Sugars, etc., and Their Analogues with Potential Therapeutic Significance (Antiviral and Antineoplastic Compounds).** • Prodrugs (synthesis, properties). • Antisense oligonucleotides (synthesis, chemical and physical properties). • Antigenic oligonucleotides (synthesis, chemical and physical properties). • Artificial nucleases – specific cleavage of DNA or RNA using synthetic oligonucleotide analogues. • Enzyme inhibitors as therapeutic agents. **4. Structural Studies of Oligonucleotides and Their Analogues in Solution and Solid State, with Special Emphasis on the Influence of the Chiral Phosphorus Center on Structure and Hydration.** • NMR studies in solutions. • FTIR in solution. • Molecular mechanics and dynamics. • X-ray studies. **5. Phospholipids** • New synthesis methods. • Synthesis and chemistry of lipid-DNA (RNA) conjugates. • Conjugates of biologically active compounds with lipids as vehicles for specifically targeted drugs. • Production of biological membranes with defined properties. **6. Bioorganic Chemistry of Phosphorus Compounds / Organophosphorus Chemistry** • New phosphorylating reagents and procedures. • New methods of stereospecific synthesis. • New methodologies for creating asymmetrically substituted polyphosphates. • Mechanistic studies related to the formation and transformations of biologically important phosphorus compounds. • New ways to form P-C bonds. • Phosphates, phosphonates, and phosphinates as transition state analogues. • Synthesis of new phosphorus compounds, complexing agents with high affinity for heavy metals (environmental protection/decontamination). **Career Highlights** He completed his postdoctoral fellowship from 1974 to 1976 in Professor Saran Narang's group at the National Research Council of Canada in Ottawa, participating in work related to the chemical synthesis of the *lac* operator (a component of the lactose operon) and

	demonstrating for the first time that a synthetic DNA fragment has the same biological activity as a natural preparation. In 1984, he moved to Sweden, where he obtained a professorship at Stockholm University in 1986. His work on H-phosphonates in nucleotide chemistry initiated the widespread use of this class of compounds in natural product chemistry. In the 1990s, he established a permanent collaboration with Professor Adam Kraszewski's group at the Institute of Bioorganic Chemistry of the Polish Academy of Sciences. He was employed as a full professor at IBCH PAS, where he headed the Stereochemistry of Nucleotides Team within the Department of Nucleosides and Nucleotides Chemistry. Later, he became an affiliated professor at the Department of Chemistry of Nucleic Acid Components. He is a member of the Chemistry Committee of the Polish Academy of Sciences.
List of publications from the last 4-5 years	321 scientific papers in organic chemistry, nucleic acid chemistry, and bioorganic phosphorus chemistry. H-index: 39; number of citations: 5,601 (4,301 without self-citations).
Managing and participating in research projects	From 1984 to 2013, he was the principal investigator for research grants in the fields of bioorganic phosphorus chemistry and nucleic acid chemistry at Stockholm University. Grant agencies: Swedish National Research Council (VR), Swedish Council for Technical Development (NUTEC), Swedish Academy for Science and Technology (IVA), Strategic Nucleic Acids Program. At the Institute of Bioorganic Chemistry of the Polish Academy of Sciences in Poznań, he participated in the implementation of the following grants: • 1997–1999, Chemical Synthesis of Non-Radioisotopic Molecular Probes - State Committee for Scientific Research (KBN) grant. Project Manager • 1999–2002, Aryl-H-phosphonates of Nucleosides - New Derivatives with Controlled Reactivity in Oligonucleotide Synthesis - State Committee for Scientific Research (KBN) grant. Project Investigator. • 2002–2005, Phosphonate-phosphate nucleoside analogues – a new type of second-generation antiviral and anticancer prodrugs, no. PBZ-KBN 059/T09/19. Project leader. • 2007–2009, New, non-toxic pronucleotides and other non-nucleotide phosphorus compounds with high anti-HIV activity, no. PBZ-MNiSW-07/I/2007/01. Project leader. • Aryl nucleoside phosphoramidates – a new generation of anti-HIV pronucleotides – National Science Centre grant 2011–2014. Project leader. • New generation of anticancer pronucleotides – National Science Centre grant 2011–2014. Project leader. • Development of

	stereospecific phosphorylating agents containing nucleophilic catalytic groups – NCN grant 2011-2015. Contractor.
Research fellowships	Visiting Professorships: 1981- National Research Council of Canada, Ottawa, Canada 1986 - Gesellschaft für Biotechnologische Forschung mbH, Braunschweig. 1988 - University of Montpellier, Department of Bioorganic Chemistry, Montpellier, France. 1991 - University of Montpellier, Department of Bioorganic Chemistry, Montpellier, France
Scientific cooperation with international and domestic research centers	Invited speaker or chairman at scientific conferences: • 1985, The Shemyakin Institute of Bioorganic Chemistry, Moscow, USSR • 1985, Institute of Bioorganic Chemistry, Novosibirsk, USSR • 1985, Leningrad University, Leningrad, USSR • 1985, Moscow University, Moscow, USSR • 1985, Astra Läkemedel AB, Södertälje, Sweden • 1986, Hässle Läkemedel AB, Götteborg, Sweden • 1986, Pharmacia AB, Uppsala, Sweden • 1986, Gesellschaft für Biotechnologische Forschung mbH, Braunschweig, Germany • 1987, Institute of Bioorganic Chemistry, Polish Academy of Sciences, Poznań, Poland • 1988, University of Montpellier, Department of Bioorganic Chemistry, Montpellier, France • 1991, The American Chemical Society Meeting, Atlanta, Georgia, USA; April 15 • 1991, University of Montpellier, Department of Bioorganic Chemistry, Montpellier, France • 1991, Conference on Synthetic Oligonucleotides: Problems, and Frontiers of Practical Application, Moscow, USSR; June 23-30, 1991 • 1992, Applied Biosystems, Foster City, California, USA • 1992, National Research Council of Canada, Ottawa, Canada • 1993, Institute of Bioorganic Chemistry, Polish Academy of Sciences, Poznań, Poland • 1994, “Trends in organic Chemistry”, 2nd Swedish-Israeli symposium Stockholm, Sweden, August 14-17, 1994 • 1995, 13th International Conference on Phosphorus Chemistry (ICPC), Jerusalem, Israel, July 16-21, 1995 • 1995, Nucleic Acid Symposium, Leiden, The Netherlands, August 6-11 • 1996, Gdansk Technical University, Department of Organic Chemistry, Gdansk, Poland, April 11-12, 1996 • 1996, Xth Symposium on the Chemistry of Nucleic Acids Components, Trest, Czech Republic, September 1-7, 1996

	• 1996, ”Modern views of structure, sequence analysis, interactions and functions of nucleic acids”, 4th Swedish -German Workshop Ulm, Germany, November 23-26, 1996 • 1997, 7th International Symposium on Fine Chemistry and Functinal Polymers, Baoding, China, August 12-15, 1997 (Plenary lecture) • 1997, Polish Chemical Society Congress, Gdansk, Poland, September 22-26, 1997 • 1998, Nucleic Acids and Their Constituents: Chemical Evolution Underlying Biological Evolution, Poznań, Poland, May 10-13, 1998 • 1998, XIVth International Conference on Phosphorus Chemistry, Cincinnati, Ohio, USA, July 12-17, 1998 • 1998, XIII International Round Table, Montpellier, France, September 6-10, 1998 • 1998, ISIS Pharmaceutical, Carlbad, CA, July 1998 • 1999, XI Symposium Chemistry of Nucleic Acid Components, Spindleruv Mlyn, Czech Republic, September 4-9, 1999 • 2000, Organikerdagarna, Stockholm, Sweden, June 5-8, 2000 • 2000, University of California L. A. Department of Chemistry and Biochemistry, Los Angeles, USA • 2000, California Institute of Technology, Department of Chemistry, Pasadena, USA • 2001, Modified Oligonucleotides and their Conjugates as Antisense and Antigene Agents, Lodz, Poland, May 13-16, 2001 • 2001, XVth International Conference on Phosphorus Chemistry, Sendai, Japan, July 29-August 3, 2001 • 2002, XII Symposium Chemistry of Nucleic Acid Components, Spindleruv Mlyn, Czech Republic, September 3-8, 2002 • 2002, XV International Round Table, Leuven, Belgium, September 10-14, 2002 • 2002, VI Ogolnopolskie Sympozjum Chemii Organicznej, Lodz, April 18-20, 2002 • 2003, Defence Research Institute, FOI, Umeå, Sweden • 2003, Polish Chemical Society Congress, Lublin, Poland, September 14-19, 2003 • 2010, Institute of Polymers, Bulgarian Academy of Sciences, Sofia, Bulgaria • 2012, National Research Centre, Pesticide Chemistry Department, Dokki, Giza, Egypt • 2015, Centre of New Technologies of the University of Warsaw, Warsaw Consulting • Pharmacia AB, Uppsala, Sweden (1989-1991) • BioCarb AB, Lund, Sweden (1991-1992)

Lectures delivered in Poland and abroad	General secondary school (chemistry and physics). Lectures for undergraduate and graduate students. Supervisor for master's and doctoral students.
Previous experience in educating doctoral students and students	Supervised PhD students: Roger Strömberg (Ph.D., 1987); Ingvar Lindh (Ph.D., 1988); Tor Regberg (Ph.D., 1989); Mats Thelin (Ph.D., 1992); Tomas Szabó (Ph.D., 1995), Rula Zain (Ph.D., 1995); Annika Kers (Ph.D., 1999), Inger Kers (Ph.D., 1999); Martin Bollmark (Ph.D., 2001), Tommy Johansson (Ph.D., 2004), Johan Nilsson (Ph.D., 2004), Martin Kullberg (Ph.D., 2006), Gaston Laven (2010), Marcin Kalek (Ph.D., 2012), Marta Rachwalak (Ph.D., 2020), Tomasz Jakubowski (Ph.D., 2020), Justyna Gołębiewska (Ph.D., 2020). Bachelor students: Erik Westman, 1998; Annika Kers, 1998; Inger Kers, 1998; Martin Bollmark, 1999; Tommy Johansson, 2002; Johan Nilsson, 2003; Martin Kullberg, 2004; Renata Hiresova, 2008; Marcin Kalek, 2008.

Lecturer	**Dr Witold Andrałojć**
A short CV, professional titles and academic degrees, and place of employment	Education 2013-2016 Doctorate in Chemistry (specialization Structural Biology) Doctoral studies at Centro Risonanze Magnetiche (CERM), University of Florence, Florence, Italy (in the frame of Marie Curie Actions ITN pNMR) 2011-2013 Master of Sciences in Chemistry and Material Sciences International Master Course SERP-chem hosted together by: Université Paris-Sud, Paris, France Adam Mickiewicz University, Poznań, Poland Università Degli Studi di Genova, Genova, Italy 2008-2011 Bachelor in Chemistry Adam Mickiewicz University, Poznań, Poland Employment history 2018- Institute of Bioorganic Chemistry PAS assistant professor, from 2024, Head of the Department of Biomolecular NMR; 2017-2018 Institute of Bioorganic Chemistry PAS

	research assistant 2013-2016 Centro Risonanze Magnetiche (CERM), University of Florence, Florence, Italy PhD student
Description of interests, most important scientific achievements	My research interests concentrate around NMR studies of biomolecular structure, interactions, and dynamics, with an emphasis on nucleic acid systems. My research also includes paramagnetic NMR methods development for nucleic acids. My main research achievements include: • Solving the structure of a lanthanide binding aptamer The solved structure constitutes the first high-resolution structure of a metal ion binding aptamer. The importance of this structure is two-fold. On one hand, it uncovered the structural basis for the high affinity and specificity of lanthanide binding to this aptamer, which adds to our general knowledge regarding metal ion-DN interactions. On the other hand, the process of solving this structure has demonstrated the utility of long-range paramagnetic structural restraints – induced by the lanthanide ions – in the structural studies of nucleic acids, which opens the avenues towards more widespread use of this kind of structural restraints in structural studies of other DNA and RNA systems. • Solving the structure of 8-17 DNAzyme in the presence of Zn2+ ions and proposing a new model for metal ion interaction with this system The design of shortened 8-17 DNAzyme constructs allowed for solving its three-dimensional structure by NMR methods and for he determination of the binding site of Zn2+ ions. The analysis of the obtained structure, supported by a series of low-resolution experiments, allowed us to propose the existence of a single active form of the 8-17 DNAzyme in place of the current view involving two different active conformations. • Unraveling the structural basis for the exceptional stability of RNA G-quadruplexes capped by a uridine tetrad at the 3'-terminus Through solving the 3D NMR structure of the r(UGGUGGU)4 G-quadruplex, as an unusual conformation of the 3' portion of the molecule was revealed, featuring a rapid turn of the RNA backbone between the terminal U-tetrad and the G-tetrad preceding it. Further studies using chemically modified RNA analogs demonstrated direct links between the presence of this conformation and the exceptional thermal stability of G-quadruplex structures containing it.

	• Development of a methodology to analyze ensemble averaged paramagnetic NMR data and its application to conformational studies of multidomain biomolecular systems The MaxOR method was developed, which allows for a partial reconstruction of the ensemble of conformations assumed by multidomain biological polymers based on ensemble-averaged NMR data. The method was applied among other to determine the preferred conformations of a two-domain protein calmodulin and of HIV1-TAR RNA element, which assumes a two-way junction structure, as well as to identify low-population transition states in a protein-protein complex. • Determination of binding geometries and sequence specificities of a series of DNA intercalators The sequence preferences of a series of DNA intercalators displaying anticancer activities were identified using NMR methods. Three-dimensional structures of complexes between two of the studied pro-drugs and different DNA molecules were also determined and used to explain the observed sequence specificity. Project in collaboration with dr Tomasz Laskowski (Gdańsk University of Technology).
List of publications from the last 4-5 years	1) W. Andrałojć, M. Malgowska, J. Sarzynska, K. Pasternak, K. Szpotkowski, R. Kierzek, Z. Gdaniec*, Unraveling the structural basis for the exceptional stability of RNA G-quadruplexes capped by a uridine tetrad at the 3' terminus, RNA, 2019, 25, 131-134 2) M. Gładysz, W. Andrałojć, T. Czapik, Z. Gdaniec, R. Kierzek*, Thermodynamic and structural contributions of the 6-thioguanosine residue to helical properties of RNA, Sci. Rep., 2019, 9, 4385 3) T. Laskowski*, W. Andrałojć*, J. Grynda, P. Gwarda, J. Mazerski, Z. Gdaniec, A strong preference for the TA/TA dinucleotide step discovered for an acridine-based, potent antitumor dsDNA intercalator, C-1305: NMR-driven structural and sequence-specificity studies, Sci. Rep, 2020, 10, art. nr 11697 4) W. Andrałojć*, K. Pasternak, J. Sarzynska, K. Zielinska, R. Kierzek, Z. Gdaniec*, The origin of the high stability of 3’-terminal uridine tetrads: contributions of hydrogen bonding, stacking interactions, and steric factors evaluated using modified oligonucleotide analogs, RNA 2020, 26, 2000-2016 5) P. Szczeblewski, W. Andrałojć, J. Polit, A. Zabka, K. Winnicki, T. Laskowski*, Ipertrofan Revisited—The Proposal of the Complete Stereochemistry of Mepartricin A and B, MOLECULES 2021, 26, 5533 6) M. Kosno, T. Laskowski*, J. E. Frackowiak, A. Potęga, A. Kurdyn, W. Andrałojć, J. Borzyszkowska-Bukowska, K. Szwarc-Karabyka, Z. Mazerska*, Acid–Base Equilibrium and Self-Association in Relation to High Antitumor Activity of Selected Unsymmetrical Bisacridines

	Established by Extensive Chemometric Analysis, Molecules 2022, 27, 3995. 7) W. Andrałojć*, J. Wieruszewska , K. Pasternak, Z. Gdaniec, Solution Structure of a Lanthanide-binding DNA Aptamer Determined Using High Quality pseudocontact shift restraints, Chem. Eur. J., 2022, e202202114 8) T. Laskowski*, M. Kosno, W. Andrałojć, J. E. Frackowiak, J. Borzyszkowska-Bukowska, P. Szczeblewski, N. Radoń, M. Świerżewska, A. Woźny, E. Paluszkiewicz & Z. Mazerska, The interactions of monomeric acridines and unsymmetrical bisacridines (UAs) with DNA duplexes: an insight provided by NMR and MD studies, Sci. Rep., 2023, 13, 3431 9) Agnieszka Potęga, Dominika Rafalska, Dawid Kazimierczyk, Michał Kosno, Aleksandra Pawłowicz, Witold Andrałojć, Ewa Paluszkiewicz, Tomasz Laskowski, "In Vitro Enzyme Kinetics and NMR-Based Product Elucidation for Glutathione S-Conjugation of the Anticancer Unsymmetrical Bisacridine C-2028 in Liver Microsomes and Cytosol: Major Role of Glutathione S-Transferase M1-1 Isoenzyme", Molecules, 28, art. nr 6812, 2023. 10) Ilyas Yildrim, Witold Andrałojć, Amirhossein Taghavi, Daniel Baranowski, Zofia Gdaniec, Ryszard Kierzek, Elżbieta Kierzek, "Experimental and computational investigations of RNA duplexes containing N7-regioisomers of adenosine and LNA-adenosine", Nucleic Acids Research, art. nr gkae1222, 2024. 11) Julia Wieruszewska, Aleksandra Pawłowicz, Ewa Połomska, Karol Pasternak, Zofia Gdaniec, Witold Andrałojć, "The 8-17 DNAzyme can operate in a single active structure regardless of metal ion cofactor", **Nature Communications**, 15, art. nr 4218, 2024. 12) Jessica M. González-Delgado, Peter M. Thompson, Witold Andrałojć, Zofia Gdaniec, Reza A. Ghiladi, Stefan Franzen, "Comparison of the Backbone Dynamics of Dehaloperoxidase-Hemoglobin Isoenzymes", Journal of Physical Chemistry B, 128, 3383–3397, 2024. 13) Tomasz Laskowski, Michał Kosno, Witold Andrałojć, Julia Pakuła, Rafał Stojałowski, Julia Borzyszkowska-Bukowska, Ewa Paluszkiewicz, Zofia Mazerska, "The interactions of Pu22 G-quadruplex, derived from c-MYC promoter sequence, with antitumor acridine derivatives—An NMR/MD combined study", Molecular Therapy Nucleic Acids, 36, art. nr 102513, 2025. 14) Aleksandra Jarmołowicz, Nivedita Dutta, Witold Andrałojć, Joanna Sarzyńska, Grzegorz Framski, Daniel Baranowski, Jerzy Boryski, Ansuman Lahiri, Zofia Gdaniec, Elżbieta Kierzek, Ryszard Kierzek, "The oligonucleotides containing N7-regioisomer of guanosine: influence

	on thermodynamic properties and structure of RNA duplexes", RNA, 31, 86-99, 2025.
Managing and participating in research projects	**PI of research grants:** 1) NCN, SONATA 14, "Structural studies of DNAzymes 8-17 and I-R2 using NMR methods" (grant number: 2018/31/D/ST4/01467), budget: PLN 744,000, funding period: 2019-2024. 2) NCN, OPUS 19, "Lanthanide-binding oligonucleotides (OWL) as paramagnetic labels in NMR spectroscopy of nucleic acids" (grant number: 2020/37/B/ST4/03182), budget: PLN 1,240,800, funding period: 2021-2025. 3) NCN, OPUS 22, "Synthesis and structural/biophysical studies of model mRNA/mt-tRNA oligomers to determine the role of modified nucleosides (m5C, hm5C, f5C, ca5C, m1G) in translation and human diseases" (grant number: 2021/43/B/ST4/01570) – as local PI at IBCH PAS, consortium leader: dr hab. inż. Grażyna Leszczyńska (Łódź University of Technology), budget: PLN 520 400 (budget fraction assigned to IBCh PAS out of a total budget of PLN 1 783 934), funding period: 2022-2026. **Involvement in research grants:** 1) NSC, OPUS 13, "Synthesis and structural studies of oligonucleotides with tRNA anticodon arm sequences containing new modified nucleosides: ct6A, ms2ct6A, ges2U" (grant number: 2017/25/B/ST5/00971); PI: prof. dr hab. Elżbieta Sochacka (Łódź University of Technology – consortium leader), prof. dr hab. Zofia Gdaniec (PI at IBCh PAS), involement period: 2018-2022. 2) NSC, OPUS 18, "Study of the relationship between DNA sequence and structure as a starting point for the design of G-quadruplexes with defined topology -- an integrated approach combining molecular simulations and experimental methods" (grant number: 2019/35/B/ST4/03559); dr hab. Jacek Czub, Eng. (Gdańsk University of Technology – consortium leader), Prof. Zofia Gdaniec, PhD (PI at IBCh PAS), involement period: 2020-
Research fellowships	Protein Chemistry Group (Leiden University, The Netherlands) research stay during PhD studies (protein expression for NMR studies and attachment of paramagnetic tags), 6 weeks, 2014 ZoBio (spin-off company of Leiden University, The Netherlands) research stay during PhD studies (NMR applications in drug discovery), 5 months, 2016 Beamline PLEIADES (Synchrotron Soleil, France): Master stage (photoelectron spectroscopy), 6 months, 2013
Scientific cooperation with international and domestic research centers	- NMR structural studies of chemically modified RNAs; collaboration with dr hab. inż. Grażyna Leszczyńska (Politechnika Łódzka) - NMR studies of interaction between DNA duplexes and small molecule ligands, collaboration with dr hab. inż. Tomasz Laskowski (Politechnika Gdańska)

Lectures delivered in Poland and abroad	- „AMPERE Nuclear Magnetic Resonance Summer School”, lecture title: "G-quadruplex nucleic acids studied by NMR spectroscopy", Zakopane, 28.06.2019
Previous experience in educating doctoral students and students	Poznań University of Technology, lectures and laboratory classes in NMR spectroscopy for students of the "Pharmaceutical Engineering" curriculum; academic years: 2019/2020, 2020/2021, 2021/2022, 2022/2023 - Adam Mickiewicz University - NanoBioMedical Center, lectures and laboratory classes in NMR spectroscopy for PhD students of the "Community Interdisciplinary Doctoral Studies in Nanotechnology" (POWR.03.02.00-00-I032/16) curriculum; academic years: 2018/2019 and 2019/2020 - IBCH PAS, lectures "Modern Methods of NMR Spectroscopy", for PhD students of the "Community Doctoral Studies ICHB PAN / Poznań Doctoral School of Institutes of the Polish Academy of Sciences"; academic year 2020/2021 - “AMPERE Nuclear Magnetic Resonance Summer School”, workshop: “Two-dimensional NMR spectroscopy – an introduction”, years: 2018, 2019, 2022 - Institute of Bioorganic Chemistry of the Polish Academy of Sciences (Department of Biomolecular NMR), "One-day 2D NMR workshop" (2D NMR workshop for university students), co-organization of the event, lecture and practical exercises, 24-26/04/2019 (three editions)

Lecturer	**Dr hab. Agnieszka Kiliszek, D.Sc.**
A short CV, professional titles and academic degrees, and place of employment	2019 – Habilitation in Chemistry at the Institute of Bioorganic Chemistry, Polish Academy of Sciences, Poznań, Poland. 2011 – PhD in Chemistry at the Institute of Bioorganic Chemistry, Polish Academy of Sciences in Poznań, Poland. Supervisor: Prof. Wojciech Rypniewski. 2006 – M.Sc. Chemistry at Adam Mickiewicz University in the Chemistry Department, Poznań, Poland. Supervisor: Prof. Bohdan Skalski. EMPLOYMENT 2024 – present - Head of Department of RNA Structural Research, Institute of Bioorganic Chemistry, Polish Academy of Sciences, Poznań, Poland

	2021 – Associate Professor, Department of Structure-Function Relationship in Biological Molecules, Polish Academy of Sciences Poznań, Poland. 2012 – 2021 Assistant Professor (adjunct) in Structure-Function Relationship in Biological Molecules Department. Institute of Bioorganic Chemistry, Polish Academy of Sciences Poznań, Poland 2006 – 2012 Research Assistant in Structure-Function Relationship in Biological Molecules Team. Institute of Bioorganic Chemistry, Polish Academy of Sciences, Poznań, Poland.
Description of interests, most important scientific achievements	One of the main achievements in my scientific career concerns the crystallographic analysis of RNA molecules associated with the pathogenesis of neurological disorders caused by abnormal expansion of repeated sequences in certain genes. I have determined the three-dimensional structures of five different types of repeated RNA sequences (NAR 2009, NAR 2010, NAR 2011, NAR 2012, RNA 2017). Among these, four types of repeats were trinucleotide CNG repeats (CUG, CAG, CGG, and CCG). The crystal structures of CNG repeats allowed, for the first time, identification of their common and distinct features. This has significantly increased the understanding of the pathomechanism of neurodegenerative diseases by explaining the results of in vitro and in vivo biochemical studies. All structures were novel and published in Nucleic Acids Research (NAR 2009, NAR 2010, NAR 2011, NAR 2012). These results are well appreciated in the scientific community, as publications concerning structures of CNG repeats have been cited over 180 times. Recently, my interest in the study of pathogenic RNAs has moved towards the development of therapies against repeated expansion disorders. In this area, I have determined the first structures of complexes between pathogenic RNA (CAG and CUG repeats) and antisense PNA molecules (NAR 2016). The models explained PNA's intrinsic structural properties, shedding light on its sequence selectivity or intolerance of mismatches when it interacts with nucleic acids. I also reported crystal structures of complexes of cyclic bis-naphthyridine ligands (CMBLs) and RNA containing CAG repeats associated with neurodegenerative polyglutamine disorders (NAR 2019). These are the first reported models of disease-related RNA repeats complexed with small molecules. The crystal models showed details of ligand binding, interactions with solvent molecules, and rearrangements of the RNA structure, which would be difficult to foresee using molecular docking approaches or biochemical methods.
List of publications from the last 4-5 years	1. Leszek Błaszczyk, Marcin Ryczek, Bimolendu Das, Martyna Mateja-Pluta, Magdalena Bejger, Joanna Śliwiak, Kazuhiko Nakatani, Agnieszka Kiliszek, “Antisense RNA C9orf72 hexanucleotide repeat associated with amyotrophic lateral sclerosis and frontotemporal

	dementia forms a triplex-like structure and binds small synthetic ligand", *Nucleic Acids Research*, art. nr gkae376, 2024. 2. Kiliszek, A., & Rypniewski, W. The emergence of biological homochirality. Acta biochimica Polonica, (2023) 70: 481–485. DOI: 10.18388/abp.2020_6914 3. Kiliszek, A., Rypniewski, W., Błaszczyk, L. Exploring structural determinants and the role of nucleolin in formation of the long-range interaction between untranslated regions of p53 mRNA. RNA, (2023) 29:630-643. DOI: 10.1261/rna.079378.122 4. Kiliszek, A.*, Pluta, M., Bejger, M., & Rypniewski, W. Structure and thermodynamics of a UGG motif interacting with Ba2+ and other metal ions: accommodating changes in the RNA structure and the presence of a G(syn)-G(syn) pair. RNA (2023) 29:44–54. DOI: 10.1261/rna.079414.122 5. Ryczek, M., Pluta, M., Błaszczyk, L., Kiliszek, A.* Overview of Methods for Large-Scale RNA Synthesis. Appl. Sci. (2022) 12: 1543. DOI: 10.3390/app12031543 6. Kiliszek, A., Błaszczyk, L., Bejger, M., & Rypniewski, W. Broken symmetry between RNA enantiomers in a crystal lattice. Nucleic Acids Research (2021) 49:12535-12539. DOI: 10.1093/nar/gkab480 7. Rykowski, S., Gurda-Woźna, D., Orlicka-Płocka, M., Fedoruk-Wyszomirska, A., Giel-Pietraszuk, M., Wyszko, E., Kowalczyk, A., Stączek, P., Bak, A., Kiliszek, A., Rypniewski, W., & Olejniczak, A. B. Design, Synthesis, and Evaluation of Novel 3-Carboranyl-1,8-Naphthalimide Derivatives as Potential Anticancer Agents. International Journal of Molecular Sciences (2021) 22: 2772. DOI: 10.3390/ijms22052772. 8. Nekvinda, J., Różycka, D., Rykowski, S., Wyszko, E., Fedoruk-Wyszomirska, A., Gurda, D., Orlicka-Płocka, M., Giel-Pietraszuk, M., Kiliszek, A., Rypniewski, W., Bachorz, R., Wojcieszak, J., Grüner, B., & Olejniczak, A. B. Synthesis of naphthalimide-carborane and metallacarborane conjugates: anticancer activity, DNA binding ability. Bioorganic Chem. (2020) 94:103432. DOI: 10.1016/j.bioorg.2019.103432 9. Mukherjee, S., Blaszczyk, L., Rypniewski, W., Falschlunger, C., Micura, R., Murata, A., Dohno, C., Nakatani, K., Kiliszek, A.* Structural insights into synthetic ligands targeting A-A pairs in disease-related CAG RNA repeats. Nucleic Acids Res. (2019) 47:10906-10913. DOI: 10.1093/nar/gkz832 10. Nowacka M., Fernandes H., Kiliszek A., Bernat A., Lach G., Bujnicki J.M. Specific interaction of zinc finger protein Com with RNA and the crystal structure of a self-complementary RNA duplex recognized by

	Com. Plos One (2019) 47:10906-10913. DOI: 10.1371/journal.pone.0214481 11. Kiliszek A., Rypniewski W., Rzad K., Milewski S., Gabriel I. Crystal structures of aminotransferases Aro8 and Aro9 from Candida albicans and structural insights into their properties. Journal of Structural Biology (2019) 205: 26-33. DOI: 10.1016/j.jsb.2019.02.001
Managing and participating in research projects	"Crystallographic analysis of RNA-ligand complexes. Towards rational design of lead compounds for development of therapies against neurodegenerative disorders" Project OPUS 23, financed by the National Centre of Science. 2023-2027; Principal Investigator. Budget: 2 045 208 PLN "Enzymes of the L-methionine biosynthetic pathway as novel molecular targets for antifungal chemotherapy: Project OPUS 20 financed by the National Centre of Sciences. 2021-2024; executor. Budget:1 677 700 PLN "Development of methodology for stabilisation of RNA hairpins for crystallographic study." Project SONATA BIS financed by the National Centre of Science. 2018-2023; Principal Investigator. Budget: 2 250 340 PLN "Engineering a 'chitinosome' – a toolbox for chitin degradation". A subsidy "Master" for Prof. Wojciech Rypniewski donated by Foundation for Polish Science. 2015-2017; executor. Budget: 138 000 PLN "In search of effective therapy of Mytonic Dystrophy type I. Crystallographic analysis of CUG repeats complexed with potential therapeutics." Project IUVENTUS PLUS financed by the Polish Ministry of Science and Higher Education. 2013-2016; Principal Investigator. Budget: 200 000 PLN „RNA hairpin structures in biology and pathogenesis. Crystallographic analysis." Project OPUS financed by National Centre of Science. 2011-2014; intellectual contributor, executor. Budget: 492 700 PLN „Enzymatic and chemical stabilisation of hairpin structures of RNA oligomers for biocrystallographic research." Project financed by the Polish Ministry of Science and Higher Education. 2010-2011, awardee and executor. Budget: 246 000 PLN „RNA structure of trinucleotide repeats of CNG type associated with neurodegenerative diseases. Crystallographic analysis." Project financed by the Polish Ministry of Science and Higher Education. 2008-2011, intellectual contributor, executor. Budget: 368 700 PLN
Research fellowships	2017 – short-term stay at Institute of Organic Chemistry, Leopold Franzens University, Innsbruck, Austria. Research Mentor: prof. Ronald Micura.

Scientific cooperation with international and domestic research centers	Prof. Kazuhiko Nakatani; Department of Regulatory Bioorganic Chemistry The Institute of Scientific and Industrial Research (ISIR); Uniwersytet Osaka, Japonia. OLIPASS CORPORATION, a biopharmaceutical company with offices at OliPass, Ace Dongbaek Tower 20th Floor, 16-4, 16 Beon-gil, Dongbaek Jungang-ro, Giheung-gu, Yongin, Gyeonggi 17015 Republic of Korea Prof. Ronald Micura; Institute of Organic Chemistry, Leopold Franzens University, Innsbruck, Austria dr hab. inż. Gdańsk University of Technology Professor Iwona Gabriel; Department of Drug Technology and Biochemistry; Faculty of Chemistry, Gdańsk University of Technology Intra-Institute Collaboration Prof. Ryszard Kierzek; Institute of Bioorganic Chemistry, PAS Prof. Elżbeta Kierzek; Institute of Bioorganic Chemistry, PAS Dr. Hab. Professor IBCH, Marcin Chmielewski, Institute of Bioorganic Chemistry, PAS
Lectures delivered in Poland and abroad	Błaszczyk L., Ryczek M., Das B., Mateja-Pluta M., Bejger M., Nakatani K. and Kiliszek A. *Structural analysis of RNA G2C4 repeats associated with amyotrophic lateral sclerosis and frontotemporal dementia: RNA structural polymorphism and its potential to interact with synthetic molecules.* 64th Polish Crystallographic Meeting, 5-7 lipca 2023, Wrocław, Polska. Błaszczyk L., Ryczek M., Das B., Mateja-Pluta M., Bejger M., Nakatani K. and Kiliszek A. Structural studies of small ligands targeting disease-related RNA molecules. 5th BIO Congress PTBioch 2023; 13-16 September 2023, Szczecin, Poland. Błaszczyk L., Mateja-Pluta M., Ryczek M., Micura R., Nakatani K and Kiliszek A. Structural studies of small ligands targeting disease-related RNA molecules. Polish RNA Biology Meeting; September 28-30 2023 Warsaw, Poland. Kiliszek A., Błaszczyk L., Rypniewski W., Mukherjee S., Nakamori M., Falschlunger C., Micura R., Murata A., Dohno C., Nakatani K. Structural and biochemical insights into synthetic ligands targeting A-A pairs associated with disease-related CAG RNA repeats. Polish-Japanese RNA Meeting.17-18 June 2019, Poznań, Poland. Kiliszek A., Banaszak K., Dauter Z., Rypniewski W. Structural study of CUG and CAG repeats complexed with antisense PNA oligomers. 57th Polish Crystallographic Meeting.5-26 June 2015, Wroclaw, Poland Invited lecture: Crystallographic studies of toxic RNA. Multidisciplinary Approach to Structural Biology. From Macromolecules to Cells. 6 March 2015, Poznań, Poland.

	Kiliszek A., and Rypniewski W. Crystallographic studies on RNA molecules containing pathogenic CNG repeats. 56th Polish Crystallographic Meeting. 26-28 June 2014, Wroclaw, Poland. Invited lecture: Why doing science is fun? Laue Symposium and Laue Memorial Plate (event from UNESCO International Year of Crystallography 2014). 11 April 2014, Poznań, Poland. Kiliszek A., and Rypniewski W. Structural studies of RNA CNG repeats associated with pathogenesis of TREDs. Towards a New RNA World 25th Anniversary of the Institute of Bioorganic Chemistry, Polish Academy of Sciences. 12-14 September 2013, Poznań, Poland. Kiliszek A., Kierzek R., Krzyżosiak W.J., Rypniewski W. Structural analysis of CNG repeats embedded in RNA sequences involved in pathogenesis of TREDs. New Frontiers in Structural Biology. 19-20 January 2012, Poznań, Poland. Co-author of the invited lecture Structural studies of CNG repeats in RNA sequences and implications for the pathogenesis of TREDs. Multi-Pole Approach to Structural Biology. 16-19 September 2011, Warsaw, Poland. Kiliszek A., Kierzek R., Krzyżosiak W.J., Rypniewski W. Structural insights into CAG RNA repeats based on atomic resolution crystal structure. EURASNET Interdisciplinary Focus Meeting: Frontiers in Structural Biology of RNAs & RNPs. 16-18 August 2010, Poznań, Poland. Kiliszek A., Kierzek R., Krzyżosiak W.J., Rypniewski W. Structure of CAG repeats in the RNA duplexes. Implications for the TREDs research. 52th Polish Crystallographic Meeting. 24-25 June 2010, Wroclaw, Poland Kiliszek A., Kierzek R., Krzyżosiak W.J., Rypniewski W. Structure vs. pathogenesis of transcripts containing r(CUG)n runs. 51th Polish Crystallographic Meeting. 25-26 June 2009, Wroclaw, Poland. Kiliszek A., Kierzek R., Krzyżosiak W.J., Rypniewski W. X-ray study of RNA structure containing trinucleotide repeats of type CNG. 10th Heart of Europe Bio-Crystallography Meeting. 27-29 September 2007, Bedlewo, Poland.
Previous experience in educating doctoral students and students	Supervisor of M.Sc. Joanna Kasprzyk; received a diploma in 2020. Supervisor of M.Sc. Anna Kaminska; received a diploma in 2020. Supervisor of PhD student Marcin Ryczek; received a diploma in 2024 Supervisor of PhD students: Martyna Pluta, Faizan, ongoing studies. Supervisor of M.Sc. Antonina Gonet, ongoing studies. Supervisor of M.Sc. Miłosz Papierski, ongoing studies

	Teaching – Series of lectures entitled “Methods for determination and evaluation of three-dimensional structure of biomolecules” for PhD students at Institute of Bioorganic Chemistry PAS in 2021.

Lecturer	**Dr hab. Jacek Kolanowski**
A short CV, professional titles and academic degrees, and place of employment	2023: Habilitation Awarded, Institute of Bioorganic Chemistry, Polish Academy of Sciences 2010 – 2013: PhD in Chemistry, École Normale Supérieure de Lyon, France (Awarded Très Honorable) 2004 – 2009: BSc in Biotechnology (Awarded 2007) and MSc in Chemistry (Awarded 2009) (Maxima Cum Laude), Adam Mickiewicz University, Poland - Victor Chang Cardiac Research Institute, Sydney, Australia as Head, Research Facilities and Innovation Centre (full-time) - Institute of Bioorganic Chemistry PAS, Poznań, Poland as adjunct at the Centre for Chemical Biology (part-time)
Description of interests, most important scientific achievements	Jacek’s research focuses on the design, synthesis, and utilization of small-molecule chemical compounds for visualizing and controlling biochemical parameters in biological models. This includes the development of dual analyte molecular probes, small molecule tools for macromolecules’ labeling, high-content and high-throughput assays, and advanced methods in disease investigation, drug candidate identification, and mechanism deconvolution. His interdisciplinary expertise spans organic, bio(in)organic, and synthetic chemistry, as well as analytical chemistry, fluorescent and bioluminescent spectroscopy, molecular imaging, sensing and drug discovery. Jacek is experienced in collaborating with large interdisciplinary teams, designing R&D workflows and acquiring research and industrial funding, developing biochemical and cellular assays and reagents, and validating and testing technologies. His key research contributions include the creation of tools and methodologies to enhance the detection of elusive biological analytes, such as metal ions and reactive oxygen species. He has also consolidated theoretical knowledge and established practical guidelines for designing, developing, validating, and using dual analyte probes for cellular applications. This highly cited publication has provided a foundation for the true development of such tools and has largely led to a 10-fold increase in the number of such probes since 2018, when this work was first published. Additionally, Jacek has established the Centre for Chemical Biology, which houses the first academic high-throughput screening platform in

	Poland and one of the few Minflux fluorescent microscopes worldwide with single-nanometer resolution imaging capacity. The Centre is one of the leading sites of this type in Europe, facilitating academic and industrial research and technology development through partnerships and collaborations.
List of publications from the last 4-5 years	List of publications from the last 5 years (26 peer-reviewd publications in JCR-listed journals, 1 book chapter, 700 citations without self-citations, H-index 13, ORCID: 0000-0002-6779-4736 Web of Science database search in authors: "Kolanowski Jacek OR Kolanowski JL") 1. Yvonne S.L. Choo, **Jacek L. Kolanowski**, Jovana V. Milić, Fun Man Fung, "The Retrosynthesis Mindset: A Problem-Solving tool", *Synlett*, 2024. 2. A Golczak, D Prukala, E Sikorska, M Gierszewski, C Cherkas, D Kwiatek, A Kubiak, N Varma, T Pedzinski, S Murphree, R Cibulka, L Mrówczynska*, JL Kolanowski*, M Sikorski*, Tetramethylalloxazines as efficient singlet oxygen photosensitizers and potential redox-sensitive agents, Scientific Reports 2023; 13(1). 3. M Insinska-Rak, A Golczak, M Gierszewski, Z Anwar, V Cherkas, D Kwiatek, E Sikorska, I Khmelinskii, G Burdzinski, R Cibulka, L Mrówczynska*, JL Kolanowski*, M Sikorski*, 5-Deazaalloxazine as photosensitizer of singlet oxygen and potential redox-sensitive agent. Photochemical & Photobiological Sciences 2023, 22(7), 1655-1671. 4. BB Boumelhem, C Pilgrim, VE Zwicker, JL Kolanowski, JH Yeo, KA Jolliffe, EJ New, ML Day, SJ Assinder, ST Fraser*, Intracellular flow cytometric lipid analysis - a multiparametric system to assess distinct lipid classes in live cells. Journal of Cell Science 2022; 135 (5): jcs258322. 5. A Zarecki, JL Kolanowski, WT Markiewicz*, Microwave-Assisted Catalytic Method for a Green Synthesis of Amides Directly from Amines and Carboxylic Acids. Molecules 2020, 26(8), 1761. 6. KG Leslie, JL Kolanowski, N Trinh, S Carrara, MD Anscomb, K Yang, CF Hogan, KA Jolliffe*, EJ New*, Nicotinamide-Appended Fluorophores as Fluorescent Redox Sensors, 2020, Australian Journal of Chemistry 73, 10, 895-902. 7. M Hu, KE Schulze, R Ghildyal, DC Henstridge, JL Kolanowski, EJ New, Y Hong, AC Hsu, PM Hansbro, PAB Wark, MA Bogoyevitch, DA Jans*, Respiratory Syncytial Virus co-opts host mitochondrial function to favour infectious virus production. eLife, 2019, 8, e42448. 8. TJ Ozumerzifon, RF Higgins, JP Joyce, JL Kolanowski, AK Rappe, MP Shores*, Evidence for Reagent-induced Spin-State Switching in Tripodal Fe(II) Iminopyridine Complexes. Inorganic Chemistry, 2019, 2(12), 7785. 9. P Brennecke, D Rasina, O Aubi, K Herzog, J Landskron, B Cautain, F Vincente, J Quintana, J Mestres, B Stechmann, B Ellinger, J Brea, JL Kolanowski, R Pilarski, M Orzaez, A Pineda-Lucena, L Laraia, F Nami, P Zielenkiewicz, K Paruch, E Hansen, JP von Kries, M

	Neuenschwander, E Specker, P Bartunek, S Simova, Z Lesnikowski, S Krauss, L Lehtio, U Bilitewski, M Bronstrup, K Tasken, A Jirgenson, H Lickert, MH Clausen, JH Andersen, MJ Vincent, O Genilloud, A Martinez, M Nazare, W Fecke, P Gribbon, EU-OPENSCREEN: A Novel Collaborative Approach to Facilitate Chemical Biology. SLAS Discovery 2019
Managing and participating in research projects	6 projects as principal investigator (4 national in Poland and 2 fellowships from France), 7 projects as Work Package/Task Coordinator (with own task budget, including 5 European projects and 2 national infrastructural projects), and over 20 projects as Co-investigator, including at least 11 projects from national project competitions (6 in Poland, 3 in Australia, 2 in France), as well as bilateral academic and industrial projects with national and international partners. Program: OPUS-15, National Science Centre, Poland. Project no: 2018/29/B/ST4/01498; (2019-2023). "Small-molecule tools for studying the local protein microenvironment". Program: SONATA-13, National Science Centre, Poland. Project no: 2017/26/D/NZ1/01234; (2018-2023). "Masked Bioluminogenic Substrates for Selective Imaging of Cancer Biochemical Parameters". HOMING Funding Scheme – Foundation for Polish Science, Poland. Project no: 0071/COV19 (POIR.04.04.00-00-441F/17-00); (2020-2022) Additional funding for new research tasks related to the COVID-19 pandemic, selected based on the Supplement to the Competition Documentation for Measure 4.4. of the SGOP in terms of changes in the projects under implementation of 15 April 2020. "Development of probes to check compounds blocking the action of two proteins responsible for the penetration of SARS-CoV-2 into human cells.". HOMING Funding Scheme – Foundation for Polish Science, Poland. Project no: POIR.04.04.00-00-441F/17-00; (2018-2022). "MultiGATE: dual-analyte responsive fluorescent probes for a real-time multi-parametric sensing in cellular models" - 798 000 PLN. Fondation ARC pour la Recherche sur le Cancer, Outgoing Postdoctoral Fellowship (SAE20130606716); JL Kolanowski (2014-2015), "Fluorescent tools for redox profiling to improve prostate cancer diagnosis". La Ligue Nationale Contre le Cancer, PhD Fellowship (20091210150135991); JL Kolanowski, J Hasserodt, (2010-2012), "Development of an intelligent contrast agent for the visualisation of gene expression by MRI in the live animal"

	Program: HORIZON-CL4-2022-DIGITAL-EMERGING-01-35, HORIZON Europe, Project no: 101092971 (2023 – 2026). Project iCARE: "Advanced characterisation methodologies to assess and predict the health and environmental risks of nanomaterials (RIA)", project leader: Ernesto Alfaro (INL, Portugal). Program: HORIZON-INFRA-2021-SERV-01-02 (Horizon Europe),, project: Integrated Services for Infectious Disease Outbreak Research – ISIDORe, large consortial project (2022-2027), project leader: European Research Infrastructure on Highly Pathogenic Agents, France Program: HORIZON-INFRA-2021-SERV-01-01-05 (Horizon Europe), project: Integrated SERVices supporting a sustainable AGROecological transition – AgroServ; – large consortial project (2022 – 2026), project leader: Centre National de la Recherche Scientifique CNRS, France (dr. Michel Boer) ERC Starting Grant (Horizon Europe), Project no: 101042642 (2022 – 2026). "Alternative gene ends: the crosstalk of RNA cleavage and transcription termination". Project leader: dr hab. Kinga Kamieniarz-Gdula (Adam Mickiewicz University in Poznań) Program: H2020-INFRADEV-03-2018-2019, (Horizon 2020), Project no: SEP-210496506 (2018 – 2023). EU-OPENSCREEN-DRIVE "Ensuring long-term sustainability of excellence in chemical biology within Europe and beyond", leader: EU-OPENSCREEN ERIC. Infrastructure funding programme from the Polish Map of Research Infrastructure, OPI, Project no: POIR.04.02.00-00-C004/19 (2021 - 2023). "NEBI – National Center for Imaging Research in Biological and Biomedical Sciences" (Our budget: 17 400 000 PLN) Funding to join the European Research Infrastructure Consortium EU-OPENSCREEN ERIC, Ministry of Science and Higher Education (now MEiN), (2018-2023). "POL-OPENSCREEN - Polish Screening Infrastructure Platform for Biological Chemistry" (our budget: 12,760,000 PLN).
Research fellowships	05.2015 – 05.2017 Postdoctoral Research Associate (School of Chemistry, The University of Sydney, Australia): Fluorescent approaches to studying metal ions in biological systems. Independently conducting and supervising the chemistry component of a large interdisciplinary grant, designing and performing basic tests on cell models (toxicity tests, fluorescence microscopy – confocal and FLIM, including advanced data analysis); conducting and managing 9 other research projects, writing and editing scientific manuscripts,

	proofreading theses, reviewing articles, managing a research laboratory with 14 people on day-to-day basis; senior safety delegate of the PI; establishing and participating in 12 multidisciplinary local and global scientific collaborations. 04.2014 – 05.2015 Fondation ARC Postdoctoral Research Fellow (School of Chemistry, The University of Sydney, Australia): MRI and fluorescent tools for redox profiling to improve prostate cancer diagnosis. Independently conducted interdisciplinary scientific project (organic and physical chemistry, biological studies on cell cultures); co-managed a research laboratory with 8 people on daily basis, established and participated in scientific collaborations; wrote and edited scientific manuscripts and reviewed undergraduate theses, initiating collaborations with interdisciplinary/international partners. 01.2020 – 10.2013 PhD student (École Normale Supérieure de Lyon, France): Bispidine-iron(II) complexes as a novel platform for the design of magnetogenic probes. Developed and conducted interdisciplinary scientific projects with limited supervision (organic, inorganic, and physical chemistry, radiochemistry); was responsible for co-maintenance of the LCMS equipment, regularly presented scientific results during the conferences and seminars, wrote drafts of scientific papers, transferred expertise to continuing PhD students. 10.2009 – 12.2009 Postgraduate researcher (Jacobs University, Bremen, Germany): New selective fluorinating agents Worked on the elaboration of new methods of chemical synthesis in collaboration with the industry, digitalised a chemical database with over 1000 compounds. 10.2008 – 02.2009 Research assistant / MSc student (University of Bremen, Germany): Synthesis of ortho-fluorinated arylphosphonates. Extensively trained in techniques of multistep organic synthesis and characterization methods. 10.2007 – 02.2008 Internship via LLP Erasmus programme (University of Bremen, Germany): Phosphorus and Fluorine-based organic compounds. Synthesis, reactions and applications. Trained in a variety of techniques of organic synthesis, characterisation and purification.
Scientific cooperation with international and domestic research centers	Scientific collaboration within numerous international consortia, including EU-OPENSCREEN-ERIC (33 partners from 10 countries), POL-OPENSCREEN (6 Polish partners), NEBI (4 Polish partners), as well as

	within the iCARE project consortium (11 international partners, including industrial partners). Bilateral cooperation with 5 business partners (3 foreign and 3 Polish), as well as with a wide range of partners and research groups in Poland and abroad, including, among others, Prof. Marek Sikorki (Adam Mickiewicz University in Poznań), Prof. Kinga Kamieniarz-Gdula (Adam Mickiewicz University in Poznań), Prof. Elizabeth New (University of Sydney), Prof. Wojciech Chrzanowski (University of Sydney), Prof. Jens Hasserodt (ENS Lyon), Prof. Sandeep Ghorpade (University of Cape Town), and in the past also with Prof. Folma Buss (University of Cambridge), Prof. Claudia Viegel (Technical University Munich), Prof. Stuart Fraser (University of Sydney), Prof. Matthew Shores (Colorado State University).
Lectures delivered in Poland and abroad	Over 20 invited seminars in Poland (11), Australia (3), Switzerland, Germany, Spain, France, Kazakhstan, and Nepal. 15 panel / invited speaker interventions on science policy and science advice events. 16 talks at national and international scientific conferences (6 as invited speaker).
Previous experience in educating doctoral students and students	Lectures and group teaching: - Conducting lectures for 1st-year Chemistry in English for 2 years at the University of Sydney (>300 students in the group), coordinating laboratories for 1st, 2nd, and 3rd-year Chemistry (supervision of 4 – 10 tutors during practical classes – experimental laboratories from various fields of chemistry), development and implementation of "flipped lectures", selected as the best lecturer for 1st-year Chemistry in the University of Sydney survey, - Conducting lectures for 1st-year Pharmaceutical Engineering students (PP / Poznań University of Medical Sciences) for two years, - Conducting lectures for second-year Master's students at the Faculty of Biology, Adam Mickiewicz University (AMU), major: Biotechnology in English (2021), - Teaching one course for PhD students at the Faculty of Chemistry, AMU (1 year), for Environmental Doctoral Studies at ICHB PAS (in English), and for doctoral students of the Doctoral School at ICHB PAS (in English – 2023). Individual scientific supervision and mentoring: - Scientific supervision and mentoring for over 25 interns, undergraduate, master's, and doctoral students from 11 countries. - Main scientific supervisor for the preparation of 6 master's and bachelor's theses. - Scientific supervision for 4 doctoral students (as the main supervisor) and 2 doctoral students as assistant supervisor (one of whom has already obtained a doctoral degree and the others are in progress)

LECTURERS - PDS IPAS – PHYSICAL SCIENCES

Lecturer	**Prof. dr hab. Tomasz Toliński** Institute of Molecular Physics PAS
A short CV, professional titles and academic degrees, and place of employment	Professor (2022) natural sciences/physical sciences Habilitated Doctor (2006) physical sciences/physics Title awarded by the Institute of Molecular Physics PAS Doctor (1998) physical sciences/physics Title awarded by the Institute of Molecular Physics PAS Master (1994) experimental physics Title awarded by Adam Mickiewicz University in Poznań **Employment:** Since 1.10.1994: Institute of Molecular Physics PAS
Description of interests, most important scientific achievements	**Area of specialization (solid state physics): intermetallic compounds**; Kondo lattices and fluctuating valence systems; quantum critical point; magnetocaloric effect; thermoelectric power; semimetals and topological insulators. **Most important achievements:** Magnetocaloric effect: magnetocaloric effect and specific heat in Mn_5Ge_3 compound; first studies of MCE for compounds such as: $GdNi_4Al$ and $GdNi_4Si$, $NdNiAl_4$, $NdNi_4Si$, Dy_5Si_3, $DyNi_4Si$, $DyCo_3B_2$; MCE near room temperature for systems derived from Gd_5Si_4 compound. Thermoelectric power: idea and application of modification of the phenomenological model of thermoelectric power to estimate the splitting of the ground state by crystal electric field; measurements of thermoelectric power and thermal conductivity and application of a modified model of electron scattering from the conduction band to a narrow f-band for interpreting thermoelectric power in CeT_4M compounds (T = Cu, Ni; M = In, Ga); modeling of thermoelectric power in cerium compounds. Cerium-based intermetallic compounds: inclusion of crystal electric field effects based on self-developed software – analysis of magnetic susceptibility, inelastic neutron scattering and specific heat results for many studied cerium-based intermetallic compounds; observation, based on a number of methods, of spin-glass behavior in CeCuxNi4-xMn and Ce0.9Nd0.1Ni4Mn compounds; confirmation of deviations from known Landau Fermi liquid (NFL – non-Fermi liquid behavior) for a series of $CeCo_{1-x}Fe_xGe_3$ alloys. Semimetals and topological insulators: studies of magnetic properties for EuIn2As2 crystal, which under certain conditions is an axion topological insulator and a higher-order topological insulator.

List of publications from the last 4-5 years	1) K. Ciesielski, K. Synoradzki, I. Wolańska, P. Stachowiak, L. Kępiński, A. Jeżowski, T. Toliński, D. Kaczorowski, *High-temperature power factor of half-Heusler phases RENiSb (RE = Sc, Dy, Ho, Er, Tm, Lu)*, J. Alloys Compd. **816**, 152596 (2020). 2) P. Skokowski, A. Marczyńska, S. Pacanowski, T. Toliński, B. Szymański, Ł. Majchrzycki, L. Smardz, *X-ray photoelectron and resistivity studies of the Pd-covered Ce thin films* J. Magn. Magn. Mater. **499**, 166283 (2020). 3) W. Lyskawinski, W. Szelag, C. Jedryczka, T. Tolinski, *Finite Element Analysis of Magnetic Field Exciter for Direct Testing of Magnetocaloric Materials' Properties* Energies **14**, 2792 (2021) 4) T. Toliński *Thermoelectric Power in Ce Systems with Unstable Valence* Metals **11**, 1475 (2021). 5) P. Skokowski, K. Synoradzki, M. Werwiński, T. Toliński, A. Bajorek, G. Chełkowska, *Influence of Pr substitution on the physical properties of the $Ce_{1-x}Pr_xCoGe_3$ system: Combined experimental and first-principles study* Phys. Rev. B **102**, 245127 (2020). 6) K. Synoradzki, P. Skokowski, Ł. Frąckowiak, M. Koterlyn, T. Toliński, *Magnetocaloric properties in cryogenic temperature range of ferromagnetic $CeSi_{1.3}Ga_{0.7}$ alloy,* J. Magn. Magn. Mater. **547**, 168886 (2022). 7) K. Synoradzki, P. Skokowski, Ł. Frąckowiak, M. Koterlyn, J. Sebesta, D. Legut, T. Toliński, *Ferromagnetic $CeSi_{1.2}Ga_{0.8}$ alloy: Study on magnetocaloric and thermoelectric properties* J. Magn. Magn. Mater. **547**, 168833 (2022). 8) K. Synoradzki, K. Urban, P. Skokowski, H. Głowiński, T. Toliński *Tuning of the Magnetocaloric Properties of Mn_5Ge_3 Compound by Chemical Modification* Magnetism **2**, 56 (2022). 9) T. Toliński, D. Kaczorowski, *Magnetic properties of the putative higher-order topological insulator $EuIn_2As_2$*

	SciPost Phys. Proc. **11**, 005 (2023). 10) T. Toliński, Z.S. Piskuła, W. Nowicki, *Systematic studies of the magnetocaloric properties for the $La_{0.65}Ca_{0.25}A_{0.1}MnO_3$ series (A = alkali metal and alkaline earth metals)* J. Magn. Magn. Mater. 587, 171258 (2023).
Managing and participating in research projects	Main executor Promotorial Grant financed by KBN, supervisor: Prof. J. Baszyński, "Exchange coupling in Fe/Ag/Fe trilayers - role of magnetic and non-magnetic layer", 2 P03B 050 11, completion date – 1997. Executor, Research project financed by KBN, supervisor: Prof. J. Baszyński, "Oxide materials for magnetoresistive sensors", 7 T08D 011 13, completion date – 2000. Main executor, Research project financed by KBN, supervisor: doc. dr hab. A. Kowalczyk, "Magnetic and electronic properties of RNi_4Cu (R = rare earth) intermetallic compounds", 1 PB03 077 28, completion date – 2006. Head, Research project financed by KBN, "Magnetism, thermodynamic and transport properties of cerium compounds with $CaCu_5$ structure", N N202 1213 33, 01.10.2007 - 30.09.2009. Head, Research project financed by NCS, "Magnetocaloric effect in intermetallic compounds", N N507 219540, 25.05.2011 – 24.11.2013. Executor/consortium member, Research project financed by NCS, supervisor: prof. dr hab. inż. Dariusz Kaczorowski, INTiBS, Wrocław. "Anomalous electron transport in magnetic insulators and topological semimetals", 2021/41/B/ST3/01141, 21.01.2022 – 20.01.2025.
Research fellowships	European School of Physics: "3rd EPS Southern European School of Physics, Science and Technology of Magnetic Films and Nanostructures, 30 June - 11 July 1997, Porto, Portugal". Long-term foreign internship: Germany, Free University of Berlin, Institute of Physics; scientific research stay in the years 01.12.2002-30.04.2004.
Scientific cooperation with international and domestic research centers	The wide range of Professor Toliński's specialization results from numerous scientific internships in foreign institutions and extensive international and domestic cooperation with leading scientific

	centers, including the University of Berlin in Germany, Institut Laue Langevin in Grenoble, France. These centers include: o Włodzimierz Trzebiatowski Institute of Low Temperature and Structure Research PAS in Wrocław o August Chełkowski Institute of Physics, University of Silesia o Faculty of Chemistry, Adam Mickiewicz University o Department of Mechatronics and Electrical Machines, Poznań University of Technology o Institute of Experimental Physics SAS, Košice, Slovakia o Institut Laue Langevin, Grenoble o VSB - Technical University of Ostrava, Czech Republic
Lectures delivered in Poland and abroad	Lectures delivered in Poland and abroad as part of conferences, symposia, invited lectures at universities **Conference papers delivered in person**: 1. T. Toliński, V. Ivanov, A. Kowalczyk, Electrical resistivity of R Ni4Cu and R Ni4Al, MAG-EL-MAT meeting of the members, Będlewo, 'New materials for magnetoelectronics 2005', invited. 2. T. Toliński, A. Kowalczyk, V. Ivanov, G. Chełkowska, M. Timko, Mixed-valence and Kondo-like effect in CeNi4 X (X = B, Al, Ga), 12-th Czech and Slovak Conference on Magnetism, Košice, 12-15 July 2004, oral. 3. T. Toliński, K. Lenz, J. Lindner, E. Kosubek, C. Sorg, M. Bernien, A. Scherz, H. Wende, K. Baberschke, Interlayer exchange coupling and damping processes in coupled trilayer systems, School on Nanostructured Systems, Będlewo 2004, oral. 4. T. Toliński, K. Lenz, J. Lindner, K. Baberschke, A. Ney, T. Hesjedal, C. Pampuch, L. Däweritz, R. Koch, K.H. Ploog, Epitaxial MnAs films studied by ferromagnetic and spin wave resonance, Workshop: III. Wandlitz Days On Magnetism: Local Moment Ferromagnets: Unique Properties for Modern Application, Wandlitz (Berlin) 15-18.03.2004, invited. 5. T. Toliński, K. Lenz, J. Lindner, E. Kosubek, K. Baberschke, Evidence of spin-pumping effect in the FMR of coupled trilayers, MA 28.12, Konferencja sprawozdawcza: Fruehjahrstagung des Arbeitskreises Festkoerperphysik bei der DPG, Regensburg 8-12.03.2004, oral. 6. T. Toliński, Magnetic properties of single Fe films and coupled Fe/Ag/Fe trilayers, Workshop: ´Struktur und Magnetismus ultradünner Filme', Chandolin, January 2003, oral. 7. J. Baszyński, T. Toliński, Magneto-tunneling effects in La1-xSrxMnO3 perovskite, 6th Korean-Polish Joint Seminar on Physical Properties of Magnetic Materials, 12-15.06.2000 Poznań, Będlewo oral. 8. J. Baszyński, T. Toliński, Gigantic Low-field tunneling magnetoresistance in La0.7Sr0.3MnO3 perovskites at room

	temperature, Mass and Charge Transport in Inorganic Materials conference, Venice-Jesolo Lido-Italy, May 28 - June 2, 2000, oral. **Invited seminars:** 1. T. Toliński, Topological semimetals and insulators – basics and example of EuIn2As2, Institute of Low Temperature and Structure Research PAS, Wrocław, 13.03.2024. 2. T. Toliński, Thermoelectric power in intermetallics with lanthanide valence dependent on temperature, Institute of Low Temperature and Structure Research PAS, Wrocław, 18.05.2022. 3. T. Toliński, Energy scales determining the ground state of selected Ce-T-Ge(Si) intermetallics - importance of the crystal field effects, Institute of Physics PAS, Warsaw, 06.04.2022. 4. T. Toliński, Magnetocaloric effect in intermetallics - basics and applications, Institute of Low Temperature and Structure Research PAS, Wrocław, 24.01.2018. 5. T. Toliński, Seebeck effect in intermetallics and beyond, Nanobiomedical Center UAM, Poznań, 20.04.2017. 6. T. Toliński, Valence fluctuation, Kondo effect and magnetic order in the Ce T Al4 and Ce T 4Al compounds (T = Cu, Co, Ni), Helmholtz-Zentrum Berlin für Materialien und Energie GmbH, 17.06.2008. 7. T. Toliński, Electrical resistivity of R Ni4 M (R = lanthanide, M = Al, Cu, B) compounds, AGH, 29.03.2006, Kraków. 8. T. Toliński, Overview of structural, magnetic, transport and electronic properties of R Ni4 X (R = rare earth, X = B, Al), Institut für Festkörperforschung, Forschungszentrum Jülich GmbH, 16.12.2004. 9. T. Toliński, Magnetometric, neutron diffraction and photoemission studies on R Ni4Al (R = rare earth), Institut für Kristallographie, Aachen, 15.12.2004. 10. T. Toliński, Interlayer exchange coupling in Fe/Ag/Fe trilayers on MgO(100) substrates, Poznań - Kharkov Seminar 'Physics of Magnetics', IMP PAS, Poznań, 13-17.01.1997.
Previous experience in educating doctoral students and students	• Series of lectures for doctoral students "Physical foundations and interpretation of selected experimental methods of solid state physics", IMP PAS, 2007/2008. • Lecture on Condensed Matter Physics, Part of a series of lectures "Selected experimental methods of condensed matter physics", title: "Electrical and thermal conductivity and Seebeck effect in bulk materials", IMP PAS, 2013. • Lecture on Condensed Matter Physics, Part of a series of lectures "Selected experimental methods of condensed matter physics", title: "Electrical conductivity, thermal

Lecturer	**Konstantin Tretiakov**
A short CV, professional titles and academic degrees, and place of employment	Master of Science in Engineering: 1994 – Sukhoi State Technical University of Gomel, Gomel, Belarus. Specialization: industrial electronics. Doctor: 2000 – Institute of Molecular Physics PAS. Specialization: physics – solid state physics, statistical mechanics, computer simulation methods. Doctoral dissertation title: "Study of mechanical and thermodynamic stability of model many-body systems using computer simulations." Supervisor: Prof. Dr. Habil. Krzysztof Wojciechowski Habilitated Doctor: 2011 – Institute of Molecular Physics PAS. Specialization: physics, computer simulations of condensed matter. Habilitation dissertation title: "Computer simulations of elastic properties of selected model systems and the search for auxeticity mechanisms."
Description of interests, most important scientific achievements	My scientific interests cover topics related to auxetic properties of materials, thermal conductivity of model systems, computer simulation methods, studies of nanoparticle systems, statistical mechanics of non-equilibrium systems, and the application of statistical distributions in cancer cell movement studies. Such broad scientific interests are a result of two long-term scientific internships at renowned scientific centers abroad and active participation in the work of a research group at my home institution, which conducts research using computer simulations and is well-recognized both domestically and internationally. In summary, the thematic scope of my scientific work mainly concerns statistical physics and computer simulations of many-body systems. My most important scientific achievements are presented below in the form of four thematic areas: a) elastic properties of selected auxetic models, b) thermal conductivity of model argon systems, c) searching for new methods to describe systems with dynamic self-organization, d) description of cancer cell movement based on the theory of stochastic processes. The selection of these achievements is based on my own choice of completed research, which, in my opinion, has significantly contributed to expanding knowledge in the field or indicates new research directions, and is also being continued by me.
List of publications from the last 4-5 years	J. W. Narojczyk, K. V. Tretiakov, J. Smardzewski, and K. W. Wojciechowski, Hardening of fcc hard-spheres crystals by introducing nanochannels: Auxetic aspects, Physical Review E 108, 045003 (2023). K. V. Tretiakov, P. M. Piglowski and K. W. Wojciechowski, Auxeticity modifications and unit cell doubling in Yukawa fcc crystals with [001]-nanochannels filled by hard spheres, Smart Materials and Structures 32, 025008 (2023). J. W. Narojczyk, K. V. Tretiakov and K. W. Wojciechowski, Poissn's Ratio of f.c.c. Hard-Spheres Crystals with Cubic Supercells Containing

	Four Nanochannels Filled by Hard Spheres of Another Diameter, Physica Status Solidi B 259(12), 2200464 (2022). L. Smardzewski, L. Krzyzaniak, K. W. Wojciechowski, K. Pelinski, K. V. Tretiakov and J. W. Narojczyk, Bending Performance and Failure Behavior of Wooden Sandwich Panels with Corrugated Cores, Physica Status Solidi B 259(12), 2200423 (2022). K. V. Tretiakov and K. W. Wojciechowski, Auxeticity and Its Pressure Dependence for Strongly Anisotropic Hard Cyclic Tetramers, Physica Status Solidi - Rapid Research Letters 16(12), 2200288 (2022). K. V. Tretiakov, K. W. Wojciechowski, J. W. Narojczyk, and P. M. Piglowski, Poisson's Ratio of Yukawa Systems with Nanoinclusions: Nanochannel vs. Nanolayer, Computational Methods in Science and Technology 28(3), 81-85 (2022). J. W. Narojczyk, K. V. Tretiakov and K. W. Wojciechowski, Rise of the Poisson's Ratio in f.c.c. Hard Sphere Crystals with the Narrowest Orthogonal Nanochannels Filled by Hard Spheres of Another Diameter, Computational Methods in Science and Technology 28(2), 61-75 (2022). J. W. Narojczyk, K. V. Tretiakov and K. W. Wojciechowski, Partially Auxetic Properties of Face-Centered Cubic Hard-Spheres Crystals with Nanochannels of Different Sizes, Parallel to [001]-Direction and Filled by Other Hard Spheres, Physica Status Solidi B 259, 2200006 (2022). K. V. Tretiakov and K. Hyzorek, Role of the phonon confinement effect and boundary scattering in reducing the thermal conductivity of argon nanowire, The Journal of Chemical Physics 154, 054702 (2021). K. V. Tretiakov and K. W. Wojciechowski, Auxetic, Partially Auxetic, and Nonauxetic Bechaviour in 2D Crystals of Hard Cyclic Tetramers, Physica Status Solidi - Rapid Research Letters 14, 2000198 (2020). K. V. Tretiakov and K. W. Wojciechowski, The Influance of the Soft Yukawa Potential and Hard Core Interactions on Auxeticity of the Face Centered Cubic Crystal of Hard-Core Repulsive Yukawa Particles, Physica Status Solidi B 257, 2000194 (2020).
Managing and participating in research projects	<u>Completed projects, international competitions:</u> • Non-Equilibrium Energy Research Center (NERC), Northwestern University, Evanston, United States. Executor in the NERC project concerning energy dissipation in non-equilibrium systems funded by: Energy Frontier Research Center funded by the U.S. Department of Energy, Office of Science, Office of Basic Energy Sciences under Award Number DE-SC0000989. <u>Completed projects, national competitions</u>: • Executor of KBN grant: 8T11F 010 08p04, 1995 – 1997, Research project title: "Application and development of large-scale computation methods for modeling atomic and molecular systems".

	• Executor of KBN grant: 8T11F 01214, 1998 – 2000, Research project title: "Research on complex physical systems using large-scale computations". • Main executor of KBN promotional grant: 2 P03B168 17, 1999 – 2000, Research project title: "Application of computer simulations to study the stability of selected structures in hard-core particle systems". • Head of KBN grant: 5 P03B 060 20, 2001 – 2002, Research project title: "Using Poisson's ratio to locate the stability region of rotational phases in model molecular systems". • Executor of KBN grant: 4T11F 01023, 2002 – 2005, Research project title: "Computer simulations of auxetics". • Executor of MniSzW grant: N202 070 32/1512, 2007 – 2009, Research project title: "Physical properties of soft spheres and microgels". • Head of MniSzW grant: N N202 261438, 2010 – 2013, Research project title: "Influence of particle size polydispersity on elastic properties of classical models". • Executor of NCS OPUS 3 grant: 2012/05/B/ST3/03255, 2013 – 2016, Research project title: "Stationary states in spatially confined microscopic systems: auxetic microslits and stimulated microgel particles in microchannels". <u>Projects in progress, national competitions:</u> • Executor of NCS OPUS 14 grant: 2017/27/B/ST3/02955, 2018 – 2023, Research project title: "Auxeticity through inclusions".
Research fellowships	<u>Long-term scientific internships and stays at foreign research centers:</u> • 11/2002 – 11/2004 (2 years): postdoctoral scientific internship, Condensed Matter Group, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy. • 01/2007 – 01/2009 (2 years): postdoctoral scientific internship, Department of Chemical and Biological Engineering, Northwestern University, Evanston, United States. • 04/2011 – 06/2011 (3 months): conducting research and participating in the work of a research team abroad, funded through a competition, Non-Equilibrium Energy Research Center (NERC), Northwestern University, Evanston, United States. <u>Short-term scientific stays at foreign research centers:</u> • 06/2002 (2 weeks): research stay, University of Freiburg, Freiburg, Germany. • 12/2004 (2 weeks): research stay, Sukhoi State Technical University of Gomel, Gomel, Belarus. • 05/2005 (2 weeks): research stay, Condensed Matter and Statistical Physics Group, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy.

	• 09/2006 – 10/2006 (1 month): conducting scientific research, Condensed Matter and Statistical Physics Group, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy. • 10/2009 – 12/2009 (2 months): conducting scientific research, Department of Chemical and Biological Engineering, Northwestern University, Evanston, United States. • 09/2010 (2 weeks): research stay, Sukhoi State Technical University of Gomel, Gomel, Belarus. • 07/2011 (2 weeks): research stay, Condensed Matter and Statistical Physics Group, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy. • 07/2013 (3 weeks): research stay, Sukhoi State Technical University of Gomel, Gomel, Belarus. • 08/2015 (2 weeks): research stay, Condensed Matter and Statistical Physics Group, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy. • 06/2017 (3 weeks): research stay, Sukhoi State Technical University of Gomel, Gomel, Belarus. • 08/2021 (3 weeks): research stay, Faculty of Mechanical Engineering, University of Maribor, Maribor, Slovenia. • 07/2022 – 08/2022 (3 weeks): research stay, Department of Chemical Engineering, Columbia University, New York, United States. • 08/2023 (2 weeks): research stay, Condensed Matter and Statistical Physics Group, Abdus Salam International Centre for Theoretical Physics, Trieste, Italy.
Scientific cooperation with international and domestic research centers	Abdus Salam International Centre for Theoretical Physics, Trieste, Italy. Poznań University of Life Sciences, Poznań, Poland. Columbia University, New York, United States.
Lectures delivered in Poland and abroad	List of presentations at national or international scientific or artistic conferences, specifying invited lectures and plenary lectures. Before obtaining a doctoral degree: 1. K. V. Tretiakov and K. W. Wojciechowski, Application of a pseudorandom number generator based on the Weyl sequence for Monte Carlo simulation of many-body systems, VI National Conference "Computer-aided scientific research", Wrocław - Polanica Zdrój, October 28-30, 1999, Proceedings of the VII National Conference Computer-aided scientific research, pp. 239-244, Wrocław, 1999. 2. K. V. Tretiakov, K. W. Wojciechowski, A. C. Brańka, Simulations of elastic constants of hard cyclic pentamers, VII National Conference "Computer-aided scientific research", Wrocław - Polanica Zdrój, October 26-28, 2000, Proceedings of the VII National Conference Computer-aided scientific research, pp. 145-150, Wrocław, 2000. After obtaining a doctoral degree: 3. K. V. Tretiakov, K. W. Wojciechowski, Simulations of phase transition between isotropic phases of planar penta- and heptamers, Edited by J. Rybicki and A. Tylikowski, VIII Scientific Workshop of PTSK

	Simulation in research and development, Gdańsk-Sobieszewo, August 30 – September 1, 2001, pp. 380-383, TASK Publishing, Gdańsk 2002. 4. K. V. Tretiakov, K. W. Wojciechowski, Monte Carlo simulation of hard body systems with extreme values of Poisson ratio, Workshop on Auxetics and Related Systems, Będlewo near Poznań, Poland, June 27–30, 2004, invited. 5. K. V. Tretiakov, Simulation of elastic properties of soft particles in two and three dimensions, 2nd Workshop on Auxetics and Related Systems, Będlewo near Poznań, Poland, August 19–23, 2005, invited. 6. K. V. Tretiakov, K. W. Wojciechowski, Elastic properties of the disperse soft discs in two dimensions, 3rd International Conference on Physics of Disordered Systems, Gdańsk, Poland, September 18–21, 2005. 7. K. V. Tretiakov, Auxetics – materials with anomalous Poisson's ratio, 13th International School-Conference Foundations & Advances in Nonlinear Science, Minsk, Belarus, September 26–28, 2006. 8. K. V. Tretiakov and K. W. Wojciechowski, Negative Poisson's Ratio in a Two-Dimentional Lennard-Jones System, 3rd International Conference and 7th International Workshop on Auxetics and Related Systems, Gozo&Malta, Malta, 19-23 July, 2010. 9. K. V. Tretiakov, Mechanism of the Adsorption of Nanoparticles on SiO2 surface, 15th International School-Conference Foundation & Advances in Nonlinear Science, Minsk, Belarus, September 21, 2010. After obtaining a habilitated doctoral degree: 10. K. V. Tretiakov, Polymorphism at Dynamical Self-Assembled System driven by Minimum Energy Dissipation Rate, Joint Conferences on Advanced Materials – Functional and Nanostructured Materials, Szczecin, Poland, 6-9 September, 2011, invited. 11. K. V. Tretiakov, Relationship between energy dissipation rate and probabilities of non-equilibrium assemblies, Conference on Friction and Energy Dissipation in Man-made and Biological Systems, Trieste, Italy, 5-8 November 2013, invited. 12. K. V. Tretiakov and K. W. Wojciechowski, Auxeticity in model systems with the size polydispersity of particles, 5th International Conference Auxetics and other materials and models with "negative" characteristics, 10th International Workshop Auxetics and related systems, Poznań, Poland, 15-19 September, 2014. 13. P. M. Pigłowski, K. W. Wojciechowski and K. V. Tretiakov, Influence of nanochannels on auxeticity in Yukawa crystals, 6th International Conference Auxetics and other materials and models with "negative" characteristics, Malta 14-18 September, 2015. 14. K. V. Tretiakov, P. M. Pigłowski, and K. W. Wojciechowski, Auxeticity of Yukawa crystals with nanoslits and nanochannels, 7th International Conference Auxetics and other materials and models with "negative" characteristics, Szymbark, Poland, 12-16 September, 2016, invited. 15. K. V. Tretiakov, Order from Disorder: Dynamic Self-Assembly Driven by Minimum Energy Dissipation Rate, XVIII International conference & School Foundations & Advances in Nonlinear Science, Minsk, Belarus, 27 September – 1 October, 2016, invited.

	16. K. V. Tretiakov, Auxeticity of Yukawa crystals with size polydispersity of particles, 8th International Conference Auxetics and other materials and models with “negative” characteristics, Heraklion, Greece, 11-15 September, 2017, invited. 17. K. V. Tretiakov, Auxetic properties of colloid crystal models with polydispersity of particle sizes, XXVIII Symposium Vibrations in Physical Systems, Będlewo, Poland, May 15-17, 2018. 18. K. V. Tretiakov, Does the polydispersity of particle sizes increase the auxeticity of model colloidal crystals?, 11th International Conference of Electrical, Transport, and Optical Properties on Inhomogeneous Media, Krakow, Poland, July 16-20, 2018. 19. K. V. Tretiakov, Selective auxeticity enhancement caused by nanochannels’ geometry in Yukawa crystal, 9th International Conference and 14th International Workshop Auxetics and Related Systems with "Negative" Characteristics, Sheffield, United Kingdom, 10-13 September, 2018. 20. K. V. Tretiakov and K. Hyżorek, Influence of strong geometrical confinements on the thermal conductivity of argon — a molecular dynamics study, XIX International conference & School Foundations & Advances in Nonlinear Science, Minsk, Belarus, 24–28 September, 2018, invited. 21. K. V. Tretiakov and K. W. Wojciechowski, Elastic properties of two-dimensional systems of hard cyclic tetramers, 10th International Conference Auxetics and other materials and models with "negative" characteristics and 15th International Workshop Auxetics and related systems, Bedlewo near Poznan, Poland, 2-6 September, 2019, invited. 22. K. V. Tretiakov and J. W. Narojczyk and P. M. Piglowski and K. W. Wojciechowski, Poisson’s ratio of Yukawa systems with nanoinclusions: nanochannel vs nanolayer, 13th International Congress on Artificial Materials for Novel Wave Phenomena - Metamaterials 2019, VI-312, Rome, Italy, September 16th - 21th 2019, invited. 23. K. V. Tretiakov, Lévy-like movement patterns of metastatic cancer cells, XX International conference & School Foundations & Advances in Nonlinear Science, Minsk, Belarus, 28 September – 2 October 2020, (online session). 24. K. V. Tretiakov, Strategy locomotion of metastatic cancer cells: Is it a Lévy-like movement?, The 17th International Conference on Functional and Nanostructured Materials, Paralia Katerinis, Greece, 4-11 September 2021. 25. K. V. Tretiakov, K. W. Wojciechowski, Auxetic, partially auxetic, and non-auxetic behavior in crystals of hard cyclic tetramers, 47th Congress of Polish Physicists, Bydgoszcz, Poland, September 19-23, 2021. 26. K. V. Tretiakov, Thermal conductivity of argon nanowire: a molecular dynamics study, The International Conference Simulations of Functional Materials, January 20-22, 2022, Poznań, Poland, plenary. 27. K. V. Tretiakov, Heat conduction of liquid argon in nanochannels and argon nanowires from molecular dynamics simulations, The 18th International Conference on Functional and Nanostructured Materials, Zielona Góra, September 26-28, 2022, invited.

	28. K. V. Tretiakov, Do cancer cells exhibit Lévy movements? 48th Congress of Polish Physicists, Gdańsk, Poland, September 1-9, 2023, invited. 29. K. V. Tretiakov, Auxeticity modifications and unit cell doubling in Yukawa crystals with nanochannels filled by hard spheres, International Conference on Mechanical Metamaterials 2023, Manchester UK, September 4-6, 2023. List of lectures and scientific seminars delivered at universities or scientific institutes other than the lecturer's employing unit, personally delivered invited seminars: After obtaining a doctoral degree: 1. K. V. Tretiakov, Auxetic phase in a planar “molecular” system, University of Freiburg, Freiburg, Germany, June 26, 2002. 2. K. V. Tretiakov, Thermal conductivity of solid argon from MD simulation, Laboratory for Physical Study, The Pavel Sukhoi State Technical University of Gomel, Gomel, Belarus, December 8, 2004. 3. K. V. Tretiakov, Mechanism of the Cooperative Adsorption of Nanoparticles, Rzeszów University of Technology, Faculty of Mathematics and Applied Physics, Rzeszów, May 7, 2009. 4. K. V. Tretiakov, Adsorption of Gold and Silver Nanoparticles on SiO2 surface, University of Zielona Góra, Institute of Physics, Zielona Góra, Poland, June 2, 2009. 5. K. V. Tretiakov, Photoconductance and inverse photoconductance in films of functionalized metal nanoparticles, Laboratory for Physical Study, The Pavel Sukhoi State Technical University of Gomel, Gomel, Belarus, September 29, 2010. After obtaining a habilitated doctoral degree: 6. K. V. Tretiakov, Elastic properties of polydisperse soft-sphere system, NERC, Northwestern University, Evanston USA, May 12, 2011. 7. K. V. Tretiakov, Polymorphism of structures at Dynamical Self-Assembled System, Wrocław University of Technology, Wrocław, Poland, December 21, 2011. 8. K. V. Tretiakov, Elasticity of fcc crystalline phases of polydisperse Yukawa particles, Laboratory for Physical Study, The Pavel Sukhoi State Technical University of Gomel, Gomel, Belarus, July 18, 2013. 9. K. V. Tretiakov, The rate of energy dissipation determines probabilities of non-equilibrium assemblies, Adam Mickiewicz University, Poznań, Poland, November 20, 2013. 10. K. V. Tretiakov, Dynamic self-assembly: relationship between energy dissipation rate and state probability, Poznań University of Technology, Poznań, Poland, January 21, 2014. 11. K. V. Tretiakov, Order from disorder: dynamic self-assembly in the system of rotating particles, University of Zielona Góra, Zielona Góra, Poland, June 3, 2014. 12. K. V. Tretiakov, Thermal conductivity of liquid argon in nanochannels, Laboratory for Physical Study, The Pavel Sukhoi State Technical University of Gomel, Gomel, Belarus, July 6, 2017. 13. K. V. Tretiakov, Auxetic properties of selected model systems: computer simulations at a molecular level, Faculty of Mechanical Engineering, University of Maribor, Slovenia, August 18, 2021.

	14. K. V. Tretiakov, Computer simulations of auxetic systems at a molecular level, Department of Chemical Engineering, Columbia University, New York, USA, August 3, 2022.
Previous experience in educating doctoral students and students	Lectures for doctoral students: Lecture for doctoral students of the Institute of Molecular Physics PAS "Computational methods of condensed phase – classical approach", 15 hours, in the academic years 2012/2013, 2016/2017. Specialist lecture in English for doctoral students of the Poznań Doctoral School of PAS Institutes "Computational methods in the condensed matter - classical approach", 12 hours, in the academic years 2022/2023.
Method of improving one's qualifications and competencies both in terms of one's own scientific development and scientific supervision of doctoral students, including so-called transversal skills.	List of supervision provided to students applying for a bachelor's, engineer's, master's, or equivalent professional title, as well as doctors during specialization. Supervisor of engineering theses for graduates of Poznań University of Technology and Stanisław Wojciechowski Kalisz Academy: 1. Kamil Buraczewski: engineering diploma thesis entitled "Determination of the phase diagram of a system of particles interacting with the Lennard-Jones potential using computer simulations", Poznań 2015. 2. Karol Ciesielczyk: engineering diploma thesis entitled "Determination of the bulk modulus of liquid argon using Monte Carlo simulations", Poznań 2016. 3. Bartosz Graczyk: engineering diploma thesis entitled "Web application supporting car, delivery van and trailer rental", Kalisz 2016. Supervision of Poznań University of Technology students within the specialist laboratory at IMP PAS. Specialization: Computer simulations. -Marek Kuś – Poznań University of Technology, 2010-2011. -Kamil Buraczewski – Poznań University of Technology, 2013-2014. -Karol Ciesielczyk – Poznań University of Technology, 2014-2015. -Adam Szelerski – Poznań University of Technology, 2021-2022. Supervision of students during the internship "Engineer-Physicist for innovative technologies" Human Capital European Union – European Social Fund: Magdalena Majewska – Poznań University of Technology, 2014. 4. List of supervision provided to individuals applying for a doctoral degree, in particular fulfilling the role of supervisor, assistant supervisor, second supervisor, as well as co-supervisor, including information on the date of initiation of the doctoral procedure or doctoral process, the title of the doctoral dissertation, and the resolution adopted regarding the granting of the doctoral degree or indicating the stage of the procedure or process. Scientific supervisor and doctoral dissertation supervisor: 1. Paweł Pigłowski, doctoral dissertation entitled "Study of elastic properties of structurally modified Yukawa crystals using

	computer simulations", IMP PAS, defense date: March 29, 2018, degree granting date: 2018-04-10. Doctoral dissertation distinguished by the Scientific Council of IMP PAS in 2018. 2. Krzysztof Hyżorek, doctoral dissertation entitled: "Influence of geometrical constraints and particle size polydispersity on the thermal conductivity of model systems", IMP PAS, defense date: March 1, 2019, degree granting date: 2019-03-05.

Lecturer	**Dr. hab. Zbigniew Śniadecki, prof. IMP PAS** Institute of Molecular Physics PAS
A short CV, professional titles and academic degrees, and place of employment	Habilitation (physics), 2019 Institute of Molecular Physics, Polish Academy of Sciences, Poznań, Thermodynamic aspects of structural disorder and its influence on the magnetism of selected cobalt-based alloys Doctorate (physics), 2009 Institute of Molecular Physics, Polish Academy of Sciences, Poznań, Structural, magnetic, and transport properties of amorphous alloys and intermetallic compounds $DyMn_{6-x}Ge_{6-x}Fe_xAl_x$ ($0 \le x \le 6$), with distinction M.Eng. (technical physics), 2004 Poznań University of Technology, Faculty of Technical Physics, Poznań **Employment**: Since 1.01.2010: Institute of Molecular Physics, Polish Academy of Sciences, Poznań
Description of interests, most important scientific achievements	<u>Area of specialization:</u> (i) solid-state physics, (ii) magnetism, (iii) structure, thermodynamic and magnetic properties of amorphous alloys and other structurally metastable systems, (iv) intermetallic compounds, (v) modeling of glass-forming ability and enthalpy of formation of metallic alloys, (vi) magnetocaloric effect, (v) permanent magnets, (vi) metallic nanoglasses <u>Most important scientific achievements:</u> (i) characterization of the influence of structural disorder on the magnetic properties and electronic structure of YCo_2 , (ii) determination of the influence of transition metal substitutions on the glass-forming ability of Fe-Ni and Fe-Co alloys, (iii) determination of the glass-forming ability and thermal stability of hard magnetic (Hf,Cr)-Co-B alloys, (iv) production of metallic nanoglasses using the magnetron sputtering method and description of their formation

	mechanism, (v) theoretical modeling and experimental confirmation of the stabilization of the magnetically hard $ThMn_{12}$-type phase in Fe-based alloys containing Ce, Nd, and Si, along with a description of the stabilization mechanism and magnetic properties of the synthesized alloys.
List of publications from the last 4-5 years	1. M. Falkowski, Z. Śniadecki, T.J. Bednarchuk, A. Kowalczyk, Structural and physical properties of the II-type superconductor Nb_5Si_2B, J. Appl. Phys. 133 (2023) 243901, DOI: 10.1063/5.0151359 2. M. Kołodziej, J-M. Greneche, S. Auguste, B. Idzikowski, M. Zubko, L. Bessais, Z. Śniadecki, Influence of Nd substitution on the phase constitution in $(Zr,Ce)Fe_{10}Si_2$ alloys with the $ThMn_{12}$ structure, Materials 16 (2023) 1522, DOI: 10.3390/ma16041522 3. M. Kołodziej, Z. Śniadecki, Thermodynamic modeling of formation enthalpies of amorphous and crystalline phases in Zr, Nd, and Ce-substituted Fe-Si systems, Applied Sciences 13 (2023) 1966, DOI: 10.3390/app13031966 4. A. Musiał, W. Marciniak, Z. Śniadecki, M. Werwiński, P. Kuświk, B. Idzikowski, M. Kołodziej, A. Grabias, M. Kopcewicz, J. Marcin, J. Kovac, Magnetic properties of $(Fe_{0.7}Co_{0.3})_2B$ alloy doped with W and Re: A combined first-principles and experimental study, J. Alloys Compd. 921 (2022) 166047, DOI: 10.1016/j.jallcom.2022.166047 5. M. Kołodziej, Z. Śniadecki, The formation of structural disorder in FeNi-based alloys – Theoretical approach, Mater. Lett. 326 (2022) 132917, DOI: 10.1016/j.matlet.2022.132917 6. M. Oboz, Z. Śniadecki, P. Zajdel, Tuning the magnetocaloric response of $Gd_{7-x}Y_xPd_3$ ($2 \leq x \leq 6$) alloys by microstructural modifications, J. Magn. Magn. Mater. 547 (2022) 168829, DOI: 10.1016/j.jmmm.2021.168829 7. N. Lindner, Z. Śniadecki, M. Kołodziej, J.-M. Greneche, J. Marcin, I. Skorvanek, B. Idzikowski, Tunable magnetocaloric effect in amorphous Gd-Fe-Co-Al-Si alloys, J. Mater. Sci 57 (2022) 553, DOI: 10.1007/s10853-021-06611-9 8. M. Balcerzak, T. Runka, Z. Śniadecki, Influence of carbon catalysts on the improvement of hydrogen storage properties in a body-centered cubic solid solution alloy, Carbon 182 (2021) 422, DOI: 10.1016/j.carbon.2021.06.030 9. Z. Śniadecki, The influence of 3d and 4d transition metals on the glass forming ability of ternary FeCo-based alloys, Metall. Mater. Trans. A 52 (2021) 1861, DOI: 10.1007/s11661-021-06196-7 10. M. Pugaczowa-Michalska, Z. Śniadecki, Energetic validation of various crystal structures in Zr_2CoZ (Z = Al, Ga, In) Heusler alloys, Cryst. Growth Des. 21 (2021) 2222, DOI: 10.1021/acs.cgd.0c01659

	11. A. Musiał, J. Kovac, Z. Śniadecki, Magnetic properties of $Hf_2(Fe_xCo_{1-x})_{11}B$ (x = 0.2, 0.4) alloys synthesized from structurally metastable phases, J. Magn. Magn. Mater. 514 (2020) 167008, DOI: 10.1016/j.jmmm.2020.167008 12. A. Szajek, Z. Śniadecki, P. Skokowski, G. Chełkowska, B. Szymański, T. Luciński, A. Kowalczyk, Intermediate valence of $CeNi_2Al_3$ compound and its evidences: Theoretical and experimental approach, J. Phys. Chem. Solids 145 (2020) 109576, DOI: 10.1016/j.jpcs.2020.109576 13. M. Oboz, Z. Śniadecki, P. Świec, P. Zajdel, E. Talik, A. Guzik, Evolution of the magnetic and magnetocaloric properties of Gd_6YPd_3 alloys originating from structural modifications, J. Magn. Magn. Mater. 511 (2020) 167000, DOI: 10.1016/j.jmmm.2020.167000 14. Z. Śniadecki, Glass-forming ability of Fe-Ni alloys substituted by group V and VI transition metals (V, Nb, Cr, Mo) studied by thermodynamic modeling, Metall. Mater. Trans. A 51 (2020) 4777, DOI: 10.1007/s11661-020-05897-9 15. M. Kołodziej, Z. Śniadecki, A. Musiał, N. Pierunek, Yu. Ivanisenko, A. Muszyński, B. Idzikowski, Structural transformations and magnetic properties of plastically deformed FeNi-based alloys synthesized from meteoritic matter, J. Magn. Magn. Mater. 502 (2020) 166577, DOI: 10.1016/j.jmmm.2020.166577 16. Z. Lendzion-Bieluń, A. Wojciechowska, J. Grzechulska-Damszel, U. Narkiewicz, Z. Śniadecki, B. Idzikowski, Effective processes of phenol degradation on Fe_3O_4–TiO_2 nanostructured magnetic photocatalyst, J. Phys. Chem. Solids 136 (2020) 109178, DOI: 10.1016/j.jpcs.2019.109178 17. B. Wasilewski, Z. Śniadecki, M. Werwiński, N. Pierunek, J. Rusz, O. Eriksson, Electronic specific heat coefficient and magnetic properties of $Y(Fe_{1-x}Co_x)_2$ Laves phases: A combined experimental and first-principles study, Phys. Rev. B 100 (2019) 134436, DOI: 10.1103/PhysRevB.100.134436 18. P. Gębara, Z. Śniadecki, Structure, magnetocaloric properties and thermodynamic modeling of enthalpies of formation of (Mn,X)-Co-Ge (X = Zr, Pd) alloys, J. Alloys Compd. 796 (2019) 153, DOI: 10.1016/j.jallcom.2019.04.341 19. M. Spilka, R. Babilas, P. Gębara, Z. Śniadecki, The influence of thickness and number of layers on selected properties of Cu/Ni systems, Acta Phys. Pol. A 135 (2019) 172, DOI: 10.12693/APhysPolA.135.172 20. A. Musiał, Z. Śniadecki, N. Pierunek, Yu. Ivanisenko, D. Wang, M.H. Fawey and B. Idzikowski, Tuning of magnetic properties of $Hf_2Co_{11}B$ alloys through a combined high pressure torsion and annealing treatment, J. Alloys Compd. 787 (2019) 794-800

Managing and participating in research projects	**Research projects (as leader):** 1. Amorphous magnetocaloric materials based on transition metals with lanthanides, implementation period: 4.04.2012 - 3.10.2013, "Iuventus Plus" grant from the Ministry of Science and Higher Education (program replaced in 2017 by the Sonatina NCS competition), number IP2011 055671, role: project leader 2. Magnetocaloric properties of ultrafine-crystalline structures produced by severe plastic deformation, implementation period: 1.02.2016 - 31.12.2017, Polish-German bilateral project MNiSW – DAAD, role: project leader (on the Polish side) **Research projects (as executor):** 1. Amorphization of intermetallic compounds $Dy(Mn,Fe)_6(Ge,Al)_6$ and investigation of their properties, implementation period: 2.04.2007 - 1.04.2009, grant from the Ministry of Science and Higher Education, number N202 088 32/2030, role: executor (promoter research project) 2. Critical phenomena in cerium compounds dependent on grain size at nanoscale, 11.04.2008 – 10.04.2011, grant from the Ministry of Science and Higher Education, number N202 260834, role: executor 3. Influence of structural changes on magnetic and electronic properties of RCo_2 Laves phases (R = Y or lanthanide), 11.04.2011 – 10.04.2014, grant from the National Science Centre, number N202 381740, role: executor 4. Search for permanent magnets without heavy rare earth elements using machine learning, since 1.06.2022, grant from the National Science Centre, 2021/41/B/ST5/02894 (OPUS-21), role: executor **Reviewed experimental projects by expert teams in international research centers:** 1. Magnetic structure in Cu,Al-based alloys with Ce, implemented in 2010, project number PHY-01-2773 implemented at HZB (Helmholtz Zentrum Berlin) in Germany, role: co-applicant 2. Crystalline and magnetic structures in melt-spun $DyFe_{6-x}Ge_6Mn_x$ alloys, implemented in 2011, project PHY-01-2978 implemented at HZB (Helmholtz Zentrum Berlin) in Germany, role: main applicant Additionally, I participated in 2 bilateral exchange projects between Poland and Germany (PPP DAAD), 3 bilateral exchange projects between Poland and France (POLONIUM), and a bilateral exchange with Slovakia.
Research fellowships	1. Since 2013 (over a year, including a one-year internship in 2013-14) Institut für Nanotechnologie, Karlsruher Institut für Technologie, Germany 2. Since 2010 (2 weeks) Helmholtz-Zentrum Berlin (neutron diffraction), Germany, collaborator: A. Hoser 3. Since 2007 (5 weeks) Leibniz Institute for Solid State and Materials Research, Dresden, Germany, collaborator: U.K. Rössler 4. Since 2006 (2 weeks) Slovenska Akademia Vied, Ústav experimentálnej fyziky, Košice, Slovakia, collaborator: M. Reiffers

	5. Since 2005 (6 weeks) Universitè du Maine, Facultè des Sciences, Laboratoire de Physique de L'Etat Condensè, Le Mans, France, collaborator: J.-M. Grenèche
Scientific cooperation with international and domestic research centers	1. Institut für Nanotechnologie, Karlsruher Institut für Technologie, Germany 2. Universitè du Maine, Facultè des Sciences, Laboratoire de Physique de L'Etat Condensè, Le Mans, France 3. Slovenska Akademia Vied, Ústav experimentálnej fyziky, Košice, Slovakia 4. University of Silesia in Katowice 5. Czestochowa University of Technology 6. Włodzimierz Trzebiatowski Institute of Low Temperature and Structure Research PAS, Wrocław 7. Institute of Microelectronics and Photonics, Łukasiewicz Research Network, Warsaw
Lectures delivered in Poland and abroad	I am a co-author, or sole author, of a total of approximately 150 works presented at international and national conferences in the form of invited talks, presentations, and posters. Below is only a list of personally delivered presentations and invited talks. 1. Z. Śniadecki, M. Kołodziej, A. Musiał, B. Idzikowski, J. Snarski-Adamski, M. Werwiński, J.-M. Grenèche, S. Auguste, M. Zubko, 2023, The thermodynamic stability of the $ThMn_{12}$-type phase in new hard magnetic (Ce,Zr,Nd)$Fe_{10}Si_2$ alloys, ECMetAC Days 2023, Kranjska Gora, Slovakia – presentation 2. Z. Śniadecki, M. Kołodziej, A. Musiał, B. Idzikowski, J. Snarski-Adamski, M. Werwiński, J.-M. Grenèche, S. Auguste, M. Zubko, L. Bessais, 2023, Design of new hard magnetic materials by means of semi-empirical and ab initio calculations, Joint 17th Rapidly Quenched and Metastable Materials (RQ 17) and 27th International Symposium on Metastable, Amorphous and Nanostructured Materials (ISMANAM 27), Warsaw – invited presentation 3. Z. Śniadecki, M. Kołodziej, A. Musiał, B. Idzikowski, J.-M. Grenèche, S. Auguste, M. Zubko, L. Bessais, 2023, In search of new hard magnetic materials - an experiment supported by semi-empirical calculations, The European Conference: Physics of Magnetism 2023, Poznań – invited presentation 4. Z. Śniadecki, Metallic glasses and nanoglasses, Faculty of Fundamental Problems of Technology, Wrocław University of Science and Technology, 2021 – invited presentation 5. Z. Śniadecki, Influence of structural disorder on the magnetism of Co-based melt-spun alloys, Włodzimierz Trzebiatowski Institute of Low Temperature and Structure Research PAS, Wrocław, 2020 – invited presentation 6. Z. Śniadecki, N. Pierunek, B. Wasilewski, M. Werwiński, B. Idzikowski, U.K. Rossler, Yu. Ivanisenko, 2018, Magnetic properties and electronic structure of structurally disordered YCo_2, ECMetAC Days 2018, Poznań - invited presentation 7. Z. Śniadecki, N. Pierunek, M. Werwiński, Yu. Ivanisenko, B. Idzikowski, 2017, Magnetic properties and electronic structure of

	structurally disordered YCo_2 Pauli paramagnet, The European Conference: Physics of Magnetism 2017, Poznań – presentation 8. Z. Śniadecki, A. Musiał, Yu. Ivanisenko, A. Kilmametov, D. Wang, J. Kovač, B. Idzikowski, 2017, Hard magnetic properties of Hf-Co-based alloys in different structurally metastable states, 24th International Symposium on Metastable, Amorphous and Nanostructured Materials ISMANAM 2017, San Sebastian, Spain – invited presentation 9. Z. Śniadecki, N. Pierunek, B. Idzikowski, 2016, Magnetic properties and magnetocaloric effect in structurally disordered $RECo_2$ (RE = Y, Gd, Tb) compounds, 16th Czech and Slovak Conference on Magnetism, Košice, Slovakia – presentation 10. Z. Śniadecki, Properties of hard magnetic $Hf_2Co_{11}B$ alloys obtained from structurally metastable phases, Institute of Physics PAS, Warsaw – invited presentation 11. Z. Śniadecki, N. Pierunek, B. Idzikowski, 2015, Magnetocaloric effect in structurally metastable alloys, 7th National Conference on Nanotechnology, Poznań – presentation 12. Z. Śniadecki, J.W. Narojczyk, B. Idzikowski, J. Marcin, J. Kováč, I. Škorvánek, 2013, Glassy state formation, magnetism and magnetic entropy changes in Co-rich ternary RE-Co-B (RE = Y, Tb, Ho) amorphous alloys, 20th International Symposium on Metastable, Amorphous and Nanostructured Materials ISMANAM 2013, Turin, Italy – presentation 13. Z. Śniadecki, B. Idzikowski, J. Marcin, J. Kováč, I. Škorvánek, 2013, Glass forming ability and magnetism of Co-based ternary metallic glasses, 15th Czech and Slovak Conference on Magnetism, Košice, Slovakia – presentation 14. Z. Śniadecki, 2012, Metallic glasses: semi-empirical models, production, properties and applications, Institute of Nuclear Physics PAS, Kraków – invited presentation 15. Z. Śniadecki, 2012, Glass forming ability and magnetic properties of some lanthanide-based amorphous systems, HZB Berlin, Germany – invited presentation 16. Z. Śniadecki, B. Mielniczuk, B. Idzikowski, 2010, Magnetic structures of Ce,Cu,Al-based alloys, 15th International Seminar on Neutron Scattering Investigation In Condensed Matter, Poznań – presentation 17. Z. Śniadecki, U.K. Rößler, B. Mielniczuk, M. Szorcz, B. Idzikowski, 2009, Magnetic structure and resistivity of amorphous $DyMn_{6-x}Ge_{6-x}Fe_xAl_x$ ($0 \le x \le 6$) alloys, 20th International Summer School on Physics and Chemistry of Condensed Matter 2009, Białowieża – presentation 18. Z. Śniadecki, B. Idzikowski, 2008, Kissinger analysis for $DyMn_{6-x}Ge_{6-x}Fe_xAl_x$ ($1 \le x \le 2.5$) alloys, 9th International Workshop on Non-Crystalline Solids 2008, Porto (Portugal) – presentation 19. Z. Śniadecki, B. Idzikowski, J.-M. Greneche, U.K. Rößler, P. Kerschl, K.-H. Müller, 2006, Structural and magnetic properties of $DyMn_{6-x}Fe_xGe_6$ ($0 \le x \le 6$) alloys, 15th International Conference on Solid Compounds of Transition Elements 2006, Kraków – presentation

Previous experience in educating doctoral students and students	Scientific supervision of doctoral students as a supervisor or assistant supervisor: 1. Dr. Mieszko Kołodziej, 2019 – 2023, Thermodynamic aspects of the formation of hard magnetic phases with tetragonal structure in selected iron-based alloys and characterization of their physical properties, Institute of Molecular Physics PAS, supervisor 2. Dr. Eng. Andrzej Musiał, from 2013 - 2019, Magnetic properties of anisotropic $Hf_2Co_{11}B$ and $(FeCo)_2B$ based alloys, obtained from structurally metastable phases, Institute of Molecular Physics PAS, assistant supervisor 3. Dr. Eng. Natalia Pierunek, 2013 – 2018, Magnetocaloric effect in structurally disordered alloys and intermetallic compounds of rare earth elements with transition metals, Institute of Molecular Physics PAS, assistant supervisor Conducted lectures/exercises in experimental physics (magnetometry) for IMP PAS doctoral students in the academic year 2023/24 within the Poznań Doctoral School. Conducted a series of specialized lectures for IMP PAS doctoral students in 2021, titled: Metallic glasses and other metastable systems. Scientific supervision of students: Supervisor - 2 defended engineering theses (Maciej Kwaśnikowski, Katarzyna Andrzejkowicz) at the Faculty of Technical Physics, Poznań University of Technology, in Technical Physics (theses carried out at the Institute of Molecular Physics PAS), since 2016. Defense of another engineering thesis planned for March 26, 2024 (Weronika Janiszewska). Additionally, I was a direct supervisor of students working on engineering and master's theses at IMP PAS (~ 10 theses), since 2006. The theses were carried out at IMP PAS by students from the Faculty of Physics, Poznań University of Technology (Natalia Pierunek, Daria Rudkiewicz, Dominik Pagnani, Michał Szypa, Dariusz Piechocki, Adrian Łojewski, Wojciech Berdychowski, Michał Czapski) and the Faculty of Physics, Gdańsk University of Technology (Sebastian Pączek).

Lecturer	**Dr hab. Iwona Olejniczak** Institute of Molecular Physics PAS
A short CV, professional titles and academic degrees, and place of employment	Habilitation: IMP PAS Doctor of Physical Sciences, Physics - Molecular Spectroscopy: IMP PAS Master, Experimental Physics, pedagogical qualifications: Adam Mickiewicz University **Employmen**t: Since 1.10.1994: Institute of Molecular Physics, Polish Academy of Sciences
Description of interests, most important scientific achievements	**Specialization**: Solid-state spectroscopy, optical properties of molecular conductors and multifunctional materials **Scientific Achievements**: - Discovery of a phase transition at 25 K to a charge-ordered state accompanied by lattice distortion in the β'-(BEDT-TTF)$_2$CF$_3$CF$_2$SO$_3$ salt, which exhibits properties characteristic of a dimeric Mott insulator. It was noted that the 25 K phase transition strongly influences the interactions between the conducting BEDT-TTF layer and the anion layer. - Discovery of charge distribution fluctuations in the (rac-DM-EDT-TTF)$_2$PF$_6$ salt with chiral donor molecules. Based on reflection spectra, it was shown that the investigated material is a dimeric Mott insulator. - Discovery of effects related to charge fluctuations and stabilization of the metal/insulator mixed state in organic superconductors β”-(BEDT-TTF)$_4$[(H$_3$O)Fe(C$_2$O$_4$)$_3$]·Y. Both optical conductivity spectra and Raman spectra showed the presence of broadened vibrational bands whose frequencies depend on the charge distribution. - Unique studies of oscillatory bands in a magnetic field in organic superconductors κ-(BEDT-TTF)$_2$X. In particular, oscillatory bands were identified whose intensity changes during the transition from the superconducting to the normal state.
List of publications from the last 4-5 years	1. N. Zigon, F. Solano, P. Auban-Senzier, S. Grolleau, T. Devic, P. Zolotarev, D. M. Proserpio, B. Barszcz, I. Olejniczak, and N. Avarvari, Redox active rod coordination polymer from tetrakis(4-carboxylic acid biphenyl)tetrathiafulvalene, Dalton Trans., 10.1039/D3DT04280D (2024). 2. F. Solano, P. Auban-Senzier, B. Barszcz, A. Frąckowiak, I. Olejniczak, P. Alemany, E. Canadell, N. Zigon, and N. Avarvari, Reviving BVDT-TTF and EVT-TTF salts, Mater. Adv., DOI: 10.1039/D4MA00054D (2024). 3. F. Solano, P. Auban-Senzier, I. Olejniczak, B. Barszcz, T. Runka, P. Alemany, E. Canadell, N. Avarvari, N. Zigon, Bis(Vinylenedithio)-

	Tetrathiafulvalene-Based Coordination Networks, Chem. Eur. J. 29, e202203138 (2022). 4.I.Olejniczak, B. Barszcz, P. Auban-Senzier, H. O. Jeschke, R. Wojciechowski, and J. A. Schlueter, Charge-Ordering and Structural Transition in the New Organic Conductor δ'-(BEDT-TTF)2CF3CF2SO3, J. Phys. Chem. C 126, 1890-1990 (2022). 5.I.Olejniczak, Charge localization and superconductivity in optical investigations of low-dimensional organic conductors including different functionalities, Wydawnictwo Instytutu Fizyki Molekularnej PAN, Poznań, 2021 (ISBN: 978-83-956445-6-6). 6.A. Frąckowiak, A. Łapiński, I. Olejniczak, R. Świetlik, D. Neubauer, W. Li, M. Dressel, M. Fourmigué, and F. Camerel, Metal-insulator phase transition in the δ-(BEDT-TTF)4[2,6-anthracenebis(sulfonate)]·4H2O studied by infrared spectroscopy, Phys. Rev. B 104, 184104 (2021). 7.I. Olejniczak , R. Wesołowski , H. O. Jeschke, R. Valentí, B. Barszcz , and J. A. Schlueter, Charge ordering and low-temperature lattice distortion in the β'-(BEDT-TTF)2CF3CF2SO3 dimer Mott insulator, Phys. Rev. B 101, 035150 (2020).
Managing and participating in research projects	**Leadership in research projects:** 2022-2023: PHC NAWA Polonium, Joint research projects between Poland and France, BPN/BFR/2021/1/00001/U/00001 2004: DAAD Fellowship, Far-Infrared Studies of Low-Dimensional Organic Conductors 2001-2004: Electrodynamics of organic molecular systems: research within PAS/NSF cooperation (NSF: INT-0086475) 1998-1999: NSF/NATO Postdoctoral Fellowship in Science and Engineering for Visiting Scientists from Cooperation Partner Countries, (NSF: DGE 9804462) **Participation in research projects**: 2009-2011: POLONIUM Integrated Action Program (DPN/N9/POLONIUM/2009), executive protocol: 7818/R09/R10, Infrared and Raman spectra of new magnetic and/or conducting organic charge-transfer salts 2008-2011: New, photoactive organic systems - molecular structure and electronic optical excitations, dynamics, N N202 260234 (MNiSzW) 2008-2010: Magnetic charge-transfer salts formed by organo-metallic dithiolene complexes – studies of spectroscopic properties, N N202 207734 2004-2007: Magnetic ordering and electron pairing mechanisms in molecular hybrid materials, 1 P03B 103 27 (MNiSzW) 1997-2000: IR Spectroscopy of new organic metals and semiconductors: electronic structure, electron-electron and electron-phonon interactions, 2 P03B 112 12 2000: 2 T08A 003 12 1999: 7 T08A 044 11 1994-1996: Investigation of fullerene complexes with organic molecules using oscillatory spectroscopy methods, 2 P302 255 06 1993: 2 0200 91 01

Research fellowships	- State University of New York at Binghamton, Binghamton NY, USA: postdoctoral fellowship - National High Magnetic Field Laboratory, Tallahassee, USA: 3 research sessions in 1999-2002 - University of Tennessee, Knoxville, USA: 4 working visits within the NSF/PAS cooperation project, in 2001-2004 - Physikalisches Institut, Universität Stuttgart, Germany: one-month DAAD research scholarship, February 2004 - Angers University, France: 2 working visits within the NAWA Polonium cooperation project - Physikalisches Institut, Universität Stuttgart, Germany: 3 research sessions in 2023-2024
Scientific cooperation with international and domestic research centers	- France, Laboratoire Moltech Anjou, Université d'Angers - Germany, 1. Physikalisches Institut, Universität Stuttgart - Poland, Poznań University of Technology
Lectures delivered in Poland and abroad	- Department of Chemistry, State University of New York at Binghamton, USA: 1 - Department of Chemistry, University of Tennessee, Knoxville, USA: 4 - Physikalisches Institut, Universität Stuttgart, Germany: 3 - Université d'Angers, France: 2
Previous experience in educating doctoral students and students	- Pedagogical qualifications: within master's studies, UAM. - Doctoral student training: B. Laskowska, 2024, supervisor; F. Solano, 2022, laboratory internship within the NAWA Polonium cooperation grant; A. Frąckowiak, 2011-2015, assistant supervisor. - Comprehensive supervision of Poznań University of Technology master's students culminating in a master's thesis (including topic selection and sample provision for research): 5 people in 2000-2015 (formally, the supervisor was Prof. Graja). - Supervision of Poznań University of Technology master's students in cooperation with Prof. Świetlik, as assistant supervisor: 2 people (2010, 2017). - Comprehensive supervision of Poznań University of Technology engineering students culminating in an engineering thesis (including topic selection and sample provision for research): 2 people (2013 and 2015, formally, the supervisor was Prof. Graja); one person in 2023 as supervisor. - Supervision of Poznań University of Technology engineering students in cooperation with Prof. Świetlik, as assistant supervisor: 1 person (2015). - Supervision of interns: several people, I believe. - Additionally, for several years, I participated in the training of Poznań University of Technology students within the framework of the Second Student Laboratory at IMP PAS.

Lecturer	**Dr hab. Bartłomiej Andrzejewski**
A short CV, professional titles and academic degrees, and place of employment	1992 - Master's degree, UAM Poznań 1997 - PhD degree, IFM PAS 2009 - Habilitation degree, IFM PAS Employment: since 01.01.1991: IFM PAS, Poznań
Description of interests, most important scientific achievements	**Areas of specialization** Solid-state physics, experimental physics: ferroelectrics, multiferroics, nanomaterials, superconductivity **Most important scientific achievements** Development of a method for measuring inter- and intragranular fields and critical currents using magnetically modulated microwave absorption technique Experimental confirmation of triplet superconductivity in "wet" superconductor $Na_xCoO_2{\cdot}yH_2O$ Discovery of new superconductors - intermetallic compound Mo_2Re_3B and eutectic $Mo_2Re_3B_x$-$Mo_3Re_2B_x$ Explanation of the nature of the magnetization reversal effect in the intermetallic system $YbFe_4Al_8$ Explanation of the effect of increased magnetization of Fe_3O_4 nanoparticles in alginic acid matrix Microwave synthesis of multiferroic $BiFeO_3$ nanoparticles with designed shapes Discovery of a new magnetic field-induced transition in the multiferroic $BiFeO_3$ Co-authorship of two patents for invention: Method for producing composite strand wires (protection number: P230430) and Method for producing multifiber composites (protection number P.232348)
List of publications from the last 4-5 years	1. A. Hilczer, K. Pasińska, B. Andrzejewski, M. Matczak, A. Pietraszko Magnetic properties of Sr0.95Nd0.05Fe12-xScxO19 hexaferrite nanocrystals: (Tcone, H, x) phase diagram Ceramics International 45 (2019) 1189-1195 DOI: 10.1016/j.ceramint.2018.09.303 2 K. Chapagain, D.E. Brown, S. Koleśnik, S. Lapidus, B. Haberl, J. Molaison, Ch. Lin, C. Kenney-Benson, Ch. Park, J. Piętosa, E. Markiewicz, B. Andrzejewski, J.W. Lynn, S. Rosenkranz, B. Dabrowski, O. Chmaissem *Tunable multiferroic order parameters in $Sr_{1-x}Ba_xMn_{1-y}Ti_yO_3$*

	Physical Review Materials 3 (2019) 084401-1-11 DOI: 10.1103/PhysRevMaterials.3.084401 3 L.S. Litzbarski, M.J. Winiarski, P. Skokowski, T. Klimczuk, B. Andrzejewski *Investigation of magnetic order in a new intermetallic compound Nd_2PtGe_3* Journal of Magnetism and Magnetic Materials 521 (2021) 167494 DOI: 10.1016/j.jmmm.2020.167494 4 B. Andrzejewski, A. Hilczer *Multiferroics* rozdział w *Switching effects in transition metal oxides* Edycja: F. Krok, K.S. Szot, K. Roleder Polskie Wydawnictwo Naukowe, Warszawa 2021 5 L. S. Litzbarski, M. J. Winiarski, T. Klimczuk, M. Łapiński, M. Pugaczowa-Michalska, P. Skokowski, B. Andrzejewski *Intermetallic disordered magnet $Gd_2Pt_{1.1}Ge_{2.9}$ and its relation to other AlB_2-type compounds* Physical Review B 105 (2022) 054427-1-8 DOI: 10.1103/PhysRevB.105.054427 6 L. S. Litzbarski, M. Olesz, S. Wojtas, M.J. Winiarski, T. Klimczuk, H. Głowiński, B. Andrzejewski *Quality Assessment of Low Voltage Surge Arresters* IEEE Access 10 (2022) 129313-129321 DOI: 10.1109/ACCESS.2022.3226401
Managing and participating in research projects	**Research projects** Microwave absorption in systems of small superconducting particles KBN grant No 2P302 007 05 Completion date: 1.09.1993-31.08.1995 Executor Microwave detection of the trapping effect in high-temperature superconductors Promoter grant KBN No 2P03B 009 08 Completion date: 2.01.1995-31.12.1996 Main executor Microwave absorption in studies of magnetic flux penetration into high-temperature superconductors KBN grant No 2P03B 120 10, completion date: 1.03.1996-28.02.1998 Main executor Superconducting composite materials KBN grant No 7T08D 017 15 Completion date: 1.10.1998-30.09.2000 Main executor

	Structural instabilities and orbital degeneration in transition metal ions KBN grant No 5P03B 061 20 Completion date: 1.03.2001-30.11.2003 Executor Charge transport – stochastic and nonlinear phenomena in fast-proton superconductors KBN grant 1 P03B 032 29 Completion date: 12.10.2005-11.10.2008 Executor Self-organizing micro- and nano-hybrid materials MNiI grant N515 028 31/1103 Completion date: 1.06.2006-31.12.2008 Executor Preparation and properties of nanoparticles of selected functional materials NCS project no. N N507 229040 Completion date: 25.05.2011- 24.05.2013 Head
Research fellowships	Laboratoire CRISMAT, CNRS-ENSICAEN, Caen, France 2000 – 2001, one-year post-doctoral internship Laboratoire CRISMAT, CNRS-ENSICAEN, Caen, France 2002, 2 months, European Science Foundation (ESF) scholarship Laboratoire CRISMAT, CNRS-ENSICAEN, Caen, France 2003, 1 month, research stay Université de Caen, Caen, France, 2005, 1 month, visiting professor Laboratoire CRISMAT, CNRS-ENSICAEN, Caen, France 2005, 1 month, EGIDE scholarship Magnetism and Superconductivity Group, Physics Department, University of Warwick, Coventry, United Kingdom, 2005, 1 week, research stay Laboratoire CRISMAT, CNRS-ENSICAEN, Caen, France 2006, 2 months, EGIDE scholarship Institute of Physics of the Czech Academy of Sciences, Prague, Czech Republic 2017, 1 week, research stay Institute of Physics of the Czech Academy of Sciences, Prague, Czech Republic, 2019, 1 week, research stay

Scientific cooperation with international and domestic research centers	**Scientific cooperation with foreign centers** Laboratoire CRISMAT, CNRS-ENSICAEN, Caen, France Université de Caen, Caen, France Magnetism and Superconductivity Group, Physics Department, University of Warwick, Coventry, United Kingdom Institute of Physics of the Czech Academy of Sciences, Prague, Czech Republic **Scientific cooperation with domestic centers** Adam Mickiewicz University, Faculty of Physics Adam Mickiewicz University, NanoBioMedical Centre Poznań University of Technology Gdańsk University of Technology Institute of Physics PAS Włodzimierz Trzebiatowski Institute of Low Temperature and Structure Research Military University of Technology Łukasiewicz Research Network – Institute of Non-Ferrous Metals Łukasiewicz Research Network – Institute of Electronic Materials Technology
Lectures delivered in Poland and abroad	**Invited conference lectures** Multiferroic flowers 13th International Meeting on Ferroelectricity 2-6 September 2013, Kraków Nanostructures of ferroelectrics and multiferroics XLII Congress of Polish Physicists Poznań 8-13 September 2013 Multiferroic Nanoobjects – from Bismuth Ferrite Nanotubes to Nanoflowers Closing COST MP0904 SIMUFER Conference 30 January -1 February 2014, Genoa, Italy Nanocomposites of magnetite and organic acids

	XXI Czech-Polish Seminar “Structural and Ferroelectric Phase Transitions” 19-23 May 2014, Sezimovo Usti, Czech Republic Metal oxide nanoflowers 57th Congress of the Polish Chemical Society and Association of Engineers and Technologists of Chemical Industry 14-18 September 2014, Częstochowa Plant-Like Functional Materials 7th Polish Conference on Nanotechnology 24-27, June 2015, Poznań Manufacturing and properties of superconducting nanowire bundles NanoTech Poland, International Conference & Exhibition 22-25 June 2016, Poznań Crystal and magnetic structures in cement 10th International Conference of Polish Society for Crystal Growth 16-21 October 2016, Zakopane Radiation absorbing materials based on co-doped M-hexaferrites XXIII Czech–Polish Seminar on Structural and Ferroelectric Phase Transitions 21-25 May 2018, Kouty, Czech Republic Nanocrystalline hexaferrites – properties and applications 3rd German–Polish Conference on Crystal Growth GPCCG3 17-21 March 2019, Poznań **Invited seminars in domestic or foreign institutions** Determination of critical currents and fields using MMMA method Jagiellonian University, Kraków, February 1996 Microwave absorption in HTSC Laboratoire CRISMAT, CNRS-ENSICAEN, Caen, France, October 2000 Surface pinning of vortices in high-temperature superconductors Gdańsk University of Technology, Gdańsk, March 22, 2002 Non-intrinsic properties of superconductors University of Silesia, Katowice, March 28, 2003 Les propriétes des $Na_xCoO_2yH_2O$ “mouillés” supraconducteurs, Université de Caen, France April 15, 2005 Negative magnetisation in $YbFe_4Al_8$ intermetallic alloy University of Warwick, United Kingdom

	November 22, 2005 Magnetization reversal effect in $YbFe_4Al_8$ compound Gdańsk University of Technology, Gdańsk, March 27, 2006 Intrinsic and non-intrinsic critical fields of selected superconductors Institute of Physics PAS, Superconductivity and Magnetism Seminar, Warsaw, May 13, 2009 Superconducting eutectics Institute of Electronic Materials Technology, Warsaw February 9, 2010 Gravitomagnetic properties of superconductors Gdańsk University of Technology, Gdańsk, July 2010 Nano- and microstructures of selected ferroelectrics and multiferroics Symposium "Prof. Jan Czochralski patron of the year 2013", University of Silesia, Katowice, May 8, 2013 Superconducting nanowires: manufacturing methods and properties Institute of Non-Ferrous Metals, Gliwice, May 28, 2015 One-dimensional superconductors: manufacturing methods and properties Polish Academy of Arts and Sciences, Commission of Technical Sciences PAU, Kraków, November 26, 2015 Multiferroic nanomaterials – from nanotubes to nanoflowers University of Wrocław, Faculty of Physics and Astronomy, Wrocław, April 8, 2016 Cement and cement mortar as smart materials NanoBioMedical Centre, Adam Mickiewicz University, Poznań, March 23, 2017 Superconductivity of one-dimensional systems AGH University of Science and Technology, Environmental Seminar of Solid State Physics, Kraków, December 13, 2017 **Short conference presentations** Low-field microwave absorption in high-temperature superconductors V National Symposium "High-Temperature Superconductivity Kazimierz Dolny, 22-25 January 1995 (co-authorship) Microwave detection of magnetic flux trapping effect in superconductors

	VII National Symposium "High-Temperature Superconductivity" Międzyzdroje, 1-3 September 1997 Imaging of flux penetration to $YBa_2Cu_3O_{7-}$ melt textured samples prepared by PMP and QMG techniques VIII National Symposium "High-Temperature Superconductivity Gdańsk-Sobieszewo, 7-10 September 1999 Magnetic flux penetration into $(Tl_{0.6}Pb_{0.5})(Ba_{0.1}Sr_{0.9})_2Ca_2Cu_3O_x$ and $(Tl_{0.8}Bi_{0.3})(Ba_{0.1}Sr_{0.9})_2Ca_2Cu_3Oy$ bulk pellet samples 3rd International Conference on Measurement "Measurement 2001", Smolenice Castle, Slovakia. 14-17 May 2001 (co-authorship) Investigation of high-temperature superconductor dispersed in composite IX School High-Temperature Superconductivity Krynica-Czarny Potok, 10-14 June 2001 (co-authorship) Upper critical field for cobalt oxide superconductors X National School "High-temperature superconductivity and other phenomena in perovskites", Warsaw 6-10 June 2004 (co-authorship) Superconductivity of MgB_2 thin films prepared by ion implantation and pulsed plasma treatment 5th International Conference on Ion Implantation and Other Applications of Ions and Electrons Kazimierz Dolny 14-17 June 2004 (co-authorship) Unusual negative magnetisation effect in antiferromagnetic $YbFe_4Al_8$ compound The European Conference Physics of Magnetism'05 Poznań 24-27 June 2005 Magnetic properties of wet superconductors XI National School of Superconductivity: Collective phenomena and their competition Kazimierz Dolny 25-29 September 2005 Superconducting and electrical properties of Mg-B structures formed by implantation of magnesium ions into the bulk boron followed by pulse plasma treatment 6th International Conference on Ion Implantation and other Applications of Ions and Electrons Kazimierz Dolny 26-29 June 2006 (co-authorship)

	Superconducting Mo_3Re_2B-Mo_2Re_3B eutectic XII National School of Superconductivity Ustroń 14-18 September 2006 Surface pinning of vortices XIV National School of Superconductivity "Superconductivity and inhomogeneous condensed systems" Ostrów Wielkopolski 13 - 17 September 2009 Magnetic properties of $BiFeO_3$ ceramics obtained by hot-pressing of nanopowders International symposium on Integrated Functionalities, ISIF 2011 Cambridge, United Kingdom 31 July - 4 August 2011 Magnetic properties of $BiFeO_3$ micro-cubes synthesized by microwave agitation 3rd Workshop Advanced Characterization and Functional Properties of Ferroelectrics and Multiferroics Vilnius, Lithuania April 23, 2012 Aging and rejuvenation effects in $BiFeO_3$ microcubes ISAF ECAPD PFM 2012 Conference University of Aveiro, Aveiro, Portugal 9-13 July 2012 Magnetic relaxation in bismuth ferrite microcubes Third International Conference on Multifunctional, Hybrid and Nanomaterials Sorrento, Italy 3-7 March 2013 Preparation and properties of nanostructures of ferroelectrics and multiferroics Poznań University of Technology, Faculty of Technical Physics of Poznań University of Technology and Polish Physical Society, Poznań Branch, Poznań April 11, 2013 Bismuth ferrite multiferroic flowers COST Workshop “Advances in Ferroelectrics and Multiferroics” Prague, Czech Republic 20-21 July 2013 Growth and composition of bismuth ferrite multiferroic flowers III Polish - Lithuanian - Ukrainian Meeting on Ferroelectrics Physics PLU 2014 Wrocław-Pawłowice 31 August - 4 September 2014

	Electric and magnetic properties of $SrFe_{12}O_{19}$-$CoFe_2O_4$ nanocomposites Conference Electroceramics XV Limoges, France 27-29 June 2016 Magnetic resonance study of the spin-spin interaction in $EuTiO_3$ XXII Polish-Czech Seminar "Structural and Ferroelectric Phase Transitions" Hucisko, Poland 16-20 May 2016 (co-authorship) High temperature dielectric response in size scaled $BiFeO_3$ XXII Polish-Czech Seminar "Structural and Ferroelectric Phase Transitions" Hucisko, Poland 16-20 May 2016 (co-authorship) Magnetoelectric properties of cement and mortar The Fourteenth International Meeting on Ferroelectricity (IMF-2017) San Antonio, USA 4-8 September 2017 Magnetic and dielectric properties of $Sr_{1-x}Nd_xFe_{12-}yAlyO_{19}$ co-doped hexaferrites Electroceramics XVI Conference Hasselt, Belgium 9-12 July 2018

Description of qualifications of research workers conducting lectures at the doctoral school

In 2019-2024, during the education of doctoral students of PDS IPAS in the discipline of Physical Sciences, a total of 10 courses were conducted covering a wide range of topics. The courses have been selected in such a way as to provide doctoral students with education in the area of experimental and theoretical physics over four years in such areas as solid state physics, soft matter physics, thermodynamics and phase transitions, structure and dynamics of the condensed phase, superconductivity and low-temperature physics, computational methods and computer simulations in physics. The classes were held both on-site and remotely, using multimedia techniques. Moreover, some courses also included practical classes conducted in laboratories using scientific and research equipment. During their studies, doctoral students always had the opportunity to have additional consultations with lecturers, which they gladly took advantage of. Additionally, all of the Ph.D. students participated in doctoral seminars each semester, during which they learned how to conduct scientific discussions, ask questions, analyze the presented results, establish cooperation in solving research

tasks and problems, take a critical look at their research, as well as systematically report and prepare presentations on the conducted research. The forms of verification of knowledge acquired by doctoral students were varied and adapted to each course individually, including both traditional written and oral exams, as well as the so-called "take home exam" consisting of assigning a specific research problem to the Ph.D. student to solve in the area covered by the course, and then presenting the results obtained, the method and course of obtaining them during an oral presentation, or a practical solution of the research task using the knowledge acquired during practical classes in laboratories. The diversified form of examining doctoral students was positively received by them andallowed for reliable verification of acquired practical skills and theoretical knowledge.

Lecturers teaching doctoral students at the Institute of Molecular Physics Polish Academy of Sciences (IMP PAS) were selected from among the scientific staff in such a way that they were always experts in the thematic field of the course being taught and also had extensive scientific achievements and experience gained both in Poland and abroad during cooperation with leading research institutions and universities. These people also had experience in giving lectures to a diverse audience, involvement in the popularization of science, presenting and explaining scientific issues to representatives from other economic sectors, and improving their qualifications by working with students and secondary school students (supervising master's and doctoral theses, supervising apprentices and trainees, expert activity in the field of scientific studies, patents, reviews of articles and master's, doctoral and habilitation theses).

As part of the improvement of qualifications and competencies of research workers involved in the process of educating doctoral students, they are very active in sending offers of engineering, diploma, master's, and doctoral theses to students of domestic and foreign universities, in particular Poznań universities, with who the IMP PAS has a long and well established constant scientific and didactic cooperation. In addition, people educating Ph.D. students gained experience in teaching during long-term research internships in foreign units, where they were actively involved in working with students of the hosting institutions. Our lecturers are mostly young people, full of energy and passion for sharing knowledge with younger science students. They are experts in various areas of both theoretical and experimental physics and have led or are managing scientific projects within which scientific dissertations at the level of master's and doctoral theses were conducted.

The significant involvement of IMP PAS lecturers in cooperation with doctoral students, positive attitude, and numerous regular consultations meant that no controversial issues or conflicts arose, and postgraduate students were always supported regarding access to teaching materials and substantive support from lecturers.

The profiles of the five selected lecturers are presented below.

-1-

Professor Tomasz Toliński is a specialist in solid-state physics, including the area of research on intermetallic compounds, systems with the Kondo network, and fluctuating valence. He conducts advanced research on the quantum critical point, the magnetocaloric effect, and the thermoelectric force, among others, in materials such as semimetals and topological insulators. The wide range of Professor Toliński's specialties results from numerous scientific internships in foreign units and extensive international and domestic cooperation with leading research centers, including the University of Berlin in Germany and Institut Laue Langevin in Grenoble, France. Professor Toliński participates in the implementation and management of scientific projects and is involved in the process of educating young staff. He has lectured several times for doctoral students and also serves as a supervisor of engineering, master's, and doctoral theses. He also has teaching qualifications

obtained at the University of Adam Mickiewicz in Poznań. Attachment No. 1 presents the scientific biography of Professor Tomasz Toliński in terms of evaluation guidelines.

-2-

Konstantin Tretiakov, D.Sc., specializes in theoretical condensed phase physics and computer simulations. His scientific interests and specializations include issues related to auxetic properties of materials, thermal conductivity of model systems, computer simulation methods, research on nanoparticle systems, statistical mechanics of non-equilibrium systems, and the use of statistical distributions in the study of cancer cell movement. A wide range of specializations and knowledge results from numerous long-term scientific internships and cooperation with renowned research institutions in Poland and abroad, including the International Center for Theoretical Physics Abdus Salam in Trieste, Italy, or the Department of Chemical and Biological Engineering, Northwestern University in Evanston, United States. D.Sc. Tretiakov actively applies for scientific projects and is involved in educating young staff, both as a lecturer at the doctoral school and as a supervisor of diploma, engineering, master's, and doctoral theses. Appendix 2 presents the scientific biography of Dr. Konstantin Tretiakov in terms of evaluation guidelines.

-3-

Iwona Olejniczak, D.Sc., is a specialist in experimental physics, solid-state spectroscopy, and optical properties of molecular conductors and multifunctional materials. Her interests include research on phase transitions of new organic materials with charge transfer and the search for molecular systems that can participate in ionic and electronic conduction in organic superconductors. She is a specialist in optical spectroscopy techniques and has extensive experience in popularizing science and educating young staff. The wide range of specializations results from numerous scientific internships at renowned foreign institutions such as the State University of New York at Binghamton in the USA or Angers University in France. D.Sc. Iwona Olejniczak actively applies to scientific projects and is involved in the teaching process. She was a supervisor and auxiliary supervisor in doctoral, master's, and engineering theses. She was a direct scientific supervisor of student internships and a lecturer at the 2nd Specialist Laboratory at the IMP PAS for Poznań University of Technology students. She also obtained teaching qualifications as part of her master's studies at the University of Adam Mickiewicz in Poznań. Attachment No. 3 presents the scientific biography of Iwona Olejniczak, D.Sc., regarding evaluation guidelines.

-4-

Zbigniew Śniadecki, D.Sc., is a specialist in the field of experimental physics, among others, in the area of magnetism, structure and thermodynamic properties of amorphous alloys and metastable systems, solid state physics, and modeling of metallic alloys. His areas of interest include research on multi-component materials with a large magnetocaloric effect, new materials for permanent magnets, and metallic nanoglasses. D.Sc. Zbigniew Śniadecki has extensive experience in conducting scientific research in interdisciplinary teams, applying for scientific projects, and in the process of educating young staff. His wide range of specializations results from the experience he gained during numerous scientific internships in foreign units, including the Institut für Nanotechnologie, Karlsruher Institut für Technologie in Karlsruhe in Germany or the Universitè du Maine, Facultè des Sciences, Laboratoire de Physique de L'Etat Condensè in Le Mans in France. In his scientific career, he has served as a supervisor and auxiliary supervisor in doctoral and engineering theses. He has repeatedly provided direct scientific supervision to engineers and master's students from the Poznań University of Technology and the Gdańsk University of Technology. Attachment No. 4 presents the scientific biography of D.Sc. Zbigniew Śniadecki in terms of evaluation guidelines.

Bartłomiej Andrzejewski, D.Sc., is a specialist in the field of experimental physics, among others, in the area of solid-state physics, low-temperature physics and superconductivity, multiferroics, ferroelectrics, and nanomaterials. He has extensive experience in conducting scientific and commercial projects. He also uses the ability to clearly and reliably present scientific knowledge and transfer it to recipients outside the field of science while educating young staff. He was the manager and contractor of numerous scientific projects and served as Scientific Director at IMP PAS. D.Sc. Andrzejewski was always close to matters related to the education and development of scientific staff. Attachment No. 5 presents the scientific biography of D.Sc. Bartłomiej Andrzejewski in terms of evaluation guidelines.

Lecturers – PSD IPAS - in the Programme featuring medical sciences

Lecturer	**Prof. dr hab. biol. sci. Jadwiga Jaruzelska** Institute of Human Genetics Polish Academy of Sciences Head of the RNA Biology Research Group
A short CV, professional titles and academic degrees, and place of employment	- Prof. dr hab. in biological sciences, professor at the Institute of Human Genetics of the Polish Academy of Sciences - Professor in biological sciences (since 2004): the title awarded at Adam Mickiewicz University, Poznań - Habilitated Doctor (1996): degree awarded by Institute of Biochemistry and Biophysics of the Polish Academy of Sciences - Doctor (1982): degree awarded by Poznań University of Medical Sciences, Faculty of Medicine - Master (1977): degree awarded by Adam Mickiewicz University, Poznań
Description of interests, most important scientific achievements	Human Development Genetics, molecular development genetics My projects are focused on: **1.the posttranscriptional regulatory mechanisms of the initial stages of the human germ cell development,** involving RNA-binding proteins, especially such as PUMILIO and their cofactors such as NANOS. These proteins bind 3' untranslated regions of specific target mRNAs and in cooperation with the miRNA machinery determine their fate. We are identifying ribonucleoprotein (RNP) interactomes built by such proteins and study their dynamics during PGLCs specification and differentiation. In particular, mutated RNA-binding proteins from patients suffering infertility are used to identify potential changes in such interactomes. We expect that such approach will help to pinpoint crucial pathways in germ cell specification and early development and unveil molecular basis of human infertility. As the model, we use the human W15 stem cell-line and differentiate it towards PGLCs. To address such questions we perform several high throughput approaches analyzes, such as RNAseq and proteomics, and also use bioinformatic tools. Keywords**:** posttranscriptional gene expression regulation, RNA-binding proteins, microRNAs, germ cells. **2.identification of novel genes implicated in human sex determination** This study is focused on shedding light on molecular mechanisms of sex determination and differentiation on order to understand genetic bases of sex development disorders (DSD). We identified a couple of candidate genes involved in sex determination and differentiation and validate their connection with those processes. We coordinate the work of Polish groups within an international project addressing this issue. The project is conducted by the University of Geneva, in

	cooperation with the Institute of Human Genetics of the Polish Academy of Sciences in Poznań, Medical State University of Yerevan, National Academy of Sciences of Ukraine in Kyiv, Poznań University of Medical Sciences, and the Children's Memorial Health Institute in Warsaw. Keywords: human sex determination, disorders of sex development (DSD)
List of publications from the last 4-5 years	Ilaslan E, Sajek M, **Jaruzelska J**, Kusz-Zamelczyk K*. Emerging rol es of NANOS RNA-binding proteins in cancer. *Int J Mol Sci*, 2022; 23(16):9408. doi: 10.3390/ijms23169408. Ilaslan E, Kwiatkowska K, Smialek M, Sajek M, Lemanska Z, Alla M, Janecki DM, **Jaruzelska J**, Kusz-Zamelczyk K*. Distinct Roles of NANOS1 and NANOS3 in the Cell Cycle and NANOS3-PUM1-FOXM1 Axis to Control G2/M Phase in a Human Primordial Germ Cell Model. *Int J Mol Sci*, 2022; 23(12):6592. doi: 10.3390/ijms23126592. Smialek MJ, Ilaslan E, Sajek MP, **Jaruzelska J**. Role of PUM RNA-Binding Proteins in Cancer. Cancers (Basel). 2021 Jan 3;13(1):129. doi: 10.3390/cancers13010129 Woźniak T, Sajek M, **Jaruzelska J**, Sajek MP. RNAlign2D: a rapid method for combined RNA structure and sequence-based alignment using a pseudo-amino acid substitution matrix. BMC Bioinformatics. 2021 Oct 16;22(1):504. doi: 10.1186/s12859-021-04426-8. Janecki DM , Ilaslan E, Smialek MJ, Sajek MP, Kotecki M, Ginter-Matuszewska B, Krainski P, **Jaruzelska J**, Kusz-Zamelczyk K*. Human NANOS1 Represses Apoptosis by Downregulating Pro-Apoptotic Genes in the Male Germ Cell Line. *Int J Mol Sci*, 2020; 21(8):3009. doi: 10.3390/ijms21083009. Smialek MJ, Ilaslan E, Sajek MP, Swiercz A, Janecki DM, Kusz-Zamelczyk K, Wozniak T, Kotecki M, Handschuh L, Figlerowicz M, **Jaruzelska J**. Characterization of RNP Networks of PUM1 and PUM2 Post-Transcriptional Regulators in TCam-2 Cells, a Human Male Germ Cell Model. *Cells*, 2020; 9(4):984. doi: 10.3390/cells9040984 Smialek MJ, Kuczynska B, Ilaslan E, Janecki DM, Sajek MP, Kusz-Zamelczyk K, **Jaruzelska J**. Kinesin KIF18A is a novel PUM-regulated target promoting mitotic progression and survival of a human male germ cell line. *Journal of Cell Science*, 2020; 133(7):jcs240986. doi: 10.1242/jcs.240986. Sajek MP, Woźniak T, Sprinzl M, **Jaruzelska J**, Barciszewski J. T-psi-C: user friendly database of tRNA sequences and structures. *Nucleic Acids Res.* 2020 Jan 8;48(D1):D256-D260. doi: 10.1093/nar/gkz922 Sirokha D, Rayevsky A, Gorodna O, Kalynovskyi V, Zelinska N, Samson O, Kwiatkowska K, Nef S, **Jaruzelska J,** Kusz-Zamelczyk K, Livshits L. Mutations in STARD8 (DLC3) may cause 46,XY gonadal dysgenesis. Sex

	Dev. 2024 Mar 6. doi: 10.1159/000537877. Online ahead of print. PMID: 38447543 Sirokha D, Gorodna O, Vitrenko Y, Zelinska N,Ploski R,Nef S**, Jaruzelska J,** Kusz-Zamelczyk K* and Livshits L. A Novel WT1 Mutation Identified in a 46,XX Testicular/Ovotesticular DSD Patient Results in the Retention of Intron 9. Biology (Basel), 2021; 10(12):1248. doi: 10.3390/biology10121248. Ilaslan E, Markosyan R, Sproll P, Stevenson B J, Sajek M, Sajek MP, Hayrapetyan H, Sarkisian T, Livshits L, Nef S, **Jaruzelska J**, Kusz-Zamelczyk K*. The FKBP4 Gene, Encoding a Regulator of the Androgen Receptor Signaling Pathway, Is a Novel Candidate Gene for Androgen Insensitivity Syndrome. Int J Mol Sci, 2020; 21(21):8403. doi: 10.3390/ijms21218403. Bagheri-Fam S, Chen H, Wilson S, Ayers K, Hughes J, Sloan-Bena F, Calvel P, Robevska G, Puisac B, Kusz-Zamelczyk K, Gimelli S, Spik A, **Jaruzelska J**, Warenik-Szymankiewicz A, Faradz S, Nef S, Pié J, Thomas P, Sinclair A, Wilhelm D. The gene encoding the ketogenic enzyme HMGCS2 displays a unique expression during gonad development in mice. PLoS One, 2020; 15(1):e0227411. doi: 10.1371/journal.pone.0227411. eCollection 2020.
Managing and participating in research projects	National Science Center Poland 2019/35/B/NZ1/01665 (2020-2024); NANOS1 RNP-interactome: structure and dynamics during specification/early stages of human germ cell development – significance for human reproduction (principal investigator - current) National Science Center Poland OPUS 2013/09/B/NZ1/01878 (2013-2017); Global PUMILIO regulation of mRNAs and role of MAELSTROM, a *nuage* component and a cancer testis marker, in human seminoma (principal investigator - past) Past research grants: Swiss National Science Foundation SCOPES number IZ73ZO_152347/1 (2013-2016); Genetics of human disorders of sexual development (Polish coordinator - past)
Previous experience in educating doctoral students and students	I am teaching Developmental Biology MS biotechnology English speaking students, starting from 2011 at A. Mickiewicz University, Poznań. I also teach PhD students in our Doctoral School from its beginning, in 2018. My main topic is Human Developmental Genetics. My teaching is strongly in line with my current research which I present below. Function of supervisor of PhD students: 5 accomplished 1 current: NANOS1 RNP-Interactome: Structure and dynamics during early stages of human germ cell development – Significance for human reproduction

A way to improve your qualifications and competences both in terms of your own scientific development and scientific supervision of doctoral students, including the so-called transversal skills.	I get experience in teaching by teaching MS students, as well as PhD students for many years now. This enabled me to gain experience in teaching. I update my lectures every year with the most recent knowledge, being published in the best scientific journals.

Lecturer	**Dr hab. biol. sci. Monika Piwecka** Institute of Bioorganic Chemistry Polish Academy of Sciences Head of the Department of Non-coding RNAs
A short CV, professional titles and academic degrees, and place of employment	Habilitated Doctor (2025) natural sciences / biological sciences Degree awarded by The Institute of Bioorganic Chemistry of Polish Academy of Sciences Doctor (2012) Degree awarded by The Institute of Bioorganic Chemistry of Polish Academy of Sciences Master (2005) Degree awarded by Adam Mickiewicz University, Poznań Researcher with 15+ years of experience and a long-standing interest in RNA biology and gene expression regulation. Biotechnologist and biochemist by training, molecular and systems biologist by passion. Having worked in research institutes in Poland and Germany. Published 20+ articles in peer-reviewed journals. Co-authored 2 international patents. Co-authored 1 extensive review article on contemporary trends in single-cell and spatial transcriptomics in the context of neurology.
Description of interests, most important scientific achievements	**RNA biology and gene expression regulation** My projects are focused on gene expression regulation, specifically on non-coding RNA mechanisms and functions and their influence on protein-coding genes. She has been interested in microRNAs, circular RNAs and long noncoding RNAs, in particular in the context of their region- and cell-type specificity, RNA-protein interactions and functional studies in the brain and in recent years, in the pituitary gland tissue and the neuroendocrine system. She is using molecular, cellular and systems biology methods to deepen our understanding of posttranscriptional gene expression regulation and the impact of regulatory RNAs in that process.
List of publications from the last 4-5 years	Selected articles:

	Jessica C. Gardner; Katarina Jovanovic; Daniele Ottaviani; Uirá Souto Melo; Joshua Jackson; Rosellina Guarascio; Kalliopi Ziaka; Kwan-Leong Hau; Amelia Lane; Rachel L. Taylor. N. Chai, Ch. Gkertsou, O. Fernando, **Piwecka M.** et al. Winter-chromosomal insertions at Xq27.1 associated with retinal dystrophy induce dysregulation of LINC00632 and CDR1as/ciRS-7; *The American Journal of Human Genetics*; 2025; ; DOI: 10.1016/j.ajhg.2025.01.007 Marta Sztachera; Weronika Wendlandt-Stanek; Remigiusz A. Serwa; Luiza Stanaszek; Michał Smuszkiewicz; Dorota Wronka; **Monika Piwecka** Interrogation of RNA-bound proteome with XRNAX illuminates molecular alterations in the mouse brain affected with dysmyelination; *Cell Reports*; 2025; DOI: 10.1016/j.celrep.2024.115095 Scoyni F, Sitnikova V, Giudice L, Korhonen P, Trevisan DM, Hernandez de Sande A, Gomez-Budia M, Giniatullina R, Ugidos IF, Dhungana H, Pistono C, Korvenlaita N, Välimäki NN, Kangas SM, Hiltunen AE, Gribchenko E, Kaikkonen-Määttä MU, Koistinaho J, Ylä-Herttuala S, Hinttala R, Venø MT, Su J, Stoffel M, Schaefer A, Rajewsky N, Kjems J, LaPierre MP, **Piwecka M**, Jolkkonen J, Giniatullin R, Hansen TB, Malm T.ciRS-7 and miR-7 regulate ischemia-induced neuronal death via glutamatergic signaling. *Cell Rep*. 2024 Mar 5;43(3):113862. **Piwecka M**, Rajewsky N, Rybak-Wolf A. Single-cell and spatial transcriptomics: deciphering brain complexity in health and disease. *Nat Rev Neurol*. 2023, 19(6):346-362. **Piwecka M**, Luisier R, Andreassi C. Editorial: RNA at a breaking point? Cytoplasmic cleavage and other post-transcriptional RNA processing in neurodevelopment and disease. *Front Mol Neurosci.* 2023 May 30;16:1214853. , eCollection 2023. **Piwecka M**, Fiszer A, Rolle K, Olejniczak M. RNA regulation in brain function and disease 2022 (NeuroRNA): A conference report. *Front Mol Neurosci*. 2023, 16:1133209. Koliński M, Kałużna E, **Piwecka M**. RNA-protein interactomes as invaluable resources to study RNA viruses: Insights from SARS CoV-2 studies. *Wiley Interdiscip Rev RNA* 2022, 13(6):e1727.
Managing and participating in research projects	National Science Centre OPUS (2021-2025) Non-coding RNAs at single-cell resolution in the pituitary gland and their role in the regulation of gene expression (principal investigator - current) NAWA Polish Returns Deciphering networks of regulatory RNAs in the central nervous system (2019-2023), (principal investigator) National Science Centre, Sonata Bis (2019-2024) Functional implications of brain-enriched circular RNAs (principal investigator)

	Berlin Institute of Health (BIH) and German Research Foundation (DFG) grants and MDC budget (2015-2019) Cdr1as knockout project, (main investigator & coordinator) UDA-POIG.01.03.01-30-050/09-02, POIG 1.3.1 Programme project co-financed by the European Union (2009-2014) Anti-miRNAs ribozymes as potential therapeutics for the treatment of brain tumors in humans (investigator & project manager) Ministry of Science and Higher Education/National Centre of Science no. 5955/B/P01/2010/38, (2010-2013), Searching for and analysis of non-coding RNAs specific for malignant brain tumors. (investigator) Ministry of Science and Higher Education no. N N403 219637 (2009-2012) Therapeutic approach on the intervention with RNAi (iRNAi) in brain tumors- development of ACRY-RNA (investigator) Ministry of Science and Higher Education N N401 375939 (2010-2011) Application of RNA interference in therapy of brain tumors. (principal investigator) Ministry of Science and Higher Education no. PO5CO6429 (2005-2008) Intervention with interference ribonucleic acid (iRNAi) in neurosurgery. Development of a new type of therapeutic RNA (investigator)
Research fellowships	2015-02-15 to 2019-10-31 postdoctoral researcher - Max Delbrück Centrum für Molekulare Medizin Berlin Buch: Berlin-Buch, Berlin, DE
Previous experience in educating doctoral students and students	Currently, Dr. Piwecka is mentoring and supervising 3 PhD Students: All three PhD candidates went through the midterm evaluation performed by PSD (Poznań Doctoral School of the Institutes of the Polish Academy of Sciences) with a positive recommendation. Two PhD students have completed their doctoral studies, and one of them has just initiated the procedures for obtaining their doctoral degrees.
A way to improve your qualifications and competences both in terms of your own scientific development and scientific supervision of doctoral students, including the so-called transversal skills.	I get experience in teaching by current supervising and mentoring 5 students during postgraduate studies and 9 internships. This year I also started teaching in Doctoral school within the course Human Developmental Genetics. That gives me opportunity to get experience in teaching.

Lecturer	**Prof. dr hab. med. sci. Ewa Ziętkiewicz** Institute of Human Genetics Polish Academy of Sciences Department of Molecular and Clinical Genetics
A short CV, professional titles and academic degrees, and place of employment	Professor, medical sciences (2013) Habilitated Doctor biological sciences (2002) Doctor, biological sciences (1989) Master in biology (1980)
Description of interests, most important scientific achievements	My projects are focused on: Epidemiology and diagnostics of rare diseases; molecular basis of ciliopathies; genetic and epigenetic diversity of human populations; evolution of the human genome.
List of publications from the last 4-5 years	Daca-Roszak, Fiedorowicz J, Jankowski M, Ciesielka M, Teresinski G, Lipska-Zietkiewicz B, **Ziętkiewicz E**, Grzybowski T, Skonieczna K. The effect of library preparation protocol on the efficiency of heteroplasmy detection in mitochondrial DNA using two massively parallel sequencing Illumina systems. J Appl Genet. 2023 Dec 19 online. Rabiasz A. **Ziętkiewicz E.** Schmidtea mediterranea as a model organism to study the molecular background of human motile ciliopathies. Int J Mol Sci 24:4472. doi: 10.3390/ijms24054472. Bukowy-Bieryllo Z, Witt M, **Ziętkiewicz E.** Perspectives for Primary Ciliary Dyskinesia. Int J Mol Sci. 2022 23:4122. Bukowy-Bieryłło Z, Daca-Roszak P, Jurczak J, Przystałowska-Macioła H, Jaksik R, Witt M, Ziętkiewicz E. In vitro differentiation of ciliated cells in ALI-cultured human airway epithelium - The framework for functional studies on airway differentiation in ciliopathies. Eur J Cell Biol. 2022, 10:151189. Jankowski M, Daca-Roszak P, Obracht-Prondzyński C, Płoski R, Lipska-Ziętkiewicz BS, **Ziętkiewicz E.** Genetic diversity in Kashubs: the regional increase in the frequency of several disease-causing variants. J Appl Genet. 2022, 63:691-701. Hryhorowicz S, Ustaszewski A, Kaczmarek-Ryś M, Lis E, Witt M, Pławski A, **Ziętkiewicz E.** European context of the diversity and phylogenetic position of SARS-CoV-2 sequences from Polish COVID-19 patients. J Appl Genet. 2021,62:327-337. Bukowy-Bieryłło Z, Daca-Roszak P, Jurczak J, Przystałowska-Macioła H, Jaksik R, Witt M, **Ziętkiewicz E.** In vitro differentiation of ciliated cells in ALI-cultured human airway epithelium - The framework for functional studies on airway differentiation in ciliopathies. Eur J Cell Biol. 2022 101:151189. Dabrowski M, Bukowy-Bieryllo Z, Jackson CL, **Ziętkiewicz E.** Properties of Non-Aminoglycoside Compounds Used to Stimulate Translational

	Readthrough of PTC Mutations in Primary Ciliary Dyskinesia. Int J Mol Sci. 2021 May 7;22(9):4923. Żurowska, Bielska, Daca-Roszak, Jankowski, Szczepańska, Roszkowska-Bjanid, Kuźma-Mroczkowska, Pańczyk-Tomaszewska, Moczulska, Drożdż, Hadjipanagi, Deltas, Ostalska-Nowicka, Rabiega, Taraszkiewicz, Taranta-Janusz, Wieczorkiewicz-Plaza, Jobs, Mews, Musiał, Jakubowska, Nosek, Jander, Koutsofti, Stanisławska-Sachadyn, Kuleszo , **Zietkiewicz E**, Lipska-Zietkiewicz. 2020. Mild X-linked Alport syndrome due to the COL4A5 G624D variant originating in the Middle Ages is predominant in Central/East Europe and causes kidney failure in midlife. 2021 Kidney Int. 99:1451-1458 Daca-Roszak, Swierniak, Jaksik, Tyszkiewicz, Oczko-Wojciechowska, Zebracka-Gala, Jarzab, Witt, **Ziętkiewicz E**. Discrimination between human populations using a small numer of differentially methylated CpG sites: a preliminary study using lymphoblastoid cell lines and peripheral blood samples of European and Chinese origin. BMC Genomics 2020:706- Bukowy-Bieryllo, Rabiasz, Dabrowski, Pogorzelski, Wojda, Dmenska, Grzela, Sroczynski, Witt, **Ziętkiewicz E**. 2019. Truncating mutations in exons 20 and 21 of OFD1 can cause primary ciliary dyskinesia without associated syndromic symptoms. J Med Genet. 56:769-777. **Zietkiewicz E**, Bukowy-Bieryllo, Rabiasz, Daca-Roszak, Wojda, Voelkel, Rutkiewicz, Pogorzelski, Rasteiro, Witt. 2019. CFAP300: Mutations in Slavic patients with primary ciliary dyskinesia and a role in ciliary dynein arms trafficking, Am J Respir Cell Mol Biol. 61:440-449. Daca-Roszak, **Zietkiewicz E**. 2019.Transcriptome variation in human populations and its potential application in forensics. J Appl Genet. 60:319-328.
Managing and participating in research projects	Most recent research grants: NCN N N401 095537: "Genetic basis of PCD in Polish population" Senior Staff Member (2009-2012) (principal investigator) 027/R/T00/2010/12_AriaDNA2010: Studies on genetic variability at the cellular level - new possibilities for forensic identification" Principal Investigator (2010-2012) (principal investigator) NCN 2012/07/D/NZ4/04206 "Analysis of the impact of some chemical compounds on PTC readthrough in the genes involved in the pathogenesis of primary ciliary dyskinesia" Principal Investigator (2012-2014) (principal investigator) NCN 2014/13/B/NZ2/03858 "Whole-exome sequencing in Polish population of patients with primary ciliary dyskinesia, PCD" Principal Investigator (2014-2018) (principal investigator)

	NCN 2018/31/B/NZ2/03248 “Unsolved issues in molecular basis of primary ciliary dyskinesia (PCD), a motile ciliopathy - identification of large genomic deletions and transcript isoforms” Principal Investigator (2019-2024) (principal investigator)
Previous experience in educating doctoral students and students	2 doctoral theses accomplished and 1 current I have been teaching the graduate and postgraduate students for many years now: in 2002-2014 series of seminars on Population and evolutionary genetics and epidemiology (undergraduate: Biotechnology at the Medical University Poznan, postgraduate - School of Molecular Medicine in Warsaw, Laboratory Medical Genetics and Laboratory Diagnostics in Poznan, 2018-2019 – Genetic epidemiology and human evolution (International Doctoral Studies, Institute of Bioorganic Chemistry PAS, Poznan), 2022, 2023 – Human Genome: Evolution and Variability in Health and Disease (Poznan Doctoral School), 2020, 2022 – Etiology and diagnostics of rare diseases (UAM, Biology Dept)
(Alternatively) *A way to improve your qualifications and competences both in terms of your own scientific development and scientific supervision of doctoral students, including the so-called transversal skills.*	I get experience in teaching by supervising MS thesis of a number of students. I am providing them with research projects, discuss with them on planning and results of experiments. I also supervise writing of their thesis.

Lecturer	**Prof dr hab. med. sci. Maciej Giefing** Institute of Human Genetics Polish Academy of Sciences Head of the Department of Cancer Genetics Deputy director for science at the Institute of Human Genetics
A short CV, professional titles and academic degrees, and place of employment	Professor (2022) medical and health sciences / medical sciences Habilitated Doctor (2014), medical science / medical biology Institute of Human Genetics of Polish Academy of Sciences Doctor (2008) biotechnology Institute of Human Genetics of Polish Academy of Sciences Master (2004) biotechnology Institute of Human Genetics of Polish Academy of Sciences

Description of interests, most important scientific achievements	He graduated from Adam Mickiewicz University in Poznan in 2004, where he completed his master's degree in biotechnology. Following that, he started working at the Institute of Human Genetics PAS in Poznan. During his doctoral studies, his scientific interests was focused on cancer genetics research. He studied chromosomal aberrations and tumor suppressor genes in head and neck cancers as well as in classical Hodgkin's lymphoma. During this period, he began close cooperation with research groups from Germany continued to this day. He did a long-term (3 years) post-doctoral stay in the Institute of Human Genetics in Kiel, Germany. In 2015, he took on a post of the Head of Department of Cancer Genetics at the IHG PAS, of which he has been in charge of until present. Prof. Giefing is the author of over 73 scientific articles in the field of cancer genetics, published e.g. in Nature Medicine, Nature Communications, PNAS and Blood and Leukemia. Cummulative IF>310. He has received numerous awards for his research including the team prize for scientific achievements from the Department V of Medical Sciences of the Polish Academy of Sciences in 2019 or the prize awarded by the regional branch of the Polish Academy of Sciences in Poznan for the best publication with the first authorship of a PhD student in 2021, where prof. Giefing was the senior author.
List of publications from the last 4-5 years	Kowal-Wisniewska E, Jaskiewicz K, Bartochowska A, Kiwerska K, Ustaszewski A, Gorecki T, **Giefing M**, Paluszczak J, Wierzbicka M, Jarmuz-Szymczak M. Towards effectiveness of cell free DNA based liquid biopsy in head and neck squamous cell carcinoma. *Scientific Reports* 2024;14(1):2251. Schleussner N, Cauchy P, Franke V, **Giefing M**, Fornes O, Vankadari N, Assi S. A, Costanza M, Weniger A. M, Akalin A, Anagnostopoulos I, Bukur T, Casarotto G. M, Damm F, Daumke O, Edginton-White B, Gebhardt C. M. K, Grau M, Grunwald S, Hansmann M-L, Hartmann S, Huber L, Kärgel E, Lusatis S, Noerenberg D, Obier N, Pannicke U, Fischer A, Reisser A, Rosenwald A, Schwarz K, Sundararaj S, Weilemann A, Winkler W, Xu W, Lenz G, Rajewsky K, Wasserman W. W, Cockerill N. P, Scheidereit C, Siebert R, Küppers R, Grosschedl R, Janz M, Bonifer C, and Stephan Mathas. Transcriptional reprogramming by mutated IRF4 in lymphomas. *Nature Communications* 2023;14(1):6947. Ustaszewski A, Paczkowska J, Janiszewska J, Bernhart SH, Bein J, Russiñol N, Hansmann M-L, Chapaprieta V, Martín-Subero JI, Siebert R, Hartmann S, **Giefing M**. Identification of two unannotated miRNAs in classic Hodgkin lymphoma cell lines. *PLoS One.* 2023;18(3):e0283186 López C, Schleussner N, Bernhart SH, Kleinheinz K, Sungalee S, Sczakiel HL, Kretzmer H, Toprak UH, Glaser S, Wagener R, Ammerpohl O, Bens S, **Giefing M**, González Sánchez JC, Apic G, Hübschmann D, Janz M, Kreuz M, Mottok A, Müller JM, Seufert J, Hoffmann S, Korbel JO, Russell RB, Schüle R, Trümper L, Klapper W, Radlwimmer B, Lichter P, ICGC MMML-Seq Consortium, Küppers R, Schlesner M, Mathas S, Siebert R. Focal structural variants revealed by whole genome sequencing disrupt the histone demethylase KDM4C in B cell lymphomas. *Haematologica.* 2023;108(2):543-554.

	Galka-Marciniak P, Kanduła Z, Tire A, Wegorek W, Gwozdz-Bak K, Handschuh L, Giefing M, Lewandowski K, Kozlowski P. Mutations in the miR-142 gene are not common in myeloproliferative neoplasms. Scientific Reports 2022;12(1):10924. Kiwerska K, Kowal-Wisniewska E, Ustaszewski A, Bartkowiak E, Jarmuz-Szymczak M, Wierzbicka M, Giefing M. Global DNA methylation profiling reveals differentially methylated CpGs between salivary gland pleomorphic adenomas with distinct clinical course. International Journal of Molecular Sciences 2022;23(11):5962. Giefing M, Gearhart MD, Schneider M, Overbeck B, Klapper W, Hartmann S, Ustaszewski A, Weniger MA, Wiehle L, Hansmann ML, Melnick A, Béguelin W, Sundström C, Küppers R, Bardwell VJ, Siebert R. Loss of function mutations of BCOR in classical Hodgkin lymphoma. Leukemia & Lymphoma. 2022;63(5):1080-1090. (MNiSzW 70; IF 2,6) Janiszewska J, Bodnar M, Paczkowska J, Ustaszewski A, Smialek MJ, Szylberg L, Marszalek A, Kiwerska K, Grenman R, Szyfter K, Wierzbicka M, Giefing M*, Jarmuz-Szymczak M*. Loss of the MAF transcription factor in laryngeal squamous cell carcinoma. Biomolecules 2021;11:1035. * both senior authors contributed equally to this work. Paczkowska J, Janiszewska J, Ustaszewski A, Bein J, Skalski M, Dzikiewicz-Kawczyk A, Rozwadowska N, Hansmann M-L, Hartmann S, Giefing M. Deregulated miRNAs Contribute to Silencing of B-Cell Specific Transcription Factors and Activation of NF-κB in Classical Hodgkin Lymphoma. Cancers, 2021;13(13):3131. Ustaszewski A, Kostrzewska-Poczekaj M, Janiszewska J, Jarmuz-Szymczak M, Wierzbicka M, Marszal J, Grenman R, Giefing M. Assessing various control samples for microarray gene expression profiling of laryngeal squamous cell carcinoma. Biomolecules. 2021;11(4):588. Bednarek K, Kostrzewska-Poczekaj M, Ustaszewski A, Janiszewska J, Kiwerska K, Paczkowska J, Grenman R, Giefing M, Jarmuz-Szymczak M. Laryngeal squamous cell carcinoma cell lines show high tolerance for CDK1 downregulation. American Journal of Cancer Research 2021; 15;11(5):2081-2094. Paczkowska J, Janiszewska J, Bein J, Schneider M, Bednarek K, Ustaszewski A, Hartmann S, Hansmann ML, Giefing M. The tumor suppressive mir-148a is epigenetically inactivated in classical Hodgkin lymphoma. Cells 2020, 14;9(10):2292. Iżykowska K, Rassek K, Żurawek M, Nowicka K, Paczkowska J, Ziółkowska-Suchanek I, Podralska M, Dzikiewicz-Krawczyk A, Joks M, Olek-Hrab K, Giefing M, Przybylski G.K. Hypomethylation of the promoter region drives ectopic expression of TMEM244 in Sézary

	cells. Journal of Cellular and Molecular Medicine 2020, 24(18):10970-7. Kostrzewska-Poczekaj M, Bednarek K, Jarmuz-Szymczak M, Bodnar M, Filas V, Marszalek A, Bartochowska A, Grenman R, Kiwerska K, Szyfter K, Giefing M. Copy number gains of the putative CRKL oncogene in laryngeal squamous cell carcinoma result in strong nuclear expression of the protein and influence cell proliferation and migration. Scientific Reports 2020; 10(1), 24. Bankov K, Döring C, Ustaszewski A, Giefing M, Herling M, Cencioni C, Spallotta F, Gaetano C, Küppers R, Hansmann ML, Hartmann S. Fibroblasts in nodular sclerosing classical Hodgkin lymphoma are defined by a specific phenotype and protect tumor cells from Brentuximab-Vedotin induced injury. Cancers 2019; 11(11), 1687. Kostrzewska-Poczekaj M*, Byzia E*, Soloch N, Jarmuz-Szymczak M, Janiszewska J, Kowal E, Paczkowska J, Kiwerska K, Wierzbicka M, Bartochowska A, Ustaszewski A, Greczka G, Grenman R, Szyfter K and Giefing M. DIAPH2 alterations increase cellular motility and may contribute to the metastatic potential of laryngeal squamous cell carcinoma. Carcinogenesis. 2019; 40:1251-1259. *Both authors contributed equally to this work. Paczkowska J, Soloch N, Bodnar M, Kiwerska K, Janiszewska J, Vogt J, Domanowska E, Martin-Subero JI, Ammerpohl O, Klapper W, Marszalek A, Siebert R, Giefing M. Expression of ELF1, a lymphoid ETS domain containing transcription factor, is recurrently lost in classical Hodgkin lymphoma. British Journal of Haematology. 2019; 185:79-88.
Managing and participating in research projects	Grants for Grants February 29-June 3, 2024 The aim of the competition is to award funds to finance a one-time salary supplement for the institute's research staff involved in developing the project application entitled: Research and Targeting the Interactions Between the Tumor and the Cancer Niche Driving B-Cell Transformation and Resulting in Therapy Resistance – ExTINCT BCOR Gene Damage and Activation of the Oncogenic CXCL12 Pathway in Classical Hodgkin Lymphoma 26.01.2022 - 25.01.2026 NCN OPUS 2021/41/B/NZ2/01235 „Uszkodzenia genu BCOR a aktywacja onkogennego szlaku CXCL12 w klasycznym chłoniaku Hodgkina” (principal investigator) NCN OPUS 2020/39/B/NZ2/01004 „Analiza funkcjonalna nowych, potencjalnie onkogennych miRNA w klasycznym chłoniaku Hodgkina” 2021-2024 (principal investigator) TWINNING 952304 (H2020-WIDESPREAD-2020-5) „On the road to excellence in unravelling the (epi)genetic landscape of hematologic neoplasms” - NEXT_LEVEL 2021-2023 (principal investigator)

	NCN OPUS 2016/23/B/NZ2/03041 „Całogenomowe poszukiwanie mutacji regulomu w płaskonabłonkowym raku krtani“2017-2020 (principal investigator) NCN HARMONIA 2014/14/M/NZ2/00529 „Identyfikacja miRNA zaangażowanych w patogenezę klasycznego chłoniaka Hodgkina przy pomocy zintegrowanej analizy ekspresji i mutacji oraz badań funkcjonalnych“2015-2018 (principal investigator) IP 2012 0120 72 „Czynniki transkrypcyjne ELF1 i ELF2 – czy ich utrata jest powiązana z „loss-of-B-cell-identity” w klasycznym chłoniaku Hodgkina?” 2013-2016 (principal investigator) 2012/05/B/NZ2/00870 "Analiza mutacyjna genów DIAPH2 i DIAPH3 w przerzutującym, płaskonabłonkowym raku krtani." 2013-2016 (principal investigator) 2011/01/D/NZ2/00095 "Stworzenie warsztatu umożliwiającego badanie metylacji DNA poprzez pirosekwencjonowanie." 2011-2014 (principal investigator) N N401 014840 "Analiza mutacyjna nowych, potencjalnych genów supresji nowotworowej ATG7, ZMYND11, PCDH17 i PTPRD w liniach komórkowych płaskonabłonkowego raka krtani"2011-2014 (principal investigator) NN 301 238736 "Gen GNG7 w patogenezie chłoniaka Hodgkina"2009-2012 (principal investigator) N301 067 32/2586 „Identyfikacja nowych genów supresji nowotworowej na podstawie analizy delecji homozygotycznych wykrytych w liniach komórkowych nowotworów krtani” 2007-2008 (principal investigator)
Previous experience in educating doctoral students and students	2 doctoral thesis accomplished, 2 assistant supervisions
(Alternatively) *A way to improve your qualifications and competences both in terms of your own scientific development and scientific supervision of doctoral students, including the so-called transversal skills.*	I get experience in teaching by guiding seminars for UMP students in 2014-2018 on selected topics in laryngological oncology (in Polish and English)

Lecturer	**Dr hab. biol. sci. Małgorzata Borowiak** Independent Group Leader: "Pluripotent stem cells for pancreatic development and disease" Institute of Molecular Biology and Biotechnology, Faculty of Biology, A Mickiewicz University Poznań, Poland
A short CV, professional titles and academic degrees, and place of employment	Habilitated Doctor (2014) biological sciences / biology Uniwersytet im. Adama Mickiewicza w Poznaniu 1.01.2016 - currently
Description of interests, most important scientific achievements	My research is focused on deep understanding of mechanism regulating gene expression in the perspective of development and pathogenesis. Very keen to apply conventional and top-notch technologies for uncovering the mechanisms of human organ forming, function and diseases proven by training and research record. I have Expertise in leading independent research program, obtaining funding, academic and industrial collaborations, teaching and mentoring. I published in top journals including Nature, Cell Stem Cell, Nature Biotechnology, Nature Communications, and Science Translational Medicine
List of publications from the last 4-5 years	Bettini M, Scavuzzo MA, Liu B, Kolawole E, Guo L, Evavold BD, Borowiak M, Bettini ML A Critical Insulin TCR Contact Residue Selects High-Affinity and Pathogenic Insulin-Specific T Cells. Diabetes. 2020 Mar;69(3):392-400. doi: 10.2337/db19-0821. Epub 2019 Dec 13.PMID: 318366 Mace EM , Paust S, Conte MI, Baxley RM, Schmit MM, Patil SL, Guilz NC, Pezzi MMAE, Chmielowiec J, Tatineni S, Chinn IK, Muzny D, Stray-Pedersen A, Bradley RA, Moody M, Heaps GA, Steward C, Banerjee PP, Gibbs RA, Borowiak M, Lupski JR, Jolles SR, Bielinsky A, Orange SJ. Human NK cell deficiency as a result of biallelic mutations in MCM10. J Clin Invest.,2020 Oct 1;130(10):5272-5286, doi: 10.1172/JCI13496 Bissig-Choisat B, Alves-Bezerra M, Zorman B, Ochsner SA, Barzi M, Legras X, Yang D, Borowiak M, Dean AM, York RB, Galvan NTN, Goss J, Lagor WR, Moore DD, Cohen DE, McKenna NJ, Sumazin P, Bissig KD. A human liver chimeric mouse model for non-alcoholic fatty liver disease. JHEP Rep. 2021 Mar 21;3(3):100281. doi: 10.1016/j.jhepr.2021.100281. eCollection 2021 Jun.PMID: 34036256 Szlachcic WJ, Ziojla N, Kizewska DK, Kempa M, Borowiak M. Endocrine Pancreas Development and Dysfunction Through the Lens of Single-Cell RNA-Sequencing. Front Cell Dev Biol. 2021 Apr 29;9:629212. doi: 10.3389/fcell.2021.629212. eCollection 2021.PMID: 33996792 Yang D, Patel S, Szlachcic WJ, Chmielowiec J, Scaduto D, Putluri N, Sreekumar A, Suliburk J, Metzker M, Balasubramanyam A, Borowiak

	M., Pancreatic Differentiation of Stem Cells Reveals Pathogenesis of a Syndrome of Ketosis-Prone Diabetes. Diabetes. 2021Oct;70(10):2419-2429. doi: 10.2337/db20-1293. Epub 2021 Aug 3.PMID: 34344789 Shcheglova E, Blaszczyk K, Borowiak M. Mitogen Synergy: An Emerging Route to Boosting Human Beta Cell Proliferation. Front Cell Dev Biol. 2022 Jan 27;9:734597. doi: 10.3389/fcell.2021.734597. eCollection 2021.PMID: 3515544. Szlachcic WJ*, Dabrowska A*, Milewska A, Ziojla N, Blaszczyk K, Barreto-Duran E, Sanak M, Surmiak M, Owczarek K, Grzanka D, Durzynska J, Pyrc K, Borowiak M. SARS-CoV-2 infects an in vitro model of the human developing pancreas through endocytosis. iScience. 2022 Jul 15;25(7):104594. doi: 10.1016/j.isci.2022.104594. ISSN= 2589-0042. Chmielowiec J*, Szlachcic WJ*, Yang D*, Scavuzzo MA, Wamble K, Sarrion-Perdigones A, Sabek OM, Venken KJT, Borowiak M. Human pancreatic microenvironment promotes β-cell differentiation via non-canonical WNT5A/JNK and BMP signaling. Nature Commun. 2022 Apr 12;13(1):1952. doi: 10.1038/s41467-022-29646- 1. ISSN= 2041-1723. Szlachcic WJ, Letai KC, Scavuzzo MA, Borowiak M. Deep into the niche: Deciphering local endoderm- microenvironment interactions in development, homeostasis, and disease of pancreas and intestine. Bioessays. 2023 Apr;45(4):e2200186. doi: 10.1002/bies.202200186. ISSN= 0265-9247 Hoefner C, Bryde TH, Pihl C, Tiedemann SN, Bresson SE, Hotiana HA, Khilji MS, Santos TD, Puglia M, Pisano P, Majewska M, Durzynska J, Klindt K, Klusek J, Perone MJ, Bucki R, Hägglund PM, Gourdon PE, Gotfryd K, Urbaniak E, Borowiak M, Wierer M, MacDonald PE, Mandrup-Poulsen T, Marzec MT. FK506-Binding Protein 2 Participates in Proinsulin Folding. Biomolecules. 2023 Jan 11;13(1):152. doi: 10.3390/biom13010152. Taylor K, Piasecka A, Kajdasz A, Brzęk A, Polay Espinoza M, Bourgeois CF, Jankowski A, Borowiak M, Raczyńska KD, Sznajder ŁJ, Sobczak K. Modulatory role of RNA helicases in MBNL-dependent alternative splicing regulation. Cell Mol Life Sci. 2023 Oct 26;80(11):335. doi: 10.1007/s00018-023-04927-0. PMID: 37882878
Managing and participating in research projects	Received funding from DFG, Rx Foundation, HHMI, Hemsley Foundation, NcNair Medical Institute, NIH, JDRF, EU Horizon, FNP, NCN
Previous experience in educating doctoral students and students	Max-Delbruck and Free University: Mouse genetics-practical course for graduate students Harvard University- Introduction to stem cells-practical course for undergraduate students Baylor College of Medicine- Classical developmental biology for MD students and graduate students, lectures

	Baylor College of Medicine- Ethics in research -for MD students, lectures Baylor College of Medicine- Topics in stem cell biology for MD students and graduate students, lectures Adam Mickiewicz University- Stem cells- for master's degree students, lectures Adam Mickiewicz University-Cell and Gene Therapy- for master's degree students, lectures Adam Mickiewicz University- Developmental Biology-co-teaching, for master's degree students, lectures **Function of supervisor of PhD students:** *Baylor College of Medicine:* Marissa A Scavuzzo- main advisor, during this time Marissa received NIH fellowship, awards for oral and poster presentations at international meeting, awarded Lehmann Outstanding Student Award Deborah K. Martin Achievement Award in Biomedical Science, graduated with highest honors-2019 Commencement Speaker. Currently she is a post-doc at Case Western Reserve University, recipient of New Yor Stem Cell Foundation Fellowship, HHMI young investigator Award and Science Eppendorf Prize Diane Yang-main advisor, during this time Diane received awards for oral and poster presentations at international meeting, Molecular and Cell Biology Program Graduate 1st Award for best PhD student (twice), graduated with highest honors. Currently she is a post-doc at Harvard Medical School **Co-advisor for 7 other students.** *Adam Mickiewicz University:* Natalia Ziojla- main advisor, Natalia received Dean Fellowship, graduated with distinctions Anna P. Jedrzejak-main advisor, awarded Dean Fellowship, NCN Preludium grant, Edyta Urbaniak- main advisor, IDUB -UAM grant, NCN Preludium grant, Sara Henry- main advisor, IDUB -UAM grant Dorota Kizewska- main advisor, IDUB -UAM grant

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Lecturer	Prof. Dr. hab. Idzi Siatkowski
A short CV, professional titles and academic degrees, and place of employment	Specialization: experimentalism, programming, mathematical statistics KBN classification: computer science, mathematics The title of professor in the field of agricultural sciences was awarded on December 6, 2013. The degree of habilitated doctor of agricultural sciences, specialty agronomy obtained on June 24, 2005 (Analysis of row-column systems, August Cieszkowski Agricultural University in Poznań; Faculty of Agriculture). Ph.D. in the field of mathematical sciences, specialty probability theory obtained on January 1, 1990 (Linear models with two groups of inserted parameters, Adam Mickiewicz University; Faculty of Mathematics and Physics). Since October 1, 1980, he has been working at the University of Life Sciences in Poznań, currently as a professor at the Faculty of Agriculture, Horticulture and Biotechnology; Department of Mathematical and Statistical Methods. In the years 1.10.2007 - 30.09.2014, he was employed at the Higher School of Humanities and Journalism in Poznań.
Description of interests, most important scientific achievements	He is the author/co-author of over 166 scientific papers and patent number 233178 (Cell model of human ovarian cancer in culture with paclitaxel-induced inverse resistance to paclitaxel and cisplatin and application of this model). Long-time and experienced lecturer at several universities and institutes in Poznań. Lecture topics include basics of calculations for large data sets, data visualization, nonparametric testing, multivariate statistical analysis, linear models and regressions in terms of biologists, medics and geneticists.
List of publications from the last 4-5 years	List of most important publications: 1. Wójcik M, Kampioni M, Hudáková Z, Siatkowski I, Kędzia W, Jarząbek-Bielecka G. The Effect of Osteopathic Visceral Manipulation on Quality of Life and Postural Stability in Women with Endometriosis and Women with Pelvic Organ Prolapse: A Non-Controlled Before-After Clinical Study. J Clin Med. 2025 Jan 24;14(3):767. doi: 10.3390/jcm14030767. 2. Matysiak K, Szewczuk M, Napierała A, Nowak K, Olijarczyk R, Siatkowski I. Assessment of clinical outcome after sudden alteration of home parenteral nutrition program from customised to commercially premixed admixtures. Experience with short bowel syndrome treatment. Clin Nutr ESPEN. 2024 Apr;60:298-302. doi: 10.1016/j.clnesp.2024.02.020. 3. Szabelska-Beresewicz, A., Zyprych-Walczak, J., Siatkowski, I. et al. Ambiguous genes due to aligners and their impact on RNA-seq data analysis. Sci Rep 13, 21770 (2023). https://doi.org/10.1038/s41598-023-41085-6 4. Wójcik, M., Siatkowski, I. The effect of cranial techniques on the heart rate variability response to psychological stress test in firefighter cadets. Sci Rep 13, 7780 (2023). https://doi.org/10.1038/s41598-023-34093-z

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	5. Wójcik, M.; Goździewicz, T.; Hudáková, Z.; Siatkowski, I. (2023). Endometriosis and the Temporomandibular Joint—Preliminary Observations. Journal of Clinical. Medicine, 12, 2862. https://doi.org/ 10.3390/ jcm12082862 6. Wójcik, M., Siatkowski, I. (2023). The effect of cranial techniques on the heart rate variability response to psychological stress test in firefighter cadets. Scientific Reports 13, 7780. https://doi.org/10.1038/s41598-023-34093-z. 7. Matysiak Konrad, Szewczuk Magdalena, Sobocki Jacek, Zdziarska Marta, Siatkowski Idzi (2022). Letter to the Editor in response to: Choosing the appropriate vascular access device in adult non-hospitalised patients Paolo Cotogni M.D., M.Sc., Nutrition 97, doi: https://doi.org/10.1016/j.nut.2021.111587. 8. Piekarska-Boniecka H., Rzańska-Wieczorek M., Siatkowski I. (2022). Urban greenery as a habitat for parasitoids of the Pimplinae subfamily (Hymenoptera, Ichneumonidae). Urban Forestry & Urban Greening. https://doi.org/10.1016/j.ufug.2021.127415. 9. Piekarska-Boniecka H., Rzańska-Wieczorek M., Siatkowski I., Barczak T. (2022). Parasitisation of Yponomeuta malinellus feeding on Crataegus monogyna in the allotment gardens in the city of Poznań, Poland. Plant Protection Science, 58 (2), 150-157. https://doi.org/10.17221/ 101/2021-PPS. 10. Piekarska-Boniecka H., Siatkowski I. (2022). The parasitisation of the rose tortrix [Archips rosana (L.)] population in the apple orchard in the Wielkopolska region, Poland. Acta Sci. Pol. Hortorum Cultus, 21(6), 21(6), 91–101. https://doi.org/10.24326/ asphc.2022.6.8. 11. Sobek Zbigniew, Różańska-Zawieja Jolanta, Siatkowski Idzi, Szabelska-Beręsewicz Alicja, Zyprych-Walczak Joanna (2022). Assessment of the accuracy of selected models used to estimate the heritability coefficient in a cattle population. Animal Science and Genetics 18 (1), 25-31. DOI: 10.5604/01.3001.0015.7774. 12. Wójcik M., Siatkowski I., Żekanowska E. (2022). A Proposal for the Use of Craniosacral Therapy in Firefighter Cadets to Decrease Cortisol Levels and Improve Postural Stability – A Randomized Trial. Journal of Men's Health 18(6): 140. https://doi.org/10.31083/ j.jomh1806140. 13. Wójcik M., Siatkowski I., Żurek P. (2022). Application of functional tests in the prevention from musculoskeletal injuries in young classical style wrestlers. Journal of Men's Health 18(5): 111. http://doi.org/10.31083/j.jomh1805111. 14. Matysiak Konrad, Szewczuk Magdalena, Sobocki Jacek, Zdziarska Marta, Siatkowski Idzi (2021). Complications of tunneled peripherally inserted central and tunneled-cuffed central catheters in

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	home parenteral nutrition. Nutrition 91_92, 111354. https://doi.org/10.1016/j.nut.2021.111354. 15. Różańska-Zawieja Jolanta, Winnicki Stanisław, Zyprych-Walczak Joanna, Szabelska-Beręsewicz Alicja, Siatkowski Idzi, Nowak Włodzimierz, Stefańska Barbara, Kujawiak Ryszard, Sobek Zbigniew (2021). The Effect of Feeding Management and Culling of Cows on The Lactation Curves and Milk Production of Primiparous Dairy Cows. Animals 11, 1959. https://doi.org/10.3390/ani11071959.
Previous experience in educating doctoral students and students	Academic teacher with many years of teaching experience. Supervisor of 2 doctoral students

Lecturer	Prof. Dr hab. Robert Malinowski
A short CV, professional titles and academic degrees, and place of employment	Specialization: biotechnology, molecular genetics Discipline: agriculture and horticulture The title of professor in the field of exact and natural sciences/biological sciences was awarded in 2023. He obtained the degree of Doctor Habilitated in the field of biological sciences/biology (Faculty of Biology, Adam Mickiewicz University in Poznań) in 2012. He obtained his doctorate in agricultural sciences/horticulture in 2004 (Warsaw University of Life Sciences (SGGW)). In 2013, he returned to Poland, where he started his own research group; first in Warsaw (1.02.2013 - 28.02.2015, PAN OB-CZRB), and later in Poznań (since 1.03.2015, IGR PAN), as ERA-CHAIR in the BIO-TALENT project awarded to the Institute. He was involved in the work of the Biotechnology Committee of the Polish Academy of Sciences, and is also a representative of Poland in the Multinational Arabidopsis Steering Committee.
Description of interests, most important scientific achievements	The description of the systemic nature of phloem-mediated reprogramming of the coordination of physiological and developmental processes in rapeseed plants infected with clubroot.
List of publications from the last 4-5 years	1. Malinowski R., Singh D., Kasprzewska A., Blicharz S. and Basińska-Barczak A. (2024) Vascular tissue – boon or bane? How pathogens usurp long-distance transport in plants and the defence mechanisms deployed to counteract them. New Phytologist, 243, 2075-2092. 2. Blicharz S., Stefanowicz K., Truman, W., Basinska-Barczak A., Singh D., Kasprzewska, A., de Diego, N., Vrobel, O., Cavar Zeljkovic, S., Tarkowski, P. and Malinowski R. (2024) Laser dissection-assisted phloem transcriptomics highlights the metabolic and physiological changes

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	accompanying clubroot disease progression in oilseed rape. The Plant Journal, (in press) 3. Ochoa J.C., Mukhopadhyay S., Bieluszewski T., Jędryczka M., Malinowski R. and Truman W. (2023) Natural variation in Arabidopsis responses to *Plasmodiophra brassicae* reveals an essential role for Resistance to *Plasmodiophora brassicae* 1 (RPB1). The Plant Journal, 116, 1421-1440. 4. Singh D., Blicharz S., Stefanowicz K., Ragni L., Michalak K., Bagniewska-Zadworna A., and Malinowski R. (2022) Combining Clearing and Fluorescence Microscopy for Visualising Changes in Gene Expression and Physiological Responses to *Plasmodiophra brassicae*. J Vis Exp, e64297.DOI:10.3791/64297-v 5. Blicharz S., Beemster GTS, Ragni L., De Diego N., Spichal L., Hernandiz A.E., Marczak L., Olszak M., Perlikowski D., Kosmala A., Malinowski R. (2021) Phloem exudate metabolic content reflects the response to water-deficit stress in pea plants (*Pisum sativum L.*). The Plant Journal 106 (5): 1338-1355. DOI: https://doi.org/10.1111/tpj.15240 6. Stefanowicz K., Szymanska-Chargot M., Truman W., Walerowski P., Olszak M., Augustyniak A., Kosmala A., Zdunek A., Malinowski R. (2021) *Plasmodiophra brassicae*-Triggered Cell Enlargement and Loss of Cellular Integrity in Root Systems Are Mediated by Pectin Demethylation. Frontiers in Plant Science 12. DOI: https://doi.org/10.3389/fpls.2021.711838 7. Olszak M., Truman W., Stefanowicz K., Śliwinska E., Ito M., Walerowski P., Rolfe S., Malinowski R. (2019). Transcriptional profiling identifies critical steps of cell cycle reprogramming necessary for *Plasmodiophra brassicae*-driven gall formation in Arabidopsis. The Plant Journal 97 (4):715-729. DOI: https://doi.org/10.1111/tpj.14156 8. Walerowski P., Gündel A., Yahaya N., Truman W., Sobczak M., Olszak M., Rolfe S., Borisjuk L., Malinowski R. (2018). Clubroot Disease Stimulates Early Steps of Phloem Differentiation and Recruits SWEET Sucrose Transporters within Developing Galls. The Plant Cell 30 (12), 3058-3073. DOI: https://doi.org/10.1105/tpc.18.00283
Managing and participating in research projects	He was/is the manager of 4 NCS projects, including 3 OPUS and 1 Sonata bis.
Research fellowships	In 2005-2007, he completed an internship in the group of Johannes Stratmann at the University of South Carolina, US. In October 2007, he joined Andrew Fleming's group at Sheffield University, UK, where he worked as part of the Transfer Of Knowledge (TOK) M. Curie program until 2010. He then joined the team of Stephen Rolfe (Sheffield University), where he worked on the interaction of plants with *Plasmodiophra brassicae*.

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Lectures delivered in Poland and abroad	Numerous lectures in Poland and abroad.
Previous experience in educating doctoral students and students	He has teaching experience in the field of plant development, cell growth, cell differentiation, cell patterning, plant vascular systems, and plant-microorganism interactions. Supervisor and supervisor of PhD students.

Lecturer	prof. Marko Vinceković
A short CV, professional titles and academic degrees, and place of employment	Discipline: Polymer Chemistry, Physical Chemistry, Surface Chemistry In June 2010, he obtained his Ph.D. from the Faculty of Science, University of Zagreb, Croatia. The title of his thesis is "Nano and Microcomplexes of Biopolymer Carrageenans (Polysaccharides) and Surfactants". During his postgraduate studies, he participated in teaching and laboratory exercises of several courses (modules). In 2011-2012, he spent one year as a postdoctoral student in the Complex Fluids Laboratory at the Institute of Physics at UNAM, Mexico. In September 2012, he graduated from Algebra College, Zagreb, where he was involved in the development and implementation of EU-funded projects. He has been associated with the University of Zagreb Faculty of Agriculture, Croatia, since 2002.
Description of interests, most important scientific achievements	Most of his competences are related to colloid chemistry and agricultural chemistry. Since 2003, he has been investigating molecular structure/function relationships of biopolymers and physicochemical processes in complex systems with biopolymers (oppositely charged polysaccharides, proteins, and surfactants). Current research interests are intermolecular interactions in new formulations of biopolymer-based microcapsules for plant nutrition/protection and preparation of functional food.
List of publications from the last 4-5 years	1. Kajić, Sanja; Živković, Lana; Lazarević, Boris; Borovec, Petra; Novak, Adrijana; Mutaliyeva, Botagoz; Turebayeva, Tamila; Madybekova, Galyia; Vinceković, Marko Effects of co-inoculation with Bradyrhizobium and Trichoderma harzianum on soybean nitrogen nutrition and multispectral traits // Environmental technology & innovation, 39 (2025), 104274-104274. doi: 10.1016/j.eti.2025.104274 2. Režek Jambrak, Anet; Nutrizio, Marinela; Dukić, Josipa; Djekić, Ilija; Vinceković, Marko; Jurić, Slaven; Pataro, Gianpiero; Tiwari, Brijesh; Goksen, Gulden; Semenčić, Mojca Čakić et al. Digitalisation, bioinformatics, and delivery systems in sustainable nonthermal extraction of proteins // International journal of food science & technology, 60 (2025), 1; 1-24. doi: 10.1093/ijfood/vvae038

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	3. Vinceković, Marko; Jurić, Slaven; Maslov Bandić, Luna; Tanuwidjaja, Irina; Oštarić, Fabijan; Domović, Dario; Kiš, Marta; Zdolec, Nevijo; Kazazić, Snježana; Mikulec, Nataša. Effects of innovative technology of "Paški sir" production on its aroma profile // Mljekarstvo, 75 (2025), 1; 3-14. doi: 10.15567/mljekarstvo.2025.0101 4. Vinceković, Marko; Maslov Bandić, Luna; Oštarić, Fabijan; Kiš, Marta; Zdolec, Nevijo; Marić, Ivan; Šegota, Suzana; Zelić, Hana; Mikulec, Nataša. Simultaneous Encapsulation of Probiotic Bacteria (Lactococcus lactis, and Lactiplantibacillus plantarum) in Calcium Alginate Hydrogels // Gels, 11 (2025), 1; 34-15. doi: 10.3390/gels11010034 5. Mrkonjić Fuka, Mirna; Jurić, Slaven; Han, Luka; Grdiša, Martina; Vinceković, Marko; Tanuwidjaja, Irina. Ekstrakcija ukupnih polifenola iz lista masline, procjena mikrobiološke čistoće i antimikrobne aktivnosti ekstrakata // Journal of Central European agriculture, 25 (2024), 4; 1107-1120. doi: 10.5513/jcea01/25.4.4360 6. Vinceković, Marko; Živković, Lana; Turkeyeva, Elmira; Mutaliyeva, Botagoz; Madybekova, Galiya; Šegota, Suzana; Šijaković Vujičić, Nataša; Pustak, Anđela; Jurkin, Tanja; Kiš, Marta et al. Development of Alginate Composite Microparticles for Encapsulation of Bifidobacterium animalis subsp. lactis // Gels, 10 (2024), 11; 752-786. doi: 10.3390/gels10110752 7. Jurić, Slaven; Vlahoviček-Kahlina, Kristina; Fabek Uher, Sanja; Vinceković, Marko. Amplifying synthesis of health-promoting metabolites in tomatoes via stimulation with encapsulated biological and chemical agents in hydroponic and soil cultivation // Food bioscience, 61 (2024), 104717, 10. doi: 10.1016/j.fbio.2024.104717 8. Vinceković, Marko; Jurić, Slaven; Vlahoviček-Kahlina, Kristina; Novak, Adrijana; Ivić, Dario; Hazler; Laura; Jurkin, Tanja; Bafti, Arijeta; Šijaković Vujičić, Nataša. Novel copper alginate microspheres as ecological fungicides // Sustainability, 16 (2024), 13; 5637, 23. doi: 10.3390/su16135637
Managing and participating in research projects	He participated in one TEMPUS project, as a researcher in several national projects funded by the Ministry of Science, Education and Sport, one COST project, and one postdoctoral project established by UNAM (Universidad Autonoma de Mexico). Currently, he is a coordinator and partner of national projects funded by the Croatian Science Foundation. he is also a partner in one scientific project with the Republic of Kazakhstan. He is a member of the Croatian Chemical Society, the Croatian Society of Electron Microscopy, and the European Society of Colloids and Interfaces. He also received in 2018, in Zagrebačka banka - MOJZABASTART, the second prize in the category of culture and science for "Biopolymer microcapsules for plant nutrition and protection" and in Grad Zagreb - ZICER, the prize in the Zagreb start-up factory - MAKABI.

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Research fellowships	2011./2012. Post.doc. Postdoctoral specialization Institution: Laboratory for Complex Fluids, Institute of Physics, National University of Mexico, Mexico City, Mexico
Scientific cooperation with international and domestic research centers	He has been associated with the University of Zagreb Faculty of Agriculture in Croatia since 2002. Cooperation with: Institute Ruđer Bošković, Zagreb, Croatia; Faculty of Food and Biotechnology, University of Zagreb, Zagreb, Croatia; Faculty of Science and Mathematics, University of Zagreb; Laboratory for Complex Fluids, Institute of Physics, National University of Mexico, Mexico City, Mexico; Cadi Ayyad University, Marrakesh, Marroco
Previous experience in educating doctoral students and students	He has mentored one Ph.D. student and 20 bachelor's and master's students.
(Alternatively) *A way to improve your qualifications* *and competences both in terms of your own scientific development and scientific supervision of doctoral students, including the so-called transversal skills.*	2015: Award for the best e-college undergraduate studies University of Zagreb Faculty of Agriculture, Agricultural Chemistry 2018: Award at Startup Factory Zagreb, Zagreb Connect ZICER, Zagreb 2019: Member of the Climate Accelerator Program, European Institute of Innovation and Technology (EIT), EIT Climate-KIC Hub European Institute for Innovation, Provadis Hoch Schule, Frankfurt, Germany 2020: Silver Award, AGROARCA Association of Croatian Innovators, Prelog, Croatia 2021: Award at the University Startups competition, Stup University of Split 2022: Medal of the Faculty of Agriculture, University of Zagreb Faculty of Agriculture 2022: II places at the EIT-Team up competition EIT FOOD 2023: Award at the IS3 Innovation Forum IS3 Innovation Forum

Lecturer	Dr Dibyendu Mondal
A short CV, professional titles and academic degrees, and place of employment	Specialization: Biomolecular Chemistry, Nanotechnology, Biochemistry Discipline: Chemical Sciences Dibyendu Mondal is the ERA NANOPLANT Chair at IPG PAS since September 2021. Dibyendu obtained his PhD in Chemistry from CSIR-CSMCRI, India in 2015. He was a postdoctoral fellow at CICECO, University of Aveiro, Portugal, from 2015 to 2017 and has been an assistant professor at CNMS, Jain University, India, since 2017.
Description of interests, most important scientific achievements	His research interests include adding value to bioresources through biorefinery concept and packaging biomolecules using green solvents. He is also fascinated by the development of green nanocomposites for task-specific applications such as biocatalysis, water purification and plant science. Dibyendu has 66 publications in high impact journals, 5

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	granted patents, ~2100 citations, 24 H index. He was recently elected as a Fellow of the Royal Society of Chemistry (MRSC), London.
List of publications from the last 4-5 years	1. Bharmoria P., Tietze A.A., Mondal D., Kang T.S., Kumar A., Freire M.G., (2024) Do Ionic Liquids Exhibit the Required Characteristics to Dissolve, Extract, Stabilize, and Purify Proteins? Past-Present-Future Assessment. Chem. Rev. 124:3037–3084. DOI: 10.1021/acs.chemrev.3c00551 2. Pradeep M., Saxena M., Mondal D., Franklin G. (2024) Do nanoparticles delivered to roots affect plant secondary metabolism? A comprehensive analysis in float seedling cultures of Hypericum perforatum L. Chemosphere, 365:141789. DOI: 10.1016/j.chemosphere.2024.141789 3. Martins A. R. M., Kiirika M. L., Schaffer N., Sajnóg A., Coutinho A. P. J., Gregory Franklin G., Mondal D. (2024) Unveiling Dissolution Kinetics of CuO Nanofertilizer Using Bio-Based Ionic Liquids Envisaging Controlled Use Efficiency for Sustainable Agriculture. ACS Sustainable Resour. Manage., 1(6): 1291–1301. DOI:10.1021/acssusresmgt.4c00041 4. Bharadwaj P., Sarkar D., Bisht M., Shet M. S., Kotrappanavar N.S., Lokesh V, Franklin G., Brezovsky J., Mondal D (2023). Nano-structured hydrotrope-caged cytochrome c with boosted stability in harsh environments: a molecular insight. Green Chem., 25: 6666-6676. DOI: 10.1039/D3GC01704D 5. Thayallath SK., Shet SM., Bisht M., Bharadwaj P., Pereira MM., Franklin G., Nataraj SK., Mondal D. (2023) Designing protein nano-construct in ionic liquid: a boost in efficacy of cytochrome C under stresses. Chem. Commun., 59: 5894-5897. DOI: 10.1039/D3CC00644A 6. Pradeep M., Kruszka D., Kachlicki P., Mondal D., Franklin G. (2022) Uncovering the Phytochemical Basis and Mechanism of Plant Extract Mediated Eco-friendly Synthesis of Silver Nanoparticles Using UPLC-PDA-HRMS. ACS Sustainable Chem. Eng., 10: 562–571. DOI: 10.1021/acssuschemeng.1c06960
Managing and participating in research projects	NanoBioCat: Development of biopolymer-based enzyme nanoconstructs supported by protein-friendly ionic liquids with enhanced efficiency for tandem biocatalysis under multiple stress conditions 2021/43/D/ST4/00699, SONATA 17, NCN Poland (2022-2026) BioFluCas: Design of multiparticulate biomimetic neoteric fluids to enhance biological cascade reactions in vitro, 2024/54/E/ST4/00113 SONATA BIS14, NCN Poland (2025-2030)
Scientific cooperation with international and domestic research centers	• Prof. Jan Brezovský, Laboratory of Biomolecular Interactions and Transport, IIMCB in Warsaw, Poland • Prof. Gregory Franklin, Institute of Plant Genetics of the Polish Academy of Sciences, Poznań, Poland. • Prof. J A P Coutinho and Prof. Mara G Freire, CICECO-Aveiro Institute of Materials, University of Aveiro, Portugal • Dr. Pankaj Bharmoria, ICMAB-CSIC, Barcelona, Spain.

Lecturers – PDS IPAS - Programme featuring agriculture

	• Prof. Kamlesh Prasad, CSIR-CSMCRI, Bhavnagar, Gujarat. • Prof. Pannuru Venkatesu, University of Delhi, New Delhi.
Lectures delivered in Poland and abroad	He has delivered over 10 lectures in Poland and abroad.
Previous experience in educating doctoral students and students	Supervisor of 5 Ph.D. graduates, 4 Ph.D. and Master's students. He has supervised 5 post-doctoral students, 4 doctoral students, and 4 master's students. He has 5 years of experience teaching undergraduate and post-doctoral students in the fields of inorganic chemistry, biomolecular chemistry, biotechnology, and nanotechnology.

Lecturer	prof. dr hab. Arkadiusz Kosmala
A short CV, professional titles and academic degrees, and place of employment	Specialization: physiology, molecular biology of plants Discipline: agriculture and horticulture The title of professor in the field of agricultural sciences was awarded in 2019. The degree of habilitated doctor in the field of agricultural sciences, in the discipline of agronomy (Institute of Plant Genetics, Polish Academy of Sciences) was obtained in 2013. The doctorate in the field of agricultural sciences, in the discipline of agronomy (Institute of Plant Genetics, Polish Academy of Sciences) was obtained in 2004. Arkadiusz Kosmala is currently the head of the Plant Physiology Team and deputy director for science at the Institute of Plant Genetics, Polish Academy of Sciences, Poznań.
Description of interests, most important scientific achievements	In collaboration with staff and PhD students from the Department of Plant Physiology and scientists from outside the Institute, based on models of *Lolium/Festuca* complex forage grasses (ryegrass/fescue), he has shown in recent years that: The drought tolerance potential of *L. multiflorum/F. arundinacea* hybrids primarily depends on their root system's ability to penetrate the substrate and its length under water deficit conditions. In turn, the drought tolerance potential of *F. arundinacea* is more dependent on the metabolism of the root system itself, including the level of accumulation of certain primary metabolites, "stress" proteins, and lipids. Perlikowski D., Augustyniak A., Masajada K., Skirycz A., Soja A. M., Michaelis A., Wolter G., Kosmala A. (2019). Structural and metabolic alterations in root systems under limited water conditions in forage grasses of *Lolium-Festuca* complex. *Plant Science* 283: 211-223. Perlikowski D., Augustyniak A., Skirycz A., Pawłowicz I., Masajada K., Michaelis Ä., Kosmala A. (2020). Efficient root metabolism improves

Lecturers – PDS IPAS - Programme featuring agriculture

	drought resistance of *Festuca arundinacea, Plant and Cell Physiology* 61: 492-504. Under water deficit conditions in *F. glaucescens* and *F. arundinacea*, there is an increase in nitric oxide (NO) content in leaves, and this content is higher in plants with lower drought tolerance. Furthermore, after applying an NO scavenger (2-phenyl-4,4,5,5-tetramethylimidazoline-1-oxyl-3-oxide, PTIO) and reducing NO content in leaves, both species exhibit delayed stomatal closure and increased CO2 assimilation under water deficit conditions. Perlikowski D., Lechowicz K., Pawłowicz I., Arasimowicz-Jelonek M., Kosmala A. (2022). Scavenging of nitric oxide up-regulates photosynthesis under drought in *Festuca arundinacea* and *F. glaucescens* but reduces their drought tolerance. *Scientific Reports* 12: 6500. Triacylglycerols (TAGs) under water deficit conditions can protect cells of *Lolium/Festuca* complex grasses from higher accumulation of toxic, polyunsaturated free fatty acids resulting from biological membrane damage. Additionally, TAGs can also be a source of substrates (including fatty acids) for membrane regeneration after water deficit cessation. Perlikowski D., Lechowicz K., Skirycz A., Michaelis A., Pawłowicz I., Kosmala A. (2022). The role of triacylglycerol in the protection of cells against lipotoxicity under drought in *Lolium multiflorum/Festuca arundinacea* introgression form. *Plant and Cell Physiology* 63: 353-368. The accumulation profiles of selected primary metabolites and lipids in tiller nodes can be an indicator of drought tolerance and regenerative potential after stress cessation in *F. arundinacea* and *L. multiflorum/F. arundinacea* hybrids. Drought-tolerant grasses accumulate primary metabolites, especially carbohydrates, in their nodes, which act as osmoprotectants. In turn, grasses with low tolerance and relatively high cellular membrane damage accumulate phospholipids in their nodes under stress conditions, which are used for membrane repair during regeneration. Perlikowski D., Skirycz A., Marczak Ł., Lechowicz K., Augustyniak A., Michaelis Ä., Kosmala A. (2023). Metabolism of crown tissue is crucial for drought tolerance and recovery after stress cessation in Lolium/Festuca forage grasses. *Journal of Experimental Botany* 74: 396-414. Arkadiusz Kosmala is a member of the Committee of Agronomic Sciences of the Polish Academy of Sciences and the Scientific Councils of the Institute of Plant Genetics (IPG PAS), the Institute of Plant Physiology of the Polish Academy of Sciences, the Institute of Dendrology of the Polish Academy of Sciences, and the Plant Breeding and Acclimatization Institute - National Research Institute.

Lecturers – PDS IPAS - Programme featuring agriculture

List of publications from the last 4-5 years	He has co-authored approximately 50 publications in journals listed in the JCR database. Below are five of his most important publications from the last few years: 1. Perlikowski D., Skirycz A., Marczak Ł., Lechowicz K., Augustyniak A., Michäelis A., Kosmala A. (2023). Metabolism of crown tissue is crucial for drought tolerance and recovery after stress cessation in Lolium/Festuca forage grasses. Journal of Experimental Botany 74: 396-414 DOI: 10.1093/jxb/erac398 2. Perlikowski D., Lechowicz K., Pawłowicz I., Arasimowicz-Jelonek M., Kosmala A. (2022a). Scavenging of nitric oxide up-regulates photosynthesis under drought in Festuca arundinacea and F. glaucescens but reduces their drought tolerance. Scientific Reports 12: 6500 DOI: 10.1038/s41598-022-10299-5 3. Perlikowski D., Lechowicz K., Skirycz A., Michaelis A., Pawłowicz I., Kosmala A. (2022b). The role of triacylglycerol in the protection of cells against lipotoxicity under drought in Lolium multiflorum/Festuca arundinacea introgression form. Plant and Cell Physiology 63: 353-368 DOI: 10.1093/pcp/pcac003 4. Perlikowski D., Augustyniak A., Skirycz A., Pawłowicz I., Masajada K., Michaelis Ä., Kosmala A. (2020). Efficient root metabolism improves drought resistance of Festuca arundinacea. Plant and Cell Physiology 61: 492-504 DOI:10.1093/pcp/pcz215 5. Perlikowski D., Augustyniak A., Masajada K., Skirycz A., Soja A. M., Michaelis A., Wolter G., Kosmala A. (2019). Structural and metabolic alterations in root systems under limited water conditions in forage grasses of Lolium-Festuca complex. Plant Science 283: 211-223 DOI: 10.1016/j.plantsci.2019.02.001
Managing and participating in research projects	He has led two projects for the Ministry of Science and Higher Education/National Science Centre and three projects for the Ministry of Agriculture and Rural Development. He has been an investigator in approximately 20 research projects.
Research fellowships	Arkadiusz Kosmala completed research internships at the Institute of Grassland and Environmental Research in Aberystwyth (UK) and at the Norwegian University of Life Sciences in Ås (Norway).
Scientific cooperation with international and domestic research centers	Current collaborations based on research projects: - Centre of Plant Genome Engineering, Dusseldorf, Germany, Subject: CRISPR/Cas9 technology; grass transformation; analysis of lipocalin function. - Max Planck Institute of Molecular Plant Physiology, Golm, Germany, Subject: Quantitative and qualitative analysis of lipids and primary metabolites in grasses of the *Lolium-Festuca* complex under water deficit and oscillating temperature stress conditions. - University of Agriculture in Krakow, Faculty of Agriculture and Economics, Department of Physiology, Plant Breeding and Seed

Lecturers – PDS IPAS - Programme featuring agriculture

	Science, Subject: Physiological response to abiotic and biotic stress factors in grasses of the *Lolium-Festuca* complex. - Adam Mickiewicz University in Poznań, Faculty of Biology, Institute of Experimental Biology, Department of Plant Ecophysiology, Subject: The role of nitric oxide (NO) in plant metabolism. • - Plant Breeding and Acclimatization Institute-National Research Institute in Radzików, Topic: Mechanisms of drought tolerance in grasses.
Lectures delivered in Poland and abroad	He has given approximately 30 oral presentations in Poland and abroad.
Previous experience in educating doctoral students and students	He has supervised 4 PhDs.

W PSD IPAN kształcenie doktorantów w dyscyplinie nauki leśne, w zakresie zajęć prowadzonych przez wykładowców, rozpocznie się z początkiem roku akademickiego 2025/26.

At PDS IPAS, the education of doctoral students in the discipline of forestry, in the scope of classes conducted by lecturers, will start at the beginning of the 2025/26 academic year.

Appendix 4.2.: Composition of recruitment committees – examples

IBCH PAS

Competition 4/2025/ICHB/PSD (biological sciences)
Chairperson: Prof. M. Olejniczak
Member: Prof. P. Bednarek
Member: Dr. hab. A. Fiszer

Competition 7/2020/ICHB/PSD (chemical sciences)
Chairperson: Dr. hab. A. Pasternak, Prof. ID
Member: Dr. D. Baraniak
Member: Prof. Dr. hab. J. Boryski

ID PAS

Competition 41/2021/ID/PSD (biological sciences)
Chairperson: Dr. hab. J. Mucha, Prof. ID
Member: Dr. Eng. M. Pietras
Member: Dr. hab. E. Kalemba
Member: Dr. hab. G. Iszkuło

Competition 25/2024/ID/PSD (Forestry Sciences)
Chairperson: Prof. Andrzej Jagodziński
Committee Member: Dr. Marcin Dyderski, Prof. ID PAN
Committee Member: Dr. Daniel J. Chmura, Prof. ID PAN
Committee Member: Dr. Ewelina Ratajczak, Prof. ID PAN

IMP PAS

Competition 11/2023/IFM/PSD (Physical Sciences)
Chairperson: Dr. M. Werwiński, Prof. IFM
Member: Dr. M. Bielejewski, Prof. IFM
Member: Prof. J. Tritt-Goc

IHG PAS

Competition 10/2024/IGC/PSD
Chairperson: Prof. J. Jaruzelska, PhD
Member: A. Dzikiewicz-Krawczyk, PhD
Member: N. Rozwadowska, PhD
Member: K. Rassek, PhD

IPG PAS

Competition 24/2022/IGR/PSD
Chairperson: Prof. Robert Malinowski
Member: Anetta Kuczyńska, PhD, IGR
Member: Prof. Małgorzata Jędryczka
Member: William Truman, PhD

Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

§ 1

1. Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "PDS IPAS", takes place by way of a competition that fulfils the requirements of a substantive, open and transparent recruitment procedure, on the principles laid down in these rules.

2. A recruitment procedure is carried out by request of the director of an institute (among the institutes making up PDS IPAS) depending on needs and the availability of funds. The procedure is conducted by the PDS IPAS discipline coordinator (hereafter "coordinator") for the unit making the request, or by the coordinator's deputy.

§ 2

1. A person admitted to PDS IPAS must hold a master's, master of engineering or equivalent degree, or be a person as referred to in Article 186(2) of the Act of July 20, 2018 titled Higher Education and Science Law (Dz.U. 2018 item 1668 as amended), hereafter "the Act".

2. Foreigners may study at PDS IPAS under the terms laid down in the Act and in the rules of PDS IPAS.

3. A person not holding the qualifications described in paragraph 1 may take part in a competition, but must obtain those qualifications before commencing study at PDS IPAS.

4. Candidates' applications to PDS IPAS are accepted by the individual institutes according to the procedure and form indicated in the announcement of the recruitment procedure.

§ 3

The following documents are required in the recruitment process:

1. An application to PDS IPAS, including consent for the processing of personal data for the purposes of the recruitment procedure, and a declaration of familiarity with these rules. The application form constitutes Appendix 1 to these rules.

2. A copy of the degree certificate confirming graduation or a certificate of graduation; in the case of degree certificates issued by foreign higher education institutions, the certificate referred to in Article 326(2)(2) or Article 327(2) of the Act, giving the right to seek to obtain a doctoral degree in the country under whose higher education system the issuing institution operates. A candidate who does not have the aforementioned documents will be obliged to supply them before being admitted to PDS IPAS.

3. A curriculum vitae showing previous education and employment.

4. A motivation letter, containing a short description of interests, scientific accomplishments, a list of publications, information on involvement in scientific activity (membership of student scientific groups, participation in scientific conferences, completed internships and training courses, prizes and distinctions received) and reasons for wishing to study at the doctoral school.

5. Certificates or other documents confirming the candidate's knowledge of English, if the candidate has such.

6. Contact details of at least one previous academic supervisor or other academic employee who has agreed to provide an opinion regarding the candidate.

§ 4

1. Recruitment committees, consisting of at least three people with a representative gender balance, are appointed by the coordinator for each competition separately. The recruitment committee is chaired by the coordinator or deputy, or another person holding at least a habilitation degree appointed by the coordinator or deputy. The committee includes a potential supervisor or supervisors.

2. Announcements of recruitment procedures are made public through display on the noticeboard, through publication in two language versions on the website of the relevant institute, on the PDS IPAS website, and through publication in English on the Euraxess portal, at least one month before the deadline for applications for admission to PDS IPAS.

3. The announcement of an recruitment procedure contains at least:

a) information on the proposed subject matter and the research group in which the work will be carried out;

b) descriptions of the required knowledge and qualifications and formal requirements for candidates;

c) conditions of work and amount of scholarship;

d) information on the recruitment process, method of registration and criteria for selection of candidates;

e) information on the number of available places;

f) information on the deadline for application;

g) information on the decision date;

h) information that following completion of the procedure, unsuccessful candidates will be provided with feedback regarding the strengths and weaknesses of their applications.

4. In the event of no applications being received, the deadline for application may be extended.

§ 5

1. The recruitment procedure takes place in two stages. In the first stage the recruitment committee assesses the applications submitted by candidates. In the second stage the recruitment committee conducts interviews, which may be in English.

2. In the first stage the recruitment committee assesses the applications submitted, taking account of:

a) the candidate's academic accomplishments, based on grades attained during studies, scientific and popular science publications, scholarships, awards and distinctions resulting from research or student activity, and other achievements;

b) the candidate's academic and professional experience, based on participation in conferences, workshops, training courses and internships, participation in research and commercial projects, involvement in scientific groups and associations, international and professional mobility, and experience in other fields, including in industry.

The candidate may obtain 0–12 points in total for the aforementioned achievements.

3. Candidates qualifying for the second stage are those whose applications obtained the highest number of points in the first stage, but not less than 6 points. If no application received at least 6 points, the deadline for acceptance of applications may be extended.

4. A candidate will be informed of his or her qualification for the second stage by e-mail not later than 14 days after closure of the competition and at least 7 days before the planned interview. The candidate may be asked to give a presentation on an assigned topic during the interview.

5. During the interview, the recruitment committee assesses:

a) the candidate's knowledge in the discipline represented by the institute at which the candidate wishes to study (0–8 points);

b) knowledge of the subject matter referred to in the announcement of the recruitment procedure (0–4 points).

6. Based on the sum of points obtained in the first and second stages of the recruitment procedure, a ranking list of candidates is prepared.

7. Candidates who obtain the highest total number of points in the recruitment procedure will be admitted to PDS IPAS, subject to paragraph 8 of this section.

8. Candidates obtaining not more than 12 points in total will not be admitted to PDS IPAS. If none of the candidates obtained more than 12 points in total, the deadline for applications may be extended.

9. The institute informs candidates of the results of the recruitment procedure within 14 days of the date of completion of the procedure as stated in the competition announcement.

10. Individual results of the recruitment procedure are made available to the eligible candidates. The list of persons admitted to PDS IPAS is public information and will be published on the website of the relevant institute and on the PDS IPAS website.

11. The final decision on admission to PDS IPAS is made by the director of the relevant institute based on the recommendations of the recruitment committee.

12. Admission to PDS IPAS takes place by way of entry on the list of doctoral students.

13. Refusal of admission to PDS IPAS takes place by way of an administrative decision. The candidate is entitled to submit a request for reconsideration of the decision to the director of the institute concerned.

Appendix 1

APPLICATION FOR ADMISSION

to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

1. Candidate's forename and surname:
2. E-mail address:
3. Correspondence address:
4. Education to date:
5. Subject of master's thesis, supervisor:
6. Level of English:

I hereby apply for admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences at the [**name of the Institute**].

I declare that I am familiar with the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences.

I declare that I am aware of the fact that on admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences I cannot be employed as an academic teacher or researcher, and that I cannot be a doctoral student of any other doctoral school.

I consent to the processing of my personal data contained in my application by [**name and full address of the Institute, VAT No.**] for purposes and in the scope necessary for the current recruitment procedure, including – in the case of admitting me – publication of my forename and surname in the information on the results of the recruitment procedure on a website [**website of the Institute**] and on a website of Poznań Doctoral School of Institutes of the Polish Academy of Sciences (http://www.psd-ipan.ibch.poznan.pl/index-en.html). I have been informed that this consent is voluntary and that I have the right to withdraw this consent at any time, and withdrawal of consent does not affect the lawfulness of the processing that was carried out on its basis before its withdrawal. I have also read the information on data protection (information clause).

date..... .....
(signature)

Information clause:

According to the content of art. 13 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46 / EC (General Data Protection Regulation), hereinafter referred to as GDPR, we inform that:

1. The administrator of the collected personal data is [**name of the Institute, full address, VAT No**.] (hereinafter referred to as the Institute).
2. The administrator has appointed a Data Protection Inspector who can be contacted in writing, by traditional mail, writing to the Institute's address: Data Protection Inspector, [**name of the Institute, full address**] or by sending an e-mail to: [**IOD email address in Institute**].
3. Personal data are processed in order to implement the administrator's tasks related to the recruitment to the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences.
4. The legal basis for data processing is the Act of 26 June 1974 - Labor Code, the Act of 30 April 2010 on the Polish Academy of Sciences, the Act of 20 July 2018 Law on Higher Education and Science and consent of the data subject.
5. Personal data collected in the current recruitment process will be stored for [**the period of storage of personal data set at a given Institute**] from the moment the recruitment process is resolved. After this period, personal data will be effectively destroyed.
6. Personal data will not be conveyed to a third country.
7. Personal data of the candidate selected in the competition may be made available to third parties authorized under the law and the co-administrator - the Institute of Bioorganic Chemistry of the Polish Academy of Sciences - on the basis of an agreement.
8. The person whose data is processed has the right to:

- access to the content of your personal data, demand their correction or deletion, on the terms set out in art. 15-17 GDPR;
- set restrictions on data processing, in cases specified in art. 18 GDPR;
- data transfer, on the principles set out in art. 20 GDPR;
- withdrawal of consent at any time without affecting the lawfulness of the processing that was carried out on the basis of consent before its withdrawal;
- lodging a complaint to the President of the Office for Personal Data Protection.

Providing personal data in the scope resulting from art. 22 (1) of the Act of 26 June 1974 - Labor Code, is mandatory, providing data in a broader scope is voluntary and requires consent to their processing. Refusal to provide personal data prevents the application from being considered.

Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

§ 1

1. Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "PDS IPAS", takes place by way of a competition that fulfils the requirements of a substantive, open and transparent recruitment procedure, on the principles laid down in these rules.

2. A recruitment procedure is carried out by request of the director of an institute (among the institutes making up PDS IPAS) depending on needs and the availability of funds. The procedure is conducted by the PDS IPAS discipline coordinator (hereafter "coordinator") for the unit making the request, or by the coordinator's deputy.

§ 2

1. A person admitted to PDS IPAS must hold a master's, master of engineering or equivalent degree, or be a person as referred to in Article 186(2) of the Act of July 20, 2018 titled Higher Education and Science Law (Dz.U. 2018 item 1668 as amended), hereafter "the Act".

2. Foreigners may study at PDS IPAS under the terms laid down in the Act and in the rules of PDS IPAS.

3. A person not holding the qualifications described in paragraph 1 may take part in a competition, but must obtain those qualifications before commencing study at PDS IPAS.

4. Candidates' applications to PDS IPAS are accepted by the individual institutes according to the procedure and form indicated in the announcement of the recruitment procedure.

§ 3

The following documents are required in the recruitment process:

1. An application to PDS IPAS, including consent for the processing of personal data for the purposes of the recruitment procedure, and a declaration of familiarity with these rules. The application form constitutes Appendix 1 to these rules.

2. A copy of the degree certificate confirming graduation or a certificate of graduation; in the case of degree certificates issued by foreign higher education institutions, the certificate referred to in Article 326(2)(2) or Article 327(2) of the Act, giving the right to seek to obtain a doctoral degree in the country under whose higher education system the issuing institution operates. A candidate who does not have the aforementioned documents will be obliged to supply them before being admitted to PDS IPAS.

3. A curriculum vitae showing previous education and employment.

4. A motivation letter, containing a short description of interests, scientific accomplishments, a list of publications, information on involvement in scientific activity (membership of student scientific groups, participation in scientific conferences, completed internships and training courses, prizes and distinctions received) and reasons for wishing to study at the doctoral school.

5. Certificates or other documents confirming the candidate's knowledge of English, if the candidate has such.

6. Contact details of at least one previous academic supervisor or other academic employee who has agreed to provide an opinion regarding the candidate. The opinions must not be attached to the application.

§ 4

1. Recruitment committees, consisting of at least three people with a representative gender balance whenever possible, are appointed by the coordinator for each competition separately. The recruitment committee is chaired by the coordinator or deputy, or another person holding at least a habilitation degree appointed by the coordinator or deputy. The committee includes a potential supervisor or supervisors.

2. Announcements of recruitment procedures are made public through display on the noticeboard, through publication in two language versions on the website of the relevant institute, on the PDS IPAS website, and through publication in English on the Euraxess portal, at least one month before the deadline for applications for admission to PDS IPAS expires.

3. The announcement of an recruitment procedure contains at least:

a) information on the proposed subject matter and the research group in which the work will be carried out;

b) descriptions of the required knowledge and qualifications and formal requirements for candidates;

c) conditions of work and amount of scholarship;

d) information on the recruitment process, method of registration and criteria for selection of candidates;

e) information on the number of available places;

f) information on the deadline for application;

g) information on the decision date;

h) information that following completion of the procedure, unsuccessful candidates will be provided with feedback regarding the number of points obtained at given stages of the procedure.

i) Information that incomplete applications shall not be processed.

4. In the event of no applications being received, the deadline for application may be extended.

§ 5

1. The recruitment procedure takes place in two stages. In the first stage the recruitment committee assesses the applications submitted by candidates. In the second stage the recruitment committee conducts interviews, which may be in English.

2. In the first stage the recruitment committee assesses the applications submitted, taking account of:

a) the candidate's academic accomplishments, based on grades attained during studies, scientific and popular science publications, scholarships, awards and distinctions resulting from research or student activity, and other achievements;

b) the candidate's academic and professional experience, based on participation in conferences, workshops, training courses and internships, participation in research and commercial projects, involvement in scientific groups and associations, international and professional mobility, and experience in other fields, including in industry.

The candidate may obtain 0–12 points in total for the aforementioned achievements.

3. Candidates qualifying for the second stage are those whose applications obtained 6 or more points in the first stage. If no application received at least 6 points, the recruitment procedure may be repeated.

4. A candidate will be informed of his or her qualification for the second stage by e-mail not later than 14 days after closure of the competition and at least 7 days before the planned interview. The candidate may be asked

to give a presentation on an assigned topic during the interview.

5. During the interview, the recruitment committee assesses:

a) the candidate's knowledge in the discipline represented by the institute at which the candidate wishes to study (0–8 points);

b) knowledge of the subject matter referred to in the announcement of the recruitment procedure (0–4 points).

6. Based on the sum of points obtained in the first and second stages of the recruitment procedure, a ranking list of candidates is prepared.

7. Candidates who obtain the highest total number of points in the recruitment procedure will be admitted to PDS IPAS, subject to paragraph 8 of this section.

8. The minimum number of points required for enrolment to PDS IPAS is 12. Candidates whose cumulative number of points at both stages falls below 12 cannot be enrolled to PDS IPAS. In the case when none of the candidates receives 12 or more points, the recruitment procedure may be repeated.

9. The institute informs candidates about the results of the recruitment procedure within 30 days of the date of receiving the application documents, as stated in the competition announcement.

10. The results of the recruitment procedure regarding enrolment to PDS IPAS are public and shall be published on the website of a given institute and the website of PDS IPAS, in the form of a ranking list featuring the number of points obtained at both stages as well as the cumulative number of points, and showing the approved candidates.

11. The final decision on admission to PDS IPAS is made by the director of the relevant institute based on the recommendations of the recruitment committee.

12. Admission to PDS IPAS takes place by way of entry on the list of doctoral students.

13. Refusal of admission to PDS IPAS takes place by way of an administrative decision. The candidate is entitled to submit a request for reconsideration of the decision to the director of the institute concerned.

§ 6

1. Matters not covered by the stipulations of the rules herein, and not covered in the legal regulations mentioned in §2 herein, shall be concluded by the Program Council, Director of a given institute or the Council of Directors.

2. The form entitled "Application for admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences" constitutes Appendix 1 to the rules herein.

3. Stipulations of the rules herein shall enter into force as of the beginning of the 2020/2021 academic year.

Appendix 1

APPLICATION FOR ADMISSION

to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

1. Candidate's forename and surname:
2. E-mail address:
3. Correspondence address:
4. Education to date:
5. Subject of master's thesis, supervisor:
6. Level of English:

I hereby apply for admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences at the [**name of the Institute**].

I declare that I am familiar with the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences.

I declare that I am aware of the fact that on admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences I cannot be employed as an academic teacher or researcher, and that I cannot be a doctoral student of any other doctoral school.

I consent to the processing of my personal data contained in my application by [**name and full address of the Institute, VAT No.**] for purposes and in the scope necessary for the current recruitment procedure, including – in the case of admitting me – publication of my forename and surname in the information on the results of the recruitment procedure on a website [**website of the Institute**] and on a website of Poznań Doctoral School of Institutes of the Polish Academy of Sciences (http://www.psd-ipan.ibch.poznan.pl/index-en.html). I have been informed that this consent is voluntary and that I have the right to withdraw this consent at any time, and withdrawal of consent does not affect the lawfulness of the processing that was carried out on its basis before its withdrawal. I have also read the information on data protection (information clause).

date ....
(signature)

Information clause:

According to the content of art. 13 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46 / EC (General Data Protection Regulation), hereinafter referred to as GDPR, we inform that:

1. The administrator of the collected personal data is [**name of the Institute, full address, VAT No**.] (hereinafter referred to as the Institute).
2. The administrator has appointed a Data Protection Inspector who can be contacted in writing, by traditional mail, writing to the Institute's address: Data Protection Inspector, [**name of the Institute, full address**] or by sending an e-mail to: [**IOD email address in Institute**].
3. Personal data are processed in order to implement the administrator's tasks related to the recruitment to the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences.
4. The legal basis for data processing is the Act of 26 June 1974 - Labor Code, the Act of 30 April 2010 on the Polish Academy of Sciences, the Act of 20 July 2018 Law on Higher Education and Science and consent of the data subject.
5. Personal data collected in the current recruitment process will be stored for [**the period of storage of personal data set at a given Institute**] from the moment the recruitment process is resolved. After this period, personal data will be effectively destroyed.
6. Personal data will not be conveyed to a third country.
7. Personal data of the candidate selected in the competition may be made available to third parties authorized under the law and the co-administrator - the Institute of Bioorganic Chemistry of the Polish Academy of Sciences - on the basis of an agreement.
8. The person whose data is processed has the right to:

- access to the content of your personal data, demand their correction or deletion, on the terms set out in art. 15-17 GDPR;
- set restrictions on data processing, in cases specified in art. 18 GDPR;
- data transfer, on the principles set out in art. 20 GDPR;
- withdrawal of consent at any time without affecting the lawfulness of the processing that was carried out on the basis of consent before its withdrawal;
- lodging a complaint to the President of the Office for Personal Data Protection.

Providing personal data in the scope resulting from art. 22 (1) of the Act of 26 June 1974 - Labor Code, is mandatory, providing data in a broader scope is voluntary and requires consent to their processing. Refusal to provide personal data prevents the application from being considered.

Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences (to enter into force on 9th April 2022, i.e. 5 months after the date of publishing).

§ 1

1. Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "PDS IPAS", takes place by way of a competition that fulfils the requirements of a substantive, open and transparent recruitment procedure, on the principles laid down in these rules.

2. A recruitment procedure is carried out by request of the director of an institute (among the institutes making up PDS IPAS) depending on needs and the availability of funds. The procedure is conducted by the PDS IPAS discipline coordinator (hereafter "coordinator") for the unit making the request, or by the coordinator's deputy.

§ 2

1. A person admitted to PDS IPAS must hold a master's, master of engineering or equivalent degree, or be a person as referred to in Article 186(2) of the Act of July 20, 2018 titled Higher Education and Science Law (Dz.U. 2018 item 1668 as amended), hereafter "the Act".

2. Foreigners may study at PDS IPAS under the terms laid down in the Act and in the rules of PDS IPAS.

3. A person not holding the qualifications described in paragraph 1 may take part in a competition, but must obtain those qualifications before commencing study at PDS IPAS.

4. Candidates' applications to PDS IPAS are accepted by the individual institutes according to the procedure and form indicated in the announcement of the recruitment procedure.

5. Simultaneous participation in two calls for applications open more or less at the same time is prohibited.

§ 3

The following documents are required in the recruitment process:

1. An application to PDS IPAS, including consent for the processing of personal data for the purposes of the recruitment procedure, and a declaration of familiarity with these rules. The application form constitutes Appendix 1 to these rules.

2. A copy of the degree certificate confirming graduation or a certificate of graduation; in the case of degree certificates issued by foreign higher education institutions, the certificate referred to in Article 326(2)(2) or Article 327(2) of the Act, giving the right to seek to obtain a doctoral degree in the country under whose higher education system the issuing institution operates. Should the document be submitted as a scanned copy, the scanned image should be in color. A candidate who does not have the aforementioned documents will be obliged to supply their originals before being admitted to PDS IPAS, and no later than on the doctoral training commencement date.

3. A curriculum vitae showing previous education and employment.

4. A motivation letter, containing a short description of interests, scientific accomplishments, a list of publications, information on involvement in scientific activity (membership of student scientific groups, participation in scientific conferences, completed internships and training courses, prizes and distinctions received) and reasons for wishing to study at the doctoral school.

5. Certificates or other documents confirming the candidate's knowledge of English, if the candidate has such.

6. Contact details of at least one previous academic supervisor or other academic employee who has agreed to provide an opinion regarding the candidate. The opinions must not be attached to the application.

§ 4

1. Recruitment committees, consisting of at least three people with a representative gender balance whenever possible, are appointed by the coordinator for each competition separately. The recruitment committee is chaired by the coordinator or deputy, or another person holding at least a habilitation degree appointed by the coordinator or deputy. The committee includes a potential supervisor or supervisors.

2. Announcements of recruitment procedures are made public through display on the noticeboard, through publication in two language versions on the website of the relevant institute, on the PDS IPAS website, and through publication in English on the Euraxess portal, at least one month before the deadline for applications for admission to PDS IPAS expires.

3. The announcement of an recruitment procedure contains at least:

a) information on the proposed subject matter and the research group in which the work will be carried out;

b) descriptions of the required knowledge and qualifications and formal requirements for candidates;

c) conditions of work and amount of scholarship;

d) information on the recruitment process, method of registration and criteria for selection of candidates;

e) information on the number of available places;

f) information on the deadline for application;

g) information on the decision date;

h) information that following completion of the procedure, unsuccessful candidates will be provided with feedback regarding the number of points obtained at given stages of the procedure.

4. In the event of no applications being received, the deadline for application may be extended.

§ 5

1. The recruitment procedure takes place in two stages. In the first stage the recruitment committee assesses the applications submitted by candidates. In the second stage the recruitment committee conducts interviews, which may be in English.

2. In the first stage the recruitment committee assesses the applications submitted, taking account of:

a) the candidate's academic accomplishments, based on grades attained during studies, scientific and popular science publications, scholarships, awards and distinctions resulting from research or student activity, and other achievements;

b) the candidate's academic and professional experience, based on participation in conferences, workshops, training courses and internships, participation in research and commercial projects, involvement in scientific groups and associations, international and professional mobility, and experience in other fields, including in industry.

The candidate may obtain 0–12 points in total for the aforementioned achievements.

3. No more than 3 candidates, whose applications obtained 6 or more points in the first stage, shall be qualified for the second stage. If no application received at least 6 points, the recruitment procedure may be repeated.

4. A candidate will be informed of his or her qualification for the second stage by e-mail not later than 14 days after closure of the competition and at least 7 days before the planned interview. The candidate may be asked to give a presentation on an assigned topic during the interview.

5. During the interview, the recruitment committee assesses:

a) the candidate's knowledge in the discipline represented by the institute at which the candidate wishes to study (0–9 points);

b) knowledge of the subject matter referred to in the announcement of the recruitment procedure (0–9 points).

6. Based on the sum of points obtained in the first and second stages of the recruitment procedure, a ranking list of candidates is prepared.

7. Candidates who obtain the highest total number of points in the recruitment procedure will be admitted to PDS IPAS, subject to paragraph 8 of this section.

8. The minimum number of points required for enrolment to PDS IPAS is 15. Candidates whose cumulative number of points at both stages falls below 15 cannot be enrolled to PDS IPAS. In the case when none of the candidates receives 15 or more points, the recruitment procedure may be repeated. In case of resignation of the candidate who scored best during the recruitment procedure, the call administrator reserves the right to repeat the recruitment procedure.

9. The institute informs candidates about the results of the recruitment procedure within 30 days of the date of receiving the application documents, as stated in the competition announcement.

10. The results of the recruitment procedure regarding enrolment to PDS IPAS are public and shall be published on the website of a given institute and the website of PDS IPAS, in the form of a ranking list featuring the number of points obtained at both stages as well as the cumulative number of points, and showing the approved candidates.

11. The final decision on admission to PDS IPAS is made by the director of the relevant institute based on the recommendations of the recruitment committee.

12. Admission to PDS IPAS takes place by way of entry on the list of doctoral students. In the case of foreign doctoral students, admission to PDS IPAS takes place through an administrative decision.

13. Decisions on admission or non-admission are to be signed by the Director of a relevant Institute.

14. Refusal of admission to PDS IPAS takes place by way of an administrative decision. The candidate is entitled to submit a request for reconsideration of the decision to the director of the institute concerned.

§ 6

1. Matters not covered by the stipulations of the rules herein, and not covered in the legal regulations mentioned in §2 herein, shall be concluded by the Program Council, Director of a given institute or the Council of Directors.

2. The form entitled "Application for admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences" constitutes Appendix 1 to the rules herein.

3. Stipulations of the rules herein shall enter into force as of the beginning of the 2021/2022 summer term.

Appendix 1

APPLICATION FOR ADMISSION

to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

1. Candidate's forename and surname:
2. E-mail address:
3. Correspondence address:
4. Education to date:
5. Subject of master's thesis, supervisor:
6. Level of English:

I hereby apply for admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences at the [name of the Institute]

I declare that I am familiar with the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences.

I declare that I am aware of the fact that on admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences I cannot be employed as an academic teacher or researcher, and that I cannot be a doctoral student of any other doctoral school.

I consent to the processing of my personal data contained in my application by [name and full address of the Institute, VAT No.] for purposes and in the scope necessary for the current recruitment procedure, including – in the case of admitting me – publication of my forename and surname in the information on the results of the recruitment procedure on a website [website of the Institute] and on a website of Poznań Doctoral School of Institutes of the Polish Academy of Sciences (http://www.psd-ipan.ibch.poznan.pl/index-en.html). I have been informed that this consent is voluntary and that I have the right to withdraw this consent at any time, and withdrawal of consent does not affect the lawfulness of the processing that was carried out on its basis before its withdrawal. I have also read the information on data protection (information clause).

date..... .....
(signature)

Information clause:

According to the content of art. 13 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46 / EC (General Data Protection Regulation), hereinafter referred to as GDPR, we inform that:

1. The administrator of the collected personal data is the Institute [name of the Institute, full address, VAT No.] (hereinafter referred to as the Institute).
2. The administrator has appointed a Data Protection Inspector who can be contacted in writing, by traditional mail, writing to the Institute's address: Data Protection Inspector, [name of the Institute, full address] or by sending an e-mail to: [IOD email address in Institute].
3. Personal data are processed in order to implement the administrator's tasks related to the recruitment to the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences.
4. The legal basis for data processing is the Act of 26 June 1974 - Labor Code, the Act of 30 April 2010 on the Polish Academy of Sciences, the Act of 20 July 2018 Law on Higher Education and Science and consent of the data subject.
5. Personal data collected in the current recruitment process will be stored for 3 months [the period of storage of personal data set at a given Institute] from the moment the recruitment process is resolved. After this period, personal data will be effectively destroyed.
6. Personal data will not be conveyed to a third country.
7. Personal data of the candidate selected in the competition may be made available to third parties authorized under the law and the co-administrator - the Institute of Bioorganic Chemistry of the Polish Academy of Sciences - on the basis of an agreement.
8. The person whose data is processed has the right to:

- access to the content of your personal data, demand their correction or deletion, on the terms set out in art. 15-17 GDPR;
- set restrictions on data processing, in cases specified in art. 18 GDPR;
- data transfer, on the principles set out in art. 20 GDPR;
- withdrawal of consent at any time without affecting the lawfulness of the processing that was carried out on the basis of consent before its withdrawal;
- lodging a complaint to the President of the Office for Personal Data Protection.

Providing personal data in the scope resulting from art. 22 (1) of the Act of 26 June 1974 - Labor Code, is mandatory, providing data in a broader scope is voluntary and requires consent to their processing. Refusal to provide personal data prevents the application from being considered.

Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

§ 1.

1. Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "PDS IPAS", takes place by way of a competition that fulfils the requirements of a substantive, open and transparent recruitment procedure, on the principles laid down in these rules.

2. A recruitment procedure is carried out by request of the director of an institute (among the institutes making up PDS IPAS) depending on needs and the availability of funds. The procedure is conducted by the PDS IPAS discipline coordinator (hereafter "coordinator") for the unit making the request, or by the coordinator's deputy.

§ 2.

1. A person admitted to PDS IPAS must hold a master's, master of engineering or equivalent degree, or be a person as referred to in Article 186(2) of the Act of July 20, 2018 titled Higher Education and Science Law (Dz.U. 2018 item 1668 as amended), hereafter "the Act".

2. Foreigners may study at PDS IPAS under the terms laid down in the Act and in the rules of PDS IPAS.

3. A person not holding the qualifications described in paragraph 1 may take part in a competition, but must obtain those qualifications before commencing study at PDS IPAS.

4. Candidates' applications to PDS IPAS are accepted by the individual institutes according to the procedure and form indicated in the announcement of the recruitment procedure.

5. Once a candidate is selected in one recruitment procedure for the position of a doctoral student, such a candidature shall immediately be excluded by a relevant coordinator from all other ongoing procedures at a given institute.

§ 3.

The following documents are required in the recruitment process:

1. An application to PDS IPAS, including consent for the processing of personal data for the purposes of the recruitment procedure, and a declaration of familiarity with these rules. The application form constitutes Appendix 1 to these rules.

2. A copy of the degree certificate confirming graduation or a certificate of graduation; in the case of degree certificates issued by foreign higher education institutions, the certificate referred to in Article 326(2)(2) or Article 327(2) of the Act, giving the right to seek to obtain a doctoral degree in the country under whose higher education system the issuing institution operates. Should the document be submitted as a scanned copy, the scanned image should be in color. A candidate who does not have the aforementioned documents will be obliged to supply their originals before being admitted to PDS IPAS, and no later than on the doctoral training commencement date.

3. A curriculum vitae showing previous education and employment.

4. A motivation letter, containing a short description of interests, scientific accomplishments, a list of publications, information on involvement in scientific activity (membership of student scientific groups, participation in scientific conferences, completed internships and training courses, prizes and distinctions received) and reasons for wishing to study at the doctoral school.

5. Certificates or other documents confirming the candidate's knowledge of English, if the candidate has such.

6. Contact details of at least one previous academic supervisor or other academic employee who has agreed to provide an opinion regarding the candidate. The opinions must not be attached to the application.

§ 4.

1. Recruitment committees, consisting of at least three people with a representative gender balance whenever possible, are appointed by the coordinator for each competition separately. The recruitment committee is chaired by the coordinator or deputy, or another person holding at least a habilitation degree appointed by the coordinator or deputy. The committee includes a potential supervisor or supervisors.

2. Announcements of recruitment procedures are made public through display on the noticeboard, through publication in two language versions on the website of the relevant institute, on the PDS IPAS website, and through publication in English on the Euraxess portal, at least one month before the deadline for applications for admission to PDS IPAS expires.

3. The announcement of an recruitment procedure contains at least:

a) information on the proposed subject matter and the research group in which the work will be carried out;

b) descriptions of the required knowledge and qualifications and formal requirements for candidates;

c) conditions of work and amount of scholarship;

d) information on the recruitment process, method of registration and criteria for selection of candidates;

e) information on the number of available places;

f) information on the deadline for application;

g) information on the decision date;

h) information that following completion of the procedure, unsuccessful candidates will be provided with feedback regarding the number of points obtained at given stages of the procedure.

4. In the event of no applications being received, the deadline for application may be extended.

§ 5.

1. The recruitment procedure takes place in two stages. In the first stage the recruitment committee assesses the applications submitted by candidates. In the second stage the recruitment committee conducts interviews, which may be in English.

2. In the first stage the recruitment committee assesses the applications submitted in terms of compliance of the candidate's educational profile with the project subject matter, taking account of:

a) the candidate's academic accomplishments, based on grades attained during studies, scientific and popular science publications, scholarships, awards and distinctions resulting from research or student activity, and other achievements;

b) the candidate's academic and professional experience, based on participation in conferences, workshops, training courses and internships, participation in research and commercial projects, involvement in scientific groups and associations, international and professional mobility, and experience in other fields, including in industry.

The candidate may obtain 0–12 points in total for the aforementioned achievements.

3. No more than 3 candidates, whose applications obtained 6 or more points in the first stage, shall be qualified for the second stage. If no application received at least 6 points, the recruitment procedure may be repeated.

4. A candidate will be informed of his or her qualification for the second stage by e-mail not later than 14 days after closure of the competition and at least 7 days before the planned interview. The candidate may be asked to give a presentation on an assigned topic during the interview.

5. During the interview, the recruitment committee assesses:

a) the candidate's knowledge in the discipline represented by the institute at which the candidate wishes to study (0–9 points);

b) knowledge of the subject matter referred to in the announcement of the recruitment procedure (0–9 points).

6. Based on the sum of points obtained in the first and second stages of the recruitment procedure, a ranking list of candidates is prepared.

7. Candidates who obtain the highest total number of points in the recruitment procedure will be admitted to PDS IPAS, subject to paragraph 8 of this section.

8. The minimum number of points required for enrolment to PDS IPAS is 15. Candidates whose cumulative number of points at both stages falls below 15 cannot be enrolled to PDS IPAS. In case of resignation of the candidate who scored best during the recruitment procedure, the call administrator reserves the right to repeat the recruitment procedure, or to admit a candidate who was ranked in the subsequent place on the ranking list of candidates, provided that this candidate received a relevant number of points, entitling to admission to PDS IPAS. In the case when none of the candidates receives 15 or more points, the recruitmet procedurę may be repeated,

9. The institute informs candidates about the results of the recruitment procedure within 45 days of the date of receiving the application documents, as stated in the competition announcement.

10. The results of the recruitment procedure regarding enrolment to PDS IPAS are public and shall be published on the website of a given institute and the website of PDS IPAS, in the form of a ranking list featuring the number of points obtained at both stages as well as the cumulative number of points, and showing the approved candidates.

11. The final decision on admission to PDS IPAS is made by the director of the relevant institute based on the recommendations of the recruitment committee.

12. Admission to PDS IPAS takes place by way of entry on the list of doctoral students. In the case of foreign doctoral students, admission to PDS IPAS takes place through an administrative decision.

13. Decisions on admission or non-admission are to be signed by the Director of a relevant Institute.

14. Refusal of admission to PDS IPAS takes place by way of an administrative decision. The candidate is entitled to submit a request for reconsideration of the decision to the director of the institute concerned.

§ 6.

1. Matters not covered by the stipulations of the rules herein, and not covered by the legal regulations mentioned in §2 of the Rules of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, shall be concluded by the Program Council, Director of a given institute or the Board of Directors.

2. The form entitled "Application for admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences" constitutes Appendix 1 to the rules herein.

3. As of September 30th, 2022, the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences that entered into force on April 9th, 2022 shall be repealed.

4. The stipulations of the rules herein shall enter into force from the commencement of the 2022/2023 academic year.

Appendix 1

APPLICATION FOR ADMISSION

to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

1. Candidate's forename and surname:
2. E-mail address:
3. Correspondence address:
4. Education to date:
5. Subject of master's thesis, supervisor:
6. Level of English:
7. Gender:

I hereby apply for admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences at the [name of the Institute]

I declare that I am familiar with the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences.

I declare that I am aware of the fact that on admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences I cannot be employed as an academic teacher or researcher, and that I cannot be a doctoral student of any other doctoral school.

I consent to the processing of my personal data contained in my application by [name and full address of the Institute, VAT No.] for purposes and in the scope necessary for the current recruitment procedure, including – in the case of admitting me – publication of my forename and surname in the information on the results of the recruitment procedure on a website [website of the Institute] and on a website of Poznań Doctoral School of Institutes of the Polish Academy of Sciences (http://www.psd-ipan.ibch.poznan.pl/index-en.html). I have been informed that this consent is voluntary and that I have the right to withdraw this consent at any time, and withdrawal of consent does not affect the lawfulness of the processing that was carried out on its basis before its withdrawal. I have also read the information on data protection (information clause).

date..... .....

(signature)

Information clause:

According to the content of art. 13 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46 / EC (General Data Protection Regulation), hereinafter referred to as GDPR, we inform that:

1. The administrator of the collected personal data is the Institute [name of the Institute, full address, VAT No.] (hereinafter referred to as the Institute).
2. The administrator has appointed a Data Protection Inspector who can be contacted in writing, by traditional mail, writing to the Institute's address: Data Protection Inspector, [name of the Institute, full address] or by sending an e-mail to: [IOD email address in Institute].
3. Personal data are processed in order to implement the administrator's tasks related to the recruitment to the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences.
4. The legal basis for data processing is the Act of 26 June 1974 - Labor Code, the Act of 30 April 2010 on the Polish Academy of Sciences, the Act of 20 July 2018 Law on Higher Education and Science and consent of the data subject.
5. Personal data collected in the current recruitment process will be stored for 3 months [the period of storage of personal data set at a given Institute] from the moment the recruitment process is resolved. After this period, personal data will be effectively destroyed.
6. Personal data will not be conveyed to a third country.
7. Personal data of the candidate selected in the competition may be made available to third parties authorized under the law and the co-administrator - the Institute of Bioorganic Chemistry of the Polish Academy of Sciences - on the basis of an agreement.
8. The person whose data is processed has the right to:

- access to the content of your personal data, demand their correction or deletion, on the terms set out in art. 15-17 GDPR;
- set restrictions on data processing, in cases specified in art. 18 GDPR;
- data transfer, on the principles set out in art. 20 GDPR;
- withdrawal of consent at any time without affecting the lawfulness of the processing that was carried out on the basis of consent before its withdrawal;
- lodging a complaint to the President of the Office for Personal Data Protection.

Providing personal data in the scope resulting from art. 22 (1) of the Act of 26 June 1974 - Labor Code, is mandatory, providing data in a broader scope is voluntary and requires consent to their processing. Refusal to provide personal data prevents the application from being considered.

Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

§ 1.

1. Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "PDS IPAS", takes place by way of a competition that fulfils the requirements of a substantive, open and transparent recruitment procedure, on the principles laid down in these rules.

2. A recruitment procedure is carried out by request of the director of an institute (among the institutes making up PDS IPAS) depending on needs and the availability of funds. The procedure is conducted by the PDS IPAS discipline coordinator (hereafter "coordinator") for the unit making the request, or by the coordinator's deputy.

§ 2.

1. A person admitted to PDS IPAS must hold a master's, master of engineering or equivalent degree, or be a person as referred to in Article 186(2) of the Act of July 20, 2018 titled Higher Education and Science Law (Dz.U. 2018 item 1668 as amended), hereafter "the Act".

2. Foreigners may study at PDS IPAS under the terms laid down in the Act and in the rules of PDS IPAS.

3. A person not holding the qualifications described in paragraph 1 may take part in a competition, but must obtain those qualifications before commencing study at PDS IPAS.

4. Candidates' applications to PDS IPAS are accepted by the individual institutes according to the procedure and form indicated in the announcement of the recruitment procedure.

5. Once a candidate is selected in one recruitment procedure for the position of a doctoral student, such a candidature shall immediately be excluded by a relevant coordinator from all other ongoing procedures at a given institute.

§ 3.

The following documents are required in the recruitment process:

1. An application to PDS IPAS, including consent for the processing of personal data for the purposes of the recruitment procedure, and a declaration of familiarity with these rules. The application form constitutes Appendix 1 to these rules.

2. A copy of the degree certificate confirming graduation or a certificate of graduation; in the case of degree certificates issued by foreign higher education institutions, the certificate referred to in Article 326(2)(2) or Article 327(2) of the Act, giving the right to seek to obtain a doctoral degree in the country under whose higher education system the issuing institution operates. Should the document be submitted as a scanned copy, the scanned image should be in color. A candidate who does not have the aforementioned documents will be obliged to supply their originals before being admitted to PDS IPAS, and no later than on the doctoral training commencement date.

3. A *curriculum vitae* showing previous education and employment.

4. A motivation letter, containing a short description of interests, scientific accomplishments, a list of publications, information on involvement in scientific activity (membership of student scientific groups, participation in scientific conferences, completed internships and training courses, prizes and distinctions received) and reasons for wishing to study at the doctoral school.

5. Certificates or other documents confirming the candidate's knowledge of English, if the candidate has such.

6. Contact details of at least one previous academic supervisor or other academic employee who has agreed to provide an opinion regarding the candidate. The opinions must not be attached to the application.

§ 4.

1. Recruitment committees, consisting of at least three people with a representative gender balance whenever possible, are appointed by the coordinator for each competition separately. In special cases, when it is required by the Regulations of the institution financing the doctoral scholarship, the composition of the committee may be appointed by the Director of a given institute. The recruitment committee is chaired by the coordinator or deputy coordinator, or another person holding at least a PhD degree appointed by the coordinator or deputy coordinator. The committee includes a potential supervisor or supervisors. At least one member of the committee should hold a PhD, DSc degree.

2. Announcements of recruitment procedures are made public through display on the noticeboard, through publication in two language versions on the website of the relevant institute, on the PDS IPAS website, and through publication in English on the Euraxess portal, at least one month before the deadline for applications for admission to PDS IPAS expires.

3. The announcement of an recruitment procedure contains at least:

a) information on the proposed subject matter and the research group in which the work will be carried out;

b) descriptions of the required knowledge and qualifications and formal requirements for candidates;

c) conditions of work and amount of scholarship;

d) information on the recruitment process, method of registration and criteria for selection of candidates;

e) information on the number of available places;

f) information on the deadline for application;

g) information on the decision date;

h) information that following completion of the procedure, unsuccessful candidates will be provided with feedback regarding the number of points obtained at given stages of the procedure.

4. In the event of no applications being received, the deadline for application may be extended.

§ 5.

1. The recruitment procedure takes place in two stages. In the first stage the recruitment committee assesses the applications submitted by candidates. In the second stage the recruitment committee conducts interviews, which may be in English.

2. In the first stage the recruitment committee assesses the applications submitted in terms of compliance of the candidate's educational profile with the project subject matter, taking account of:

a) the candidate's academic accomplishments, based on grades attained during studies, scientific and popular science publications, scholarships, awards and distinctions resulting from research or student activity, and other achievements;

b) the candidate's academic and professional experience, based on participation in conferences, workshops, training courses and internships, participation in research and commercial projects, involvement in scientific groups and associations, international and professional mobility, and experience in other fields, including in industry.

The candidate may obtain 0–12 points in total for the aforementioned achievements.

3. No more than 3 candidates, whose applications obtained 6 or more points in the first stage, shall be qualified for the second stage. If no application received at least 6 points, the recruitment procedure may be repeated.

4. A candidate will be informed of his or her qualification for the second stage by e-mail not later than 14 days after closure of the competition and at least 7 days before the planned interview. The candidate may be asked to give a presentation on an assigned topic during the interview.

5. During the interview, the recruitment committee assesses:

a) the candidate's knowledge in the discipline represented by the institute at which the candidate wishes to study (0–9 points);

b) knowledge of the subject matter referred to in the announcement of the recruitment procedure (0–9 points).

6. Based on the sum of points obtained in the first and second stages of the recruitment procedure, a ranking list of candidates is prepared.

7. Candidates who obtain the highest total number of points in the recruitment procedure will be admitted to PDS IPAS, subject to paragraph 8 of this section.

8. The minimum number of points required for enrolment to PDS IPAS is 15. Candidates whose cumulative number of points at both stages falls below 15 cannot be enrolled to PDS IPAS. In case of resignation of the candidate who scored best during the recruitment procedure, the call administrator reserves the right to repeat the recruitment procedure, or to admit a candidate who was ranked in the subsequent place on the ranking list of candidates, provided that this candidate received a relevant number of points, entitling to admission to PDS IPAS. In the case when none of the candidates receives 15 or more points, the recruitment procedure may be repeated,

9. The institute informs candidates about the results of the recruitment procedure within 45 days of the date of receiving the application documents, as stated in the competition announcement.

10. The results of the recruitment procedure regarding enrolment to PDS IPAS are public and shall be published on the website of a given institute and the website of PDS IPAS, in the form of a ranking list featuring the number of points obtained at both stages as well as the cumulative number of points, and showing the approved candidates.

11. The final decision on admission to PDS IPAS is made by the director of the relevant institute based on the recommendations of the recruitment committee.

12. Admission to PDS IPAS takes place by way of entry on the list of doctoral students. In the case of foreign doctoral students, admission to PDS IPAS takes place through an administrative decision.

13. Decisions on admission or non-admission are to be signed by the Director of a relevant Institute.

14. Refusal of admission to PDS IPAS takes place by way of an administrative decision. The candidate is entitled to submit a request for reconsideration of the decision to the director of the institute concerned.

§ 6.

1. Matters not covered by the stipulations of the rules herein, and not covered by the legal regulations mentioned in §2 of the Rules of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, shall be concluded by the Program Council, Director of a given institute or the Board of Directors.

2. The form entitled "Application for admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences" constitutes Appendix 1 to the rules herein.

3. As of September 30th, 2023, the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences that entered into force on October 1st, 2022 shall be repealed.

4. The stipulations of the rules herein shall enter into force from the commencement of the 2023/2024 academic year.

Appendix 1

APPLICATION FOR ADMISSION

to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

1. Candidate's forename and surname:
2. E-mail address:
3. Correspondence address:
4. Education to date:
5. Subject of master's thesis, supervisor:
6. Level of English:
7. Gender:

I hereby apply for admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences at the [name of the Institute]

I declare that I am familiar with the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences.

I declare that I am aware of the fact that on admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences I cannot be employed as an academic teacher or researcher, and that I cannot be a doctoral student of any other doctoral school.

I consent to the processing of my personal data contained in my application by [name and full address of the Institute, VAT No.] for purposes and in the scope necessary for the current recruitment procedure, including – in the case of admitting me – publication of my forename and surname in the information on the results of the recruitment procedure on a website [website of the Institute] and on a website of Poznań Doctoral School of Institutes of the Polish Academy of Sciences (http://www.psd-ipan.ibch.poznan.pl/index-en.html). I have been informed that this consent is voluntary and that I have the right to withdraw this consent at any time, and withdrawal of consent does not affect the lawfulness of the processing that was carried out on its basis before its withdrawal. I have also read the information on data protection (information clause).

date..... .....
(signature)

Information clause:

According to the content of art. 13 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46 / EC (General Data Protection Regulation), hereinafter referred to as GDPR, we inform that:

1. The administrator of the collected personal data is the Institute [name of the Institute, full address, VAT No.] (hereinafter referred to as the Institute).
2. The administrator has appointed a Data Protection Inspector who can be contacted in writing, by traditional mail, writing to the Institute's address: Data Protection Inspector, [name of the Institute, full address] or by sending an e-mail to: [IOD email address in Institute].
3. Personal data are processed in order to implement the administrator's tasks related to the recruitment to the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences.
4. The legal basis for data processing is the Act of 26 June 1974 - Labor Code, the Act of 30 April 2010 on the Polish Academy of Sciences, the Act of 20 July 2018 Law on Higher Education and Science and consent of the data subject.
5. Personal data collected in the current recruitment process will be stored for 3 months [the period of storage of personal data set at a given Institute] from the moment the recruitment process is resolved. After this period, personal data will be effectively destroyed.
6. Personal data will not be conveyed to a third country.
7. Personal data of the candidate selected in the competition may be made available to third parties authorized under the law and the co-administrator - the Institute of Bioorganic Chemistry of the Polish Academy of Sciences - on the basis of an agreement.
8. The person whose data is processed has the right to:

- access to the content of your personal data, demand their correction or deletion, on the terms set out in art. 15-17 GDPR;
- set restrictions on data processing, in cases specified in art. 18 GDPR;
- data transfer, on the principles set out in art. 20 GDPR;
- withdrawal of consent at any time without affecting the lawfulness of the processing that was carried out on the basis of consent before its withdrawal;
- lodging a complaint to the President of the Office for Personal Data Protection.

Providing personal data in the scope resulting from art. 22 (1) of the Act of 26 June 1974 - Labor Code, is mandatory, providing data in a broader scope is voluntary and requires consent to their processing. Refusal to provide personal data prevents the application from being considered.

CONSOLIDATED TEXT 30 APRIL 2024.

Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

§ 1.

1. Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "PDS IPAS", takes place by way of a competition that fulfils the requirements of a substantive, open and transparent recruitment procedure, on the principles laid down in these rules.

2. A recruitment procedure is carried out by request of the director of an institute (among the institutes making up PDS IPAS) depending on needs and the availability of funds. The procedure is conducted by the PDS IPAS discipline coordinator (hereafter "coordinator") for the unit making the request, or by the coordinator's deputy.

§ 2.

1. A person admitted to PDS IPAS must hold a master's, master of engineering or equivalent degree, or be a person as referred to in Article 186(2) of the Act of July 20, 2018 titled Higher Education and Science Law (Dz.U. 2018 item 1668 as amended), hereafter "the Act".

2. Foreigners may study at PDS IPAS under the terms laid down in the Act and in the rules of PDS IPAS.

3. A person not holding the qualifications described in paragraph 1 may take part in a competition, but must obtain those qualifications before commencing study at PDS IPAS.

4. Candidates' applications to PDS IPAS are accepted by the individual institutes according to the procedure and form indicated in the announcement of the recruitment procedure.

5. Once a candidate is selected in one recruitment procedure for the position of a doctoral student, such a candidature shall immediately be excluded by a relevant coordinator from all other ongoing procedures at a given institute.

§ 3.

The following documents are required in the recruitment process:

1. An application to PDS IPAS, including consent for the processing of personal data for the purposes of the recruitment procedure, and a declaration of familiarity with these rules. The application form constitutes Appendix 1 to these rules.

2. A copy of the degree certificate confirming graduation or a certificate of graduation; in the case of degree certificates issued by foreign higher education institutions, the certificate referred to in Article 326(2)(2) or Article 327(2) of the Act, giving the right to seek to obtain a doctoral degree in the country under whose higher education system the issuing institution operates. Should the document be submitted as a scanned copy, the scanned image should be in color. A candidate who does not have the aforementioned documents will be obliged to supply their originals before being admitted to PDS IPAS, and no later than on the doctoral training commencement date.

3. A *curriculum vitae* showing previous education and employment.

4. A motivation letter, containing a short description of interests, scientific accomplishments, a list of publications, information on involvement in scientific activity (membership of student scientific groups, participation in scientific conferences, completed internships and training courses, prizes and distinctions received) and reasons for wishing to study at the doctoral school.

5. Certificates or other documents confirming the candidate's knowledge of English, if the candidate has such.

6. Contact details of at least one previous academic supervisor or other academic employee who has agreed to provide an opinion regarding the candidate. The opinions must not be attached to the application.

§ 4.

1. Recruitment committees, consisting of at least three people with a representative gender balance whenever possible, are appointed by the coordinator for each competition separately. In special cases, when it is required by the Regulations of the institution financing the doctoral scholarship, the composition of the committee may be appointed by the Director of a given institute. The recruitment committee is chaired by the coordinator or deputy coordinator, or another person holding at least a PhD degree appointed by the coordinator or deputy coordinator. The committee includes a potential supervisor or supervisors. At least one member of the committee should hold a PhD, DSc degree.

2. Announcements of recruitment procedures are made public through display on the noticeboard, through publication in two language versions on the website of the relevant institute, on the PDS IPAS website, and through publication in English on the Euraxess portal, at least one month before the deadline for applications for admission to PDS IPAS expires.

3. The announcement of an recruitment procedure contains at least:

   a) information on the proposed subject matter and the research group in which the work will be carried out;

   b) descriptions of the required knowledge and qualifications and formal requirements for candidates;

   c) conditions of work and amount of scholarship;

   d) information on the recruitment process, method of registration and criteria for selection of candidates;

   e) information on the number of available places;

   f) information on the deadline for application;

   g) information on the decision date;

   h) information that following completion of the procedure, unsuccessful candidates will be provided with feedback regarding the number of points obtained at given stages of the procedure.

4. In the event of no applications being received, the deadline for application may be extended.

§ 5.

1. The recruitment procedure takes place in two stages. In the first stage the recruitment committee assesses the applications submitted by candidates. In the second stage the recruitment committee conducts interviews, which may be in English.

2. In the first stage the recruitment committee assesses the applications submitted in terms of compliance of the candidate's educational profile with the project subject matter, taking account of:

a) the candidate's academic accomplishments, based on grades attained during studies, scientific and popular science publications, scholarships, awards and distinctions resulting from research or student activity, and other achievements;

b) the candidate's academic and professional experience, based on participation in conferences, workshops, training courses and internships, participation in research and commercial projects, involvement in scientific groups and associations, international and professional mobility, and experience in other fields, including in industry.

The candidate may obtain 0–12 points in total for the aforementioned achievements.

3. No more than 3 candidates, whose applications obtained 6 or more points in the first stage, shall be qualified for the second stage. If no application received at least 6 points, the recruitment procedure may be repeated.

4. A candidate will be informed of his or her qualification for the second stage by e-mail not later than 14 days after closure of the competition and at least 7 days before the planned interview. The candidate may be asked to give a presentation on an assigned topic during the interview.

5. During the interview, the recruitment committee assesses:

a) the candidate's knowledge in the discipline represented by the institute at which the candidate wishes to study (0–9 points);

b) knowledge of the subject matter referred to in the announcement of the recruitment procedure (0–9 points).

6. Based on the sum of points obtained in the first and second stages of the recruitment procedure, a ranking list of candidates is prepared.

7. Candidates who obtain the highest total number of points in the recruitment procedure will be admitted to PDS IPAS, subject to paragraph 8 of this section.

8. The minimum number of points required for enrolment to PDS IPAS is 15. Candidates whose cumulative number of points at both stages falls below 15 cannot be enrolled to PDS IPAS. In case of resignation of the candidate who scored best during the recruitment procedure, the call administrator reserves the right to repeat the recruitment procedure, or to admit a candidate who was ranked in the subsequent place on the ranking list of candidates, provided that this candidate received a relevant number of points, entitling to admission to PDS IPAS. In the case when none of the candidates receives 15 or more points, the recruitment procedure may be repeated,

9. The institute informs candidates about the results of the recruitment procedure within 45 days of the date of receiving the application documents, as stated in the competition announcement.

10. The results of the recruitment procedure regarding enrolment to PDS IPAS are public and shall be published on the website of a given institute and the website of PDS IPAS, in the form of a ranking list featuring the number of points obtained at both stages as well as the cumulative number of points, and showing the approved candidates.

11. The final decision on admission to PDS IPAS is made by the director of the relevant institute based on the recommendations of the recruitment committee.

12. Admission to PDS IPAS takes place by way of entry on the list of doctoral students. In the case of foreign doctoral students, admission to PDS IPAS takes place through an administrative decision.

13. Decisions on admission or non-admission are to be signed by the Director of a relevant Institute.

14. Refusal of admission to PDS IPAS takes place by way of an administrative decision. The candidate is entitled to submit a request for reconsideration of the decision to the director of the institute concerned.

§ 6.

1. Matters not covered by the stipulations of the rules herein, and not covered by the legal regulations mentioned in §2 of the Rules of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, shall be concluded by the Program Council, Director of a given institute or the Board of Directors.

2. The form entitled "Application for admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences" constitutes Appendix 1 to the rules herein.

3. As of September 30th, 2023, the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences that entered into force on October 1st, 2022 shall be repealed.

4. The stipulations of the rules herein shall enter into force from the commencement of the 2023/2024 academic year.

This consolidated text of the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences (hereinafter referred to as the Rules on Recruitment) takes into account the original text of the Rules on Recruitment in force at the beginning of the academic year 2023/2024 and Appendix No. 1 to the Rules on Recruitment in the wording adopted by the Scientific Boards:

Institute of Bioorganic Chemistry of the Polish Academy of Sciences by resolution No. 33/2024/Internet of April 22, 2024,

Institute of Dendrology of the Polish Academy of Sciences by resolution No. 11 of April 26, 2024,

Institute of Molecular Physics of the Polish Academy of Sciences by resolution No. 117 of April 16, 2024,

Institute of Human Genetics of the Polish Academy of Sciences by resolution No. 5/koresp/2024 of April 23, 2024,

Institute of Plant Genetics of the Polish Academy of Sciences by resolution No. 4/K/2024 of April 25, 2024.

Appendix 1 to the Rules of Recruitment to the PSD IPAS

APPLICATION FOR ADMISSION

to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

1. Candidate's forename and surname:
2. E-mail address:
3. Correspondence address:
4. Education to date:
5. Subject of master's thesis, supervisor:
6. Level of English:
7. Gender:

I hereby apply for admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences at the Institute……PAS [name of the Institute].

I declare that I am familiar with the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences.

I declare that I am aware of the fact that on admission to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences I cannot be a doctoral student of any other doctoral school.

I consent to the processing of my personal data contained in my application by *[name and full address of the Institute, VAT No.]* for purposes and in the scope necessary for the current recruitment procedure, including – in the case of admitting me – publication of my forename and surname in the information on the results of the recruitment procedure on a website *[website of the Institute]* and on a website of Poznań Doctoral School of Institutes of the Polish Academy of Sciences (http://www.psd-ipan.ibch.poznan.pl/index-en.html). I have been informed that this consent is voluntary and that I have the right to withdraw this consent at any time, and withdrawal of consent does not affect the lawfulness of the processing that was carried out on its basis before its withdrawal. I have also read the information on data protection (information clause).

Date ....

(signature)

Information clause:

According to the content of art. 13 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46 / EC (General Data Protection Regulation), hereinafter referred to as GDPR, we inform that:

1. The administrator of the collected personal data is the Institute ***[name of the Institute, full address, VAT No.]*** **(hereinafter referred to as the Institute).**

2. The administrator has appointed a Data Protection Inspector who can be contacted in writing, by traditional mail, writing to the Institute's address: Data Protection Inspector, ***[name of the Institute, full address]*** **or by sending an e-mail to:** ***[IOD email address in Institute].***

3. Personal data are processed in order to implement the administrator's tasks related to the recruitment to the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences.

4. The legal basis for data processing is the Act of 26 June 1974 - Labor Code, the Act of 30 April 2010 on the Polish Academy of Sciences, the Act of 20 July 2018 Law on Higher Education and Science and consent of the data subject.

5. Personal data collected in the current recruitment process will be stored for …….. **[the period of storage of personal data set at a given Institute]** **from the moment the recruitment process is resolved. After this period, personal data will be effectively destroyed.**

6. Personal data will not be conveyed to a third country.

7. Personal data of the candidate selected in the competition may be made available to third parties authorized under the law and the co-administrator - the Institute of Bioorganic Chemistry of the Polish Academy of Sciences - on the basis of an agreement.

8. The person whose data is processed has the right to:

- access to the content of your personal data, demand their correction or deletion, on the terms set out in art. 15-17 GDPR;

- set restrictions on data processing, in cases specified in art. 18 GDPR;

- data transfer, on the principles set out in art. 20 GDPR;

- withdrawal of consent at any time without affecting the lawfulness of the processing that was carried out on the basis of consent before its withdrawal;

- lodging a complaint to the President of the Office for Personal Data Protection.

Providing personal data in the scope resulting from art. 22 (1) of the Act of 26 June 1974 - Labor Code, is mandatory, providing data in a broader scope is voluntary and requires consent to their processing. Refusal to provide personal data prevents the application from being considered.

Rules of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

§ 1

The Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter “the doctoral school” or “PDS IPAS", is run jointly – pursuant to the agreement on the establishment of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences – by the following units of the Polish Academy of Sciences: Institute of Bioorganic Chemistry PAS, Institute of Dendrology PAS, Institute of Molecular Physics PAS, Institute of Human Genetics PAS, and Institute of Plant Genetics PAS, hereafter called “the institutes”, and each separately an “institute”. The present rules, hereafter “the rules”, determine the organisation and process of study at the doctoral school and the rights and obligations of doctoral students, supervisors, and discipline coordinators directing the doctoral school at the level of disciplines and institutes, hereafter “coordinators”, as well as the deputies of coordinators, hereafter “deputies”.

§ 2

The doctoral school operates on the basis of the provisions of:

1) the Act of April 30, 2010 on the Polish Academy of Sciences (Dz.U. 2018 item 1475 as amended);

2) the Act of July 20, 2018 titled Higher Education and Science Law (Dz.U. 2018 item 1668 as amended), hereafter “the Act”;

3) the agreement on the establishment of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, concluded between the institutes;

4) the charters of the institutes;

5) the present rules;

6) other relevant legal instruments, including the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

§ 3

1. The administrative activity of PDS IPAS is coordinated by its head, further referred to as the Head of PDS IPAS, and two deputies, further referred to as Deputy Heads of PDS IPAS.

2. The Head and the deputies are nominated by the Council of Directors of PDS IPAS through voting, and appointed by Directors of their home institutes, subject to paragraph 3.

3. The Head of PDS IPAS is elected among independent researchers employed at an institute which is an entity entitled to receive funds for joint educating at the doctoral school, pursuant to the agreement on joint management of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, signed by the institutes on April 15th, 2019.

4. The Head of PDS IPAS is appointed for a 4-year term of office, excluding the first term of office which shall last for 2 years.

5. The Deputy Heads of PDS IPAS are elected among all the independent researchers employed at the institutes co-forming PDS IPAS.

6. The Head of PDS IPAS, and in the event of his or her absence – the Deputy Head of PDS IPAS, particularly deals with:

1) coordinating of the actions taken by all the entities constituting PDS IPAS;
2) representing the parties in cases related to joint management of the School handled by public administration authorities, pursuant to an adequate authorization of the Director of the Institute, as stipulated in paragraph 3 herein;
3) elaborating and publicising a detailed programme of study at PDS IPAS, as stipulated in § 4.2 of the Programme of study at PDS IPAS, in cooperation with the coordinators;
4) drawing up a self-evaluation report, as stipulated in Article 262.1 of the Act, an preparing other mandatory reports and statements on the activity of PDS IPAS;
5) informing the candidates about enrolment to the list of doctoral students of PDS IPAS, and on removal from the list of doctoral students of PDS IPAS;
6) keeping a joint record of the doctoral students of PDS IPAS;
7) handing over doctoral student identity cards to doctoral students of PDS IPAS;
8) handing over diplomas of graduation from PDS IPAS
9) on his or her own initiative or upon the request of the coordinator or the deputy, convening meetings of the Programme Committee, and participating in such meetings without a casting vote;
10) upon request of at least one Director of an institute constituting PDS IPAS, convening meetings of the Council of Directors, and participating in such meetings without a casting vote;
11) ensuring central administrative, informatics and legal servicing for PDS IPAS;
12) performing other organizational and administrative actions related to the activity of PDS IPAS.

§ 4

1. The doctoral school prepares candidates for the degree of doctor in the following disciplines: biological sciences, chemical sciences, physical sciences, medical sciences, agriculture and horticulture.

2. The duration of doctoral studies is from six to eight semesters.

3. The academic year begins on October 1 of each calendar year and lasts until September 30 of the next calendar year.

4. Depending on the timing of the recruitment procedure, admission to the doctoral school for a given academic year may take place at the earliest on the day of the start of that academic year or later, during the academic year. The year is assessed by semester.

§ 5

The conditions and procedure for recruitment to the doctoral school are laid down in the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences. The decision on admission of a doctoral student to the doctoral school is made by the Director of an Institute funding costs of a given doctoral student.

§ 6

1. The nature and quantity of classes and activities required for completion of the doctoral school are laid down in the Programme of Study at the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter “the Programme of Study”.

2. The Programme of Study is made known through *Biuletyn Informacji Publicznej* and the websites of the institutes and the website of the doctoral school at least five months before commencement of the recruitment procedure to the doctoral school for a given academic year.

3. In specially justified cases, by request of a doctoral student, the coordinator may give approval for an individual plan of study. In such a case the coordinator or deputy, in consultation with the supervisor(s) and the doctoral student, determines an individual programme and a schedule for the completion by the doctoral student of the tasks necessary to complete the doctoral school.

4. The results of study are verified on the basis of credits for courses obtained through written examinations, oral examinations, reports or written papers. The means by which credit is obtained is laid down in the course syllabus.

5. Credits are given according to the following grade scale:

2 – insufficient grade (credit not won)

3 – satisfactory grade

3.5 – satisfactory grade plus

4 – good grade

4.5 – good grade plus

5 – very good grade

6. For the completion of tasks under the programme, a doctoral student is awarded points in accordance with the European Credit Transfer and Accumulation System (ECTS).

7. The number of ECTS points is proposed by coordinators or deputies, and is approved by the Programme Council.

8. Doctoral students of PDS IPAS may also obtain ECTS points from classes and activities run by higher education institutions or PAS scientific establishments outside PDS IPAS, including at foreign institutions offering doctoral studies, subject to paragraphs 9, 10 and 11.

9. Principles for obtaining credits and ECTS points as referred to in paragraph 8:

1) Based on a list of credits supplied by the doctoral student, indicating the allocated numbers of ECTS points, ECTS points assigned to particular courses are recognised in accordance with the current ECTS system, and the grades obtained are adjusted to the PDS IPAS grade scale. Attainments shown in the list of credits together with ECTS points are counted towards the doctoral student's study progress and grades.

2) A condition for the transfer of credit for classes and activities completed at another institution, including at foreign institutions, in place of points assigned to classes and practical activities laid down in the study plan and programme of study, is confirmation of the equivalence of the educational results.

10. The number of ECTS points obtained from the classes and activities referred to in paragraph 9 may not be greater than one-third of the points obtainable from classes and activities included in the PDS IPAS programme.

11. The award of ECTS points as indicated in paragraph 9 requires the consent of the coordinator or deputy from the doctoral student's home institute, granted on a written request of the doctoral student supported by his or her supervisor.

12. In case of a doctoral student transferring to PDS IPAS from another doctoral school or from a foreign institution offering doctoral studies, the coordinator or deputy may assign ECTS points obtained during previous study. The doctoral student retains the status (credited semesters) obtained at the previous doctoral

school. A transferring doctoral student must present documentation of the progress of his or her previous doctoral studies and the opinion of his or her previous supervisor or academic tutor.

13. A condition for a doctoral student to gain credit for a year of study at the doctoral school is the obtaining of a positive grade from the compulsory classes and activities laid down in the detailed study programme established for the academic year in question, as referred to in § 2 paragraph 2 of the Programme of Study, the obtaining of credit for the doctoral seminar, and obtaining of a positive evaluation for the report on scientific activity.

14. A doctoral student may, at his or her request, be admitted conditionally by the coordinator or deputy to continue study in the following academic year in case of failure to obtain credit for one of the compulsory courses for the current academic year or for the doctoral seminar.

15. In case of conditional admission to continue study in a given academic year, the doctoral student must then satisfy the condition that was not satisfied in the previous year. If for good reason, not being the responsibility of the doctoral student, it is not possible to obtain credit for the outstanding compulsory course or seminar, satisfaction of that condition will take place in a manner indicated by the coordinator or deputy.

16. A doctoral student may not repeat his or her study in a subsequent academic year except as laid down in paragraphs 14 and 15 of this section.

17. At the halfway point of the period of study – or during the fourth semester, if the duration of study is six semesters – a doctoral student is subject to mid-term evaluation in accordance with Article 202 of the Act. The basis for this evaluation, made by a three-person committee appointed by the coordinator or deputy, is a written report on progress on the individual research plan, accompanied by the opinion of the student's supervisor(s). The mid-term evaluation may additionally include an interview of the student and his or her supervisor(s) by the committee.

18. The mid-term evaluation referred to in paragraph 17 of this section concludes with a positive or negative result. The result of the evaluation, together with its reasoning, constitutes open information.

19. In justified circumstances, at the request of the supervisor, a coordinator or deputy may order an additional evaluation of a doctoral student other than a mid-term evaluation.

20. A condition for completion of the doctoral school is the completion of the tasks included in the study programme, including the obtaining of credit with a positive grade for all compulsory classes and activities, obtaining of credit for the doctoral seminar in each year of study at the doctoral school, obtaining of a positive evaluation for the annual reports, and submission of a doctoral dissertation for the purpose of initiation of a doctorate award procedure by the council of the institution indicated by the supervisor(s).

21. A person who has not completed the doctoral school may, by written request, receive a certificate of progress of study at the doctoral school.

§ 7

1. Study at the doctoral school is overseen by the Programme Council of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "the Programme Council".

2. The Programme Council is composed of discipline coordinators and their deputies.

3. A member of the Programme Council may be a person holding the title of professor or a habilitation degree or equivalent qualification.

4. Members of the Programme Council and their functions are determined by the Directors of the institutes making up PDS IPAS. Each institute nominates one or two members of the Programme Council in each discipline that it represents.

5. The composition of the Programme Council is approved by the College of Directors of the institutes making up PDS IPAS, hereafter "the College of Directors".

6. Membership of the Programme Council is revoked by the Director of the relevant institute at his or her own initiative or by request of the Programme Council.

7. Scientific councils of institutes, at the request of the institute director and after seeking the opinion of the doctoral students' self-governing body or representatives, approve and adopt the following documents:

a) the rules of the doctoral school;

b) the rules on recruitment to the doctoral school;

c) the programme of study at the doctoral school.

8. The scientific councils of institutes, in relation to doctoral students of their institute:

   1) appoint supervisors within three months of a doctoral student's commencing study;

   2) appoint assistant supervisors;

   3) remove supervisors/assistant supervisors, and appoint new supervisors/assistant supervisors within not more than three months of the date of removal;

   4) change supervisors/assistant supervisors.

§ 8

The coordinator or deputy particularly:

1) announces a procedure for recruitment to the doctoral school, conducts the procedure in the form of a competition, and presents to the director of the institute financing a doctoral student the results of the recruitment procedure, indicating potential supervisors and doctoral dissertation topics;

2) approves a doctoral student's individual research plan;

3) makes an annual evaluation of completion of the study programme, the state of advancement of scientific research and progress with work on the doctoral dissertation;

4) grants credit to doctoral students for successive years of study at the doctoral school;

5) informs doctoral students and supervisors of the results of the annual evaluation of progress with their work and the gaining of or failure to gain credit for a year of study at the doctoral school;

6) presents applications to the Director of the institute concerning extension of the period of study at the doctoral school;

7) presents applications to the Director of the institute concerning the removal of persons from the list of students of the doctoral school;

8) informs the Head of PDS IPAS about changes in the course of education of a doctoral student;

9) in consultation with the Director of the institute, recommends to the institute's scientific council a supervisor/supervisors/assistant supervisor for a doctoral student, after obtaining the written consent of the candidate or candidates for supervisor/supervisors/assistant supervisor;

10) oversees adherence to the rules of the doctoral school and the organisation and carrying out of the programme of study;

11) organises doctoral seminars at which doctoral students present their research progress;

12) once a year, presents to the Programme Council and to the College of Directors a report on the activities of the doctoral school at the institute in question.

§ 9

1. When justified by the need to carry out long-term scientific research essential for the preparation of a doctoral dissertation, the coordinator or deputy, in consultation with the supervisor and by request of the doctoral student, submits to the Director of a given institute a request for an extension to the deadline for submission of the doctoral dissertation, where the total extension may not exceed two years. An extension is possible on condition that the doctoral student has authored at least one peer-reviewed article accepted for publication in a scientific journal indexed in *Journal Citation Reports.* The coordinator or deputy may request documentation of the doctoral student's contribution in the form of declarations of co-authors.

2. The coordinator or deputy, by request of the doctoral student, presents to the institute director a request for the suspension of study at the doctoral school in case of temporary inability to carry out the programme due to:

1) the doctoral student's illness;

2) the need to provide personal care to a sick family member;

3) the need to provide personal care to a child up to three years of age or a child with a certified disability;

4) other adequately justified circumstances;

for a total time not exceeding one year.

3. The coordinator or deputy, by request of the doctoral student, presents to the institute director a request for the suspension of study at the doctoral school for a period corresponding to the duration of maternity leave, leave on conditions of maternity leave, paternity leave or parental leave, as defined in the Labour Code of June 26, 1974 (Dz.U. 1974 no. 24 item 141 as amended).

4. Requests stipulated in paragraphs 1 and 2 contain:

1) details of the doctoral student: forename, surname, PESEL identification number or, in the absence of such a number, the number of an identity document, and indication of the student's year of study at the doctoral school;

2) reasons;

3) the opinion of the supervisor(s);

4) an updated individual research plan, containing if applicable a proposed new deadline for submission of a doctoral dissertation, later than the original deadline by a total of not more than two years.

5. A doctoral student's request for suspension of study at the doctoral school should include documents confirming the existence of the grounds referred to in paragraph 2 or paragraph 3.

6. Decisions concerning requests stipulated in paragraphs 1 and 2 are made by the Director of a given institute.

§ 10

1. A doctoral student's studies at the doctoral school are overseen with regard to scientific content by a supervisor/supervisors/assistant supervisor.

2. The supervisor, in conjunction with the assistant supervisor (if appointed), acting in accordance with the programme of study:

1) determines, jointly with the doctoral student, an individual research plan, within 12 months of the commencement of study. In justified cases the plan may be modified with the consent of the coordinator or deputy;

2) introduces the doctoral student to the subject matter of the doctoral dissertation and to relevant research methods and techniques;

3) determines, with regard to scientific content, a detailed study programme for the doctoral student for each successive year of study at the doctoral school, and monitors its progress;

4) assists the doctoral student in obtaining the funding necessary to prepare a doctoral dissertation (National Science Centre grants, charter-based funding, other sources);

5) oversees progress with the doctoral student's work and dissemination of the results;

6) presents to the coordinator or deputy an evaluation of the progress of scientific research and the carrying out of the doctoral student's study programme before the end of each academic year;

7) provides an opinion on any application of the doctoral student for extension or suspension of the period of study at the doctoral school in the cases laid down in § 9 of the rules.

3. Within 12 months of commencing study, the doctoral student presents to the coordinator or deputy an individual research plan, agreed with the supervisor(s), containing in particular a schedule for the preparation of a doctoral dissertation and the planned date of its submission. If an assistant supervisor is appointed, the plan is presented after obtaining the opinion of that supervisor.

4. In justified circumstances, a doctoral student, in consultation with the supervisor(s), may submit to the coordinator or deputy a request for a change to the subject matter of research and the individual research plan. The request must contain reasons, and must be submitted not later than before the date of the mid-term evaluation.

5. The coordinator or deputy may, at their own initiative or by request of the doctoral student, present to the scientific council of the relevant institute a reasoned request for the removal of a supervisor/assistant supervisor. In case of a change of supervisor/assistant supervisor, the new supervisor/assistant supervisor is appointed by the procedure described in § 7.8 and § 8.9).

§ 11

General entitlements of doctoral students are laid down in the provisions listed in § 2 of the rules and in the present section.

In particular, a doctoral student is entitled:

1) to participate in the academic life of the institutes making up the doctoral school;

2) to use the libraries and reading rooms of the institutes making up the doctoral school;

3) to receive a doctoral scholarship as regulated by the Act;

4) to extend and suspend study at the doctoral school as regulated by the present rules;

5) to take holiday to an amount not exceeding eight weeks annually, at dates agreed with the supervisor;

6) to accept internships and conduct research at other domestic and foreign scientific centres, with the consent of the director of the relevant institute, after obtaining positive opinions from the supervisor(s) and the coordinator or deputy. The period of an internship, with the consent of the coordinator or deputy, may be counted towards the period of study at the doctoral school. Classes and activities for which credit is gained

during an internship are included in the evaluation of completion of the study programme in accordance with § 6.8. Internships and other stays away from the home institute are counted towards the time of study at PDS IPAS, and scholarships and other statutory benefits are paid during that time;

7) to receive, for the entire period of study at the doctoral school, scientific supervision and support in research work from a supervisor/supervisors/assistant supervisor;

8) to appeal against decisions of the coordinator or deputy to the director of the institute, whose decisions are final.

§ 12

1. General obligations of doctoral students are laid down in the provisions listed in § 2 of the rules and in the present section. In particular, doctoral students are obliged:

1) to abide by the present rules;

2) to carry out the PDS IPAS study programme and the individual research plan;

3) to carry out research related to the preparation of a doctoral dissertation;

4) to study under the supervision of and according to the guidance of the supervisor/supervisors/assistant supervisor and according to the established study programme;

5) to participate in the classes and activities listed in the study programme;

6) to gain credit for each year of study at the doctoral school in accordance with the requirements contained in these rules and in the study programme;

7) to adhere to the deadlines for preparation of the doctoral dissertation contained in the individual research plan and laid down in these rules and other provisions;

8) to submit to the coordinator or deputy, before the end of the academic year, reports on completed work, accepted by the supervisor;

9) to give reports on the state of advancement and results of research during the doctoral seminar;

10) to publish the results of research in peer-reviewed scientific journals indexed in *Journal Citation Reports*;

11) to inform the coordinator or deputy and the supervisor/supervisors without delay of any change of personal details, including the correspondence address. In case of failure to provide information on a change of address, correspondence sent to the previous address shall be considered to have been effectively delivered;

12) to adhere to the regulations applicable at the doctoral student's home institute, including those relating to the protection of intellectual property, confidential information and know-how.

2. A person admitted to the doctoral school begins study and acquires the rights of a doctoral student on taking a pledge. When taking the pledge, the doctoral student also submits a written declaration that he or she is not a student of any other doctoral school.

3. The doctoral student receives a doctoral student's identity card for a fee as laid down in applicable regulations.

4. Publications of the doctoral student related to the doctoral dissertation, whether authored solely or jointly, must indicate the institute to which he or she is affiliated as a place of authorship.

§ 13

1. A doctoral student is struck off the list of doctoral students in case of:

   1) a negative result of a mid-term evaluation;

   2) failure to submit a doctoral dissertation by the date laid down in the individual research plan;

   3) resignation from study, submitted in writing to the coordinator or deputy.

2. A doctoral student may be struck off the list of doctoral students in case of:

   1) a negative result of an additional evaluation ordered by the coordinator or deputy by request of the supervisor;

   2) failure to perform obligations arising from the pledge or from these rules;

   3) failure to perform obligations arising from the study programme, in particular those described in § 6.8, 6.9 and 6.10;

   4) unsatisfactory progress in carrying out the individual research plan;

   5) unsatisfactory progress in preparing a doctoral dissertation;

   6) breach of good research practices or the principles laid down in the Code of Ethics for Research Workers.

3. A request for striking off the list of doctoral students is submitted by the coordinator or deputy to the director of the institute, at the same time notifying the doctoral student.

4. The doctoral student is entitled to appeal to the director of the institute within 14 days of the date of delivery of notification of the request for striking off. The director's decision will be final.

5. The decision on removal from the list of doctoral students is made by the Director of a given institute, and it is final. Such a decision is handed over to the doctoral student through the Head of PDS IPAS.

6. For the meeting of the deadline referred to in paragraph 4, it shall be sufficient to send the appeal in the form of a registered letter through a public postal operator.

§ 14

The progress of doctoral studies is documented on a study progress sheet, a form for which is contained in the appendix to the Programme of Study.

§ 15

1. Doctoral students form a doctoral students' self-governing body within the doctoral school.
2. The authorities of the doctoral students' self-governing body represent doctoral students as a group.

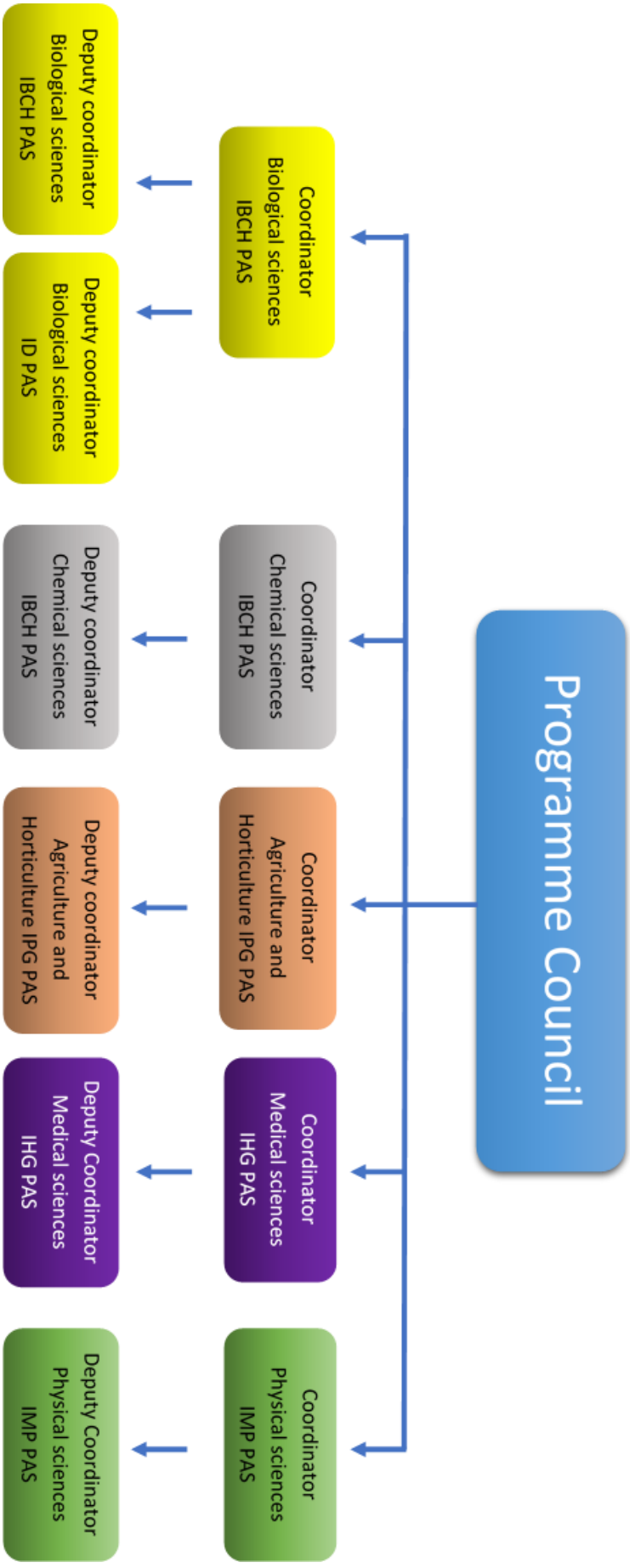
§ 16

1. The structure of the Programme Council is shown schematically in Appendix 1.

2. In matters not covered by these rules or by the legal instruments listed in § 2, decisions shall be taken by the Programme Council, the institute director or the College of Directors.

3. The provisions of these rules shall come into effect at the beginning of the 2019/2020 academic year.

Appendix 1.


Programme Council
Coordinator Biological sciences IBCH PAS
Deputy coordinator Biological sciences IBCH PAS
Deputy coordinator Biological sciences ID PAS
Coordinator Chemical sciences IBCH PAS
Deputy coordinator Chemical sciences IBCH PAS
Coordinator Agriculture and Horticulture IPG PAS
Deputy coordinator Agriculture and Horticulture IPG PAS
Coordinator Medical sciences IHG PAS
Deputy Coordinator Medical sciences IHG PAS
Coordinator Physical sciences IMP PAS
Deputy Coordinator Physical sciences IMP PAS

Rules of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

§ 1

The Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter “the doctoral school” or “PDS IPAS", is run jointly – pursuant to the agreement on the establishment of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences – by the following units of the Polish Academy of Sciences: Institute of Bioorganic Chemistry PAS, Institute of Dendrology PAS, Institute of Molecular Physics PAS, Institute of Human Genetics PAS, and Institute of Plant Genetics PAS, hereafter called “the institutes”, and each separately an “institute”. The present rules, hereafter “the rules”, determine the organisation and process of study at the doctoral school and the rights and obligations of doctoral students, supervisors, and discipline coordinators directing the doctoral school at the level of disciplines and institutes, hereafter “coordinators”, as well as the deputies of coordinators, hereafter “deputies”.

§ 2

The doctoral school operates on the basis of the provisions of:

1) the Act of April 30, 2010 on the Polish Academy of Sciences (Dz.U. 2018 item 1475 as amended);

2) the Act of July 20, 2018 titled Higher Education and Science Law (Dz.U. 2018 item 1668 as amended), hereafter “the Act”;

3) the agreement on the establishment of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, concluded between the institutes;

4) the charters of the institutes;

5) the present rules;

6) other relevant legal instruments, including the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

§ 3

1. The administrative activity of PDS IPAS is coordinated by its head, further referred to as the Head of PDS IPAS, and two deputies, further referred to as Deputy Heads of PDS IPAS.

2. The Head and the deputies are nominated by the Council of Directors of PDS IPAS through voting, and appointed by Directors of their home institutes, subject to paragraph 3.

3. The Head of PDS IPAS is elected among independent researchers employed at an institute which is an entity entitled to receive funds for joint educating at the doctoral school, pursuant to the agreement on joint management of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, signed by the institutes on April 15th, 2019.

4. The Head of PDS IPAS is appointed for a 4-year term of office, excluding the first term of office which shall last for 2 years.

5. The Deputy Heads of PDS IPAS are elected among all the independent researchers employed at the institutes co-forming PDS IPAS.

6. The Head of PDS IPAS, and in the event of his or her absence – the Deputy Head of PDS IPAS, particularly deals with:

1) coordinating of the actions taken by all the entities constituting PDS IPAS;
2) representing the parties in cases related to joint management of the School handled by public administration authorities, pursuant to an adequate authorization of the Director of the Institute, as stipulated in paragraph 3 herein;
3) elaborating and publicising a detailed programme of study at PDS IPAS, as stipulated in § 4.2 of the Programme of study at PDS IPAS, in cooperation with the coordinators;
4) drawing up a self-evaluation report, as stipulated in Article 262.1 of the Act, an preparing other mandatory reports and statements on the activity of PDS IPAS;
5) informing the candidates about enrolment to the list of doctoral students of PDS IPAS;
6) keeping a joint record of the doctoral students of PDS IPAS;
7) handing over diplomas of graduation from PDS IPAS;
8) on his or her own initiative or upon the request of the coordinator or the deputy, convening meetings of the Programme Committee, and participating in such meetings without a casting vote;
9) upon request of at least one Director of an institute constituting PDS IPAS, convening meetings of the Council of Directors, and participating in such meetings without a casting vote;
10) ensuring central administrative, informatics and legal servicing for PDS IPAS;
11) Informing all the entities co-forming PDS PAS on the received subsidies regarding functioning of the school;
12) performing other organizational and administrative actions related to the activity of PDS IPAS.

§ 4

1. The doctoral school prepares candidates for the degree of doctor in the following disciplines: biological sciences, chemical sciences, physical sciences, medical sciences, agriculture and horticulture.

2. The duration of doctoral studies is from six to eight semesters.

3. The academic year begins on October 1 of each calendar year and lasts until September 30 of the next calendar year.

4. Depending on the timing of the recruitment procedure, admission to the doctoral school for a given academic year may take place at the earliest on the day of the start of that academic year or later, during the academic year. The year is assessed by semester.

§ 5

The conditions and procedure for recruitment to the doctoral school are laid down in the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences. The decision on admission of a doctoral student to the doctoral school is made by the Director of an Institute funding costs of a given doctoral student.

§ 6

1. The nature and quantity of classes and activities required for completion of the doctoral school are laid down in the Programme of Study at the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter “the Programme of Study”.

2. The Programme of Study is made known through *Biuletyn Informacji Publicznej* and the websites of the institutes and the website of the doctoral school at least five months before commencement of the recruitment procedure to the doctoral school for a given academic year.

3. In specially justified cases, by request of a doctoral student, the coordinator may give approval for an individual plan of study. In such a case the coordinator or deputy, in consultation with the supervisor(s) and the doctoral student, determines an individual programme and a schedule for the completion by the doctoral student of the tasks necessary to complete the doctoral school.

4. The results of study are verified on the basis of credits for courses obtained through written examinations, oral examinations, reports or written papers. The means by which credit is obtained is laid down in the course syllabus.

5. Credits are given according to the following grade scale:

2 – insufficient grade (credit not won)

3 – satisfactory grade

3.5 – satisfactory grade plus

4 – good grade

4.5 – good grade plus

5 – very good grade

6. For the completion of tasks under the programme, a doctoral student is awarded points in accordance with the European Credit Transfer and Accumulation System (ECTS).

7. The number of ECTS points is proposed by coordinators or deputies, and is approved by the Programme Council.

8. Doctoral students of PDS IPAS may also obtain ECTS points from classes and activities run by higher education institutions or PAS scientific establishments outside PDS IPAS, including at foreign institutions offering doctoral studies, subject to paragraphs 9, 10 and 11.

9. Principles for obtaining credits and ECTS points as referred to in paragraph 8:

1) Based on a list of credits supplied by the doctoral student, indicating the allocated numbers of ECTS points, ECTS points assigned to particular courses are recognised in accordance with the current ECTS system, and the grades obtained are adjusted to the PDS IPAS grade scale. Attainments shown in the list of credits together with ECTS points are counted towards the doctoral student's study progress and grades.

2) A condition for the transfer of credit for classes and activities completed at another institution, including at foreign institutions, in place of points assigned to classes and practical activities laid down in the study plan and programme of study, is confirmation of the equivalence of the educational results.

10. The number of ECTS points obtained from the classes and activities referred to in paragraph 9 may not be greater than one-third of the points obtainable from classes and activities included in the PDS IPAS programme.

11. The award of ECTS points as indicated in paragraph 9 requires the consent of the coordinator or deputy from the doctoral student's home institute, granted on a written request of the doctoral student supported by his or her supervisor.

12. In case of a doctoral student transferring to PDS IPAS from another doctoral school or from a foreign institution offering doctoral studies, the coordinator or deputy may assign ECTS points obtained during previous study. The doctoral student retains the status (credited semesters) obtained at the previous doctoral

school. A transferring doctoral student must present documentation of the progress of his or her previous doctoral studies and the opinion of his or her previous supervisor or academic tutor.

13. A condition for a doctoral student to gain credit for a year of study at the doctoral school is the obtaining of a positive grade from the compulsory classes and activities laid down in the detailed study programme established for the academic year in question, as referred to in § 2 paragraph 2 of the Programme of Study, the obtaining of credit for the doctoral seminar, and obtaining of a positive evaluation for the report on scientific activity.

14. A doctoral student may, at his or her request, be admitted conditionally by the coordinator or deputy to continue study in the following academic year in case of failure to obtain credit for one of the compulsory courses for the current academic year or for the doctoral seminar.

15. In case of conditional admission to continue study in a given academic year, the doctoral student must then satisfy the condition that was not satisfied in the previous year. If for good reason, not being the responsibility of the doctoral student, it is not possible to obtain credit for the outstanding compulsory course or seminar, satisfaction of that condition will take place in a manner indicated by the coordinator or deputy.

16. A doctoral student may not repeat his or her study in a subsequent academic year except as laid down in paragraphs 14 and 15 of this section.

17. At the halfway point of the period of study – or during the fourth semester, if the duration of study is six semesters – a doctoral student is subject to mid-term evaluation in accordance with Article 202 of the Act. The basis for this evaluation, made by a three-person committee appointed by the coordinator or deputy, is a written report on progress on the individual research plan, accompanied by the opinion of the student's supervisor(s). The mid-term evaluation may additionally include an interview of the student and his or her supervisor(s) by the committee.

18. The mid-term evaluation referred to in paragraph 17 of this section concludes with a positive or negative result. The result of the evaluation, together with its reasoning, constitutes open information.

19. In justified circumstances, at the request of the supervisor, a coordinator or deputy may order an additional evaluation of a doctoral student other than a mid-term evaluation.

20. A condition for completion of the doctoral school is the completion of the tasks included in the study programme, including the obtaining of credit with a positive grade for all compulsory classes and activities, obtaining of credit for the doctoral seminar in each year of study at the doctoral school, obtaining of a positive evaluation for the annual reports, and submission of a doctoral dissertation for the purpose of initiation of a doctorate award procedure by the council of the institution indicated by the supervisor(s).

21. A person who has not completed the doctoral school may, by written request, receive a certificate of progress of study at the doctoral school.

§ 7

1. Study at the doctoral school is overseen by the Programme Council of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "the Programme Council".

2. The Programme Council is composed of discipline coordinators and their deputies.

3. A member of the Programme Council may be a person holding the title of professor or a habilitation degree or equivalent qualification.

4. Members of the Programme Council and their functions are determined by the Directors of the institutes making up PDS IPAS. Each institute nominates one or two members of the Programme Council in each discipline that it represents.

5. The composition of the Programme Council is approved by the College of Directors of the institutes making up PDS IPAS, hereafter "the College of Directors".

6. Membership of the Programme Council is revoked by the Director of the relevant institute at his or her own initiative or by request of the Programme Council.

7. Scientific councils of institutes, at the request of the institute director and after seeking the opinion of the doctoral students' self-governing body or representatives, approve and adopt the following documents:

a) the rules of the doctoral school;

b) the rules on recruitment to the doctoral school;

c) the programme of study at the doctoral school.

8. The scientific councils of institutes, in relation to doctoral students of their institute:

   1) appoint supervisors within three months of a doctoral student's commencing study;

   2) appoint assistant supervisors;

   3) remove supervisors/assistant supervisors, and appoint new supervisors/assistant supervisors within not more than three months of the date of removal.

§ 8

The coordinator or deputy particularly:

1) announces a procedure for recruitment to the doctoral school, conducts the procedure in the form of a competition, and presents to the director of the institute financing a doctoral student the results of the recruitment procedure, indicating potential supervisors and doctoral dissertation topics;

2) approves a doctoral student's individual research plan;

3) makes an annual evaluation of completion of the study programme, the state of advancement of scientific research and progress with work on the doctoral dissertation;

4) grants credit to doctoral students for successive years of study at the doctoral school;

5) informs doctoral students and supervisors of the results of the annual evaluation of progress with their work and the gaining of or failure to gain credit for a year of study at the doctoral school;

6) presents applications to the Director of the institute concerning extension of the period of study at the doctoral school;

7) presents applications to the Director of the institute concerning the removal of persons from the list of students of the doctoral school;

8) informs the Head of PDS IPAS about changes in the course of education of a doctoral student;

9) in consultation with the Director of the institute, recommends to the institute's scientific council a supervisor/supervisors/assistant supervisor for a doctoral student, after obtaining the written consent of the candidate or candidates for supervisor/supervisors/assistant supervisor;

10) oversees adherence to the rules of the doctoral school and the organisation and carrying out of the programme of study;

11) organises doctoral seminars at which doctoral students present their research progress;

12) once a year, presents to the Programme Council and to the College of Directors a report on the activities of the doctoral school at the institute in question.

§ 9

1. When justified by the need to carry out long-term scientific research essential for the preparation of a doctoral dissertation, the coordinator or deputy, in consultation with the supervisor and by request of the doctoral student, submits to the Director of a given institute a request for an extension to the deadline for submission of the doctoral dissertation, where the total extension may not exceed two years. An extension is possible on condition that the doctoral student has authored at least one peer-reviewed article accepted for publication in a scientific journal indexed in *Journal Citation Reports.* The coordinator or deputy may request documentation of the doctoral student's contribution in the form of declarations of co-authors.

2. The coordinator or deputy, by request of the doctoral student, presents to the institute director a request for the suspension of study at the doctoral school in case of temporary inability to carry out the programme due to:

1) the doctoral student's illness;

2) the need to provide personal care to a sick family member;

3) the need to provide personal care to a child up to three years of age or a child with a certified disability;

4) other adequately justified circumstances;

for a total time not exceeding one year.

3. The coordinator or deputy, by request of the doctoral student, presents to the institute director a request for the suspension of study at the doctoral school for a period corresponding to the duration of maternity leave, leave on conditions of maternity leave, paternity leave or parental leave, as defined in the Labour Code of June 26, 1974 (Dz.U. 1974 no. 24 item 141 as amended).

4. Requests stipulated in paragraphs 1 and 2 contain:

1) details of the doctoral student: forename, surname, PESEL identification number or, in the absence of such a number, the number of an identity document, and indication of the student's year of study at the doctoral school;

2) reasons;

3) the opinion of the supervisor(s);

4) an updated individual research plan, containing if applicable a proposed new deadline for submission of a doctoral dissertation, later than the original deadline by a total of not more than two years.

5. A doctoral student's request for suspension of study at the doctoral school should include documents confirming the existence of the grounds referred to in paragraph 2 or paragraph 3.

6. Decisions concerning requests stipulated in paragraphs 1 and 2 are made by the Director of a given institute.

§ 10

1. A doctoral student's studies at the doctoral school are overseen with regard to scientific content by a supervisor/supervisors/assistant supervisor.

2. The supervisor, in conjunction with the assistant supervisor (if appointed), acting in accordance with the programme of study:

1) determines, jointly with the doctoral student, an individual research plan, within 12 months of the commencement of study. In justified cases the plan may be modified with the consent of the coordinator or deputy;

2) introduces the doctoral student to the subject matter of the doctoral dissertation and to relevant research methods and techniques;

3) determines, with regard to scientific content, a detailed study programme for the doctoral student for each successive year of study at the doctoral school, and monitors its progress;

4) assists the doctoral student in obtaining the funding necessary to prepare a doctoral dissertation (National Science Centre grants, charter-based funding, other sources);

5) oversees progress with the doctoral student's work and dissemination of the results;

6) presents to the coordinator or deputy an evaluation of the progress of scientific research and the carrying out of the doctoral student's study programme before the end of each academic year;

7) provides an opinion on any application of the doctoral student for extension or suspension of the period of study at the doctoral school in the cases laid down in § 9 of the rules.

3. Within 12 months of commencing study, the doctoral student presents to the coordinator or deputy an individual research plan, agreed with the supervisor(s), containing in particular a schedule for the preparation of a doctoral dissertation and the planned date of its submission. If an assistant supervisor is appointed, the plan is presented after obtaining the opinion of that supervisor.

4. In justified circumstances, a doctoral student, in consultation with the supervisor(s), may submit to the coordinator or deputy a request for a change to the subject matter of research and the individual research plan. The request must contain reasons, and must be submitted not later than before the date of the mid-term evaluation.

5. The coordinator or deputy may, at their own initiative or by request of the doctoral student, present to the scientific council of the relevant institute a reasoned request for the removal of a supervisor/assistant supervisor. In case of a change of supervisor/assistant supervisor, the new supervisor/assistant supervisor is appointed by the procedure described in § 7.8 and § 8.9).

§ 11

General entitlements of doctoral students are laid down in the provisions listed in § 2 of the rules and in the present section.

In particular, a doctoral student is entitled:

1) to participate in the academic life of the institutes making up the doctoral school;

2) to use the libraries and reading rooms of the institutes making up the doctoral school;

3) to receive a doctoral scholarship as regulated by the Act;

4) to extend and suspend study at the doctoral school as regulated by the present rules;

5) to take holiday to an amount not exceeding eight weeks annually, at dates agreed with the supervisor;

6) to accept internships and conduct research at other domestic and foreign scientific centres, with the consent of the director of the relevant institute, after obtaining positive opinions from the supervisor(s) and the coordinator or deputy. The period of an internship, with the consent of the coordinator or deputy, may be counted towards the period of study at the doctoral school. Classes and activities for which credit is gained

during an internship are included in the evaluation of completion of the study programme in accordance with § 6.8. Internships and other stays away from the home institute are counted towards the time of study at PDS IPAS, and scholarships and other statutory benefits are paid during that time;

7) to receive, for the entire period of study at the doctoral school, scientific supervision and support in research work from a supervisor/supervisors/assistant supervisor;

8) to appeal against decisions of the coordinator or deputy to the director of the institute, whose decisions are final.

§ 12

1. General obligations of doctoral students are laid down in the provisions listed in § 2 of the rules and in the present section. In particular, doctoral students are obliged:

1) to abide by the present rules;

2) to carry out the PDS IPAS study programme and the individual research plan;

3) to carry out research related to the preparation of a doctoral dissertation;

4) to study under the supervision of and according to the guidance of the supervisor/supervisors/assistant supervisor and according to the established study programme;

5) to participate in the classes and activities listed in the study programme;

6) to gain credit for each year of study at the doctoral school in accordance with the requirements contained in these rules and in the study programme;

7) to adhere to the deadlines for preparation of the doctoral dissertation contained in the individual research plan and laid down in these rules and other provisions;

8) to submit to the coordinator or deputy, before the end of the academic year, reports on completed work, accepted by the supervisor;

9) to give reports on the state of advancement and results of research during the doctoral seminar;

10) to publish the results of research in peer-reviewed scientific journals indexed in *Journal Citation Reports*;

11) to inform the coordinator or deputy and the supervisor/supervisors without delay of any change of personal details, including the correspondence address. In case of failure to provide information on a change of address, correspondence sent to the previous address shall be considered to have been effectively delivered;

12) to adhere to the regulations applicable at the doctoral student's home institute, including those relating to the protection of intellectual property, confidential information and know-how.

2. A person admitted to the doctoral school begins study and acquires the rights of a doctoral student on taking a pledge. When taking the pledge, the doctoral student also submits a written declaration that he or she is not a student of any other doctoral school.

3. The doctoral student receives a doctoral student's identity card for a fee as laid down in applicable regulations.

4. Publications of the doctoral student related to the doctoral dissertation, whether authored solely or jointly, must indicate the institute to which he or she is affiliated as a place of authorship.

§ 13

1. A doctoral student is struck off the list of doctoral students in case of:

   1) a negative result of a mid-term evaluation;

   2) failure to submit a doctoral dissertation by the date laid down in the individual research plan;

   3) resignation from study, submitted in writing to the coordinator or deputy.

2. A doctoral student may be struck off the list of doctoral students in case of:

   1) a negative result of an additional evaluation ordered by the coordinator or deputy by request of the supervisor;

   2) failure to perform obligations arising from the pledge or from these rules;

   3) failure to perform obligations arising from the study programme, in particular those described in § 6.8, 6.9 and 6.10;

   4) unsatisfactory progress in carrying out the individual research plan;

   5) unsatisfactory progress in preparing a doctoral dissertation;

   6) breach of good research practices or the principles laid down in the Code of Ethics for Research Workers.

3. A request for striking off the list of doctoral students is submitted by the coordinator or deputy to the director of the institute, at the same time notifying the doctoral student.

4. The doctoral student is entitled to appeal to the director of the institute within 14 days of the date of delivery of notification of the request for striking off. The director's decision will be final.

5. The decision on removal from the list of doctoral students is made by the Director of a given institute, and it is final. Such a decision is handed over to the doctoral student through the Head of PDS IPAS.

6. For the meeting of the deadline referred to in paragraph 4, it shall be sufficient to send the appeal in the form of a registered letter through a public postal operator.

§ 14

The progress of doctoral studies is documented on a study progress sheet, a form for which is contained in the appendix to the Programme of Study.

§ 15

1. Doctoral students form a doctoral students' self-governing body within the doctoral school.
2. The authorities of the doctoral students' self-governing body represent doctoral students as a group.

§ 16

1. The structure of the Programme Council is shown schematically in Appendix 1.

2. In matters not covered by these rules or by the legal instruments listed in § 2, decisions shall be taken by the Programme Council, the institute director or the College of Directors.

3. The provisions of these rules shall come into effect at the beginning of the 2020/2021 academic year.

Rules of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

§ 1.

The Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "the doctoral school" or "PDS IPAS", is run jointly – pursuant to the agreement on the establishment of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences – by the following units of the Polish Academy of Sciences: Institute of Bioorganic Chemistry PAS, Institute of Dendrology PAS, Institute of Molecular Physics PAS, Institute of Human Genetics PAS, and Institute of Plant Genetics PAS, hereafter called "the institutes", and each separately an "institute". The present rules, hereafter "the rules", determine the organisation and process of study at the doctoral school and the rights and obligations of doctoral students, supervisors, and discipline coordinators directing the doctoral school at the level of disciplines and institutes, hereafter "coordinators", as well as the deputies of coordinators, hereafter "deputies".

§ 2.

The doctoral school operates on the basis of the provisions of:

1) the Act of April 30, 2010 on the Polish Academy of Sciences (Journal of Laws 2018 item 1475 as amended);

2) the Act of July 20, 2018 titled Higher Education and Science Law (Journal of Laws 2018 item 1668 as amended), hereafter "the Act";

3) the agreement on the establishment of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, concluded between the institutes;

4) the charters of the institutes;

5) the present rules;

6) other relevant legal instruments, including the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

§ 3.

1. The administrative activity of PDS IPAS is coordinated by its head, further referred to as the Head of PDS IPAS, and two deputies, further referred to as Deputy Heads of PDS IPAS.

2. The Head and the deputies are nominated by the Council of Directors of PDS IPAS through voting, and appointed by Directors of their home institutes, subject to paragraph 3.

3. The Head of PDS IPAS is elected among independent researchers employed at an institute which is an entity entitled to receive funds for joint educating at the doctoral school, pursuant to the agreement on joint management of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, signed by the institutes on April 15th, 2019.

4. The Head of PDS IPAS is appointed for a 4-year term of office.

5. The Deputy Heads of PDS IPAS are elected among all the independent researchers employed at the institutes co-forming PDS IPAS.

6. The Head of PDS IPAS, and in the event of his or her absence – the Deputy Head of PDS IPAS, particularly deals with:

1) coordinating of the actions taken by all the entities constituting PDS IPAS;

2) representing the parties in cases related to joint management of the School handled by public administration authorities, pursuant to an adequate authorization of the Director of the Institute, as stipulated in paragraph 3 herein;

3) elaborating and publicising a detailed programme of study at PDS IPAS, as stipulated in § 4.2 of the Programme of study at PDS IPAS, in cooperation with the coordinators;

4) drawing up a self-evaluation report, as stipulated in Article 262.1 of the Act, an preparing other mandatory reports and statements on the activity of PDS IPAS;

5) informing the candidates about enrolment to the list of doctoral students of PDS IPAS;

6) keeping a joint record of the doctoral students of PDS IPAS;

7) handing over diplomas of graduation from PDS IPAS;

8) on his or her own initiative or upon the request of the coordinator or the deputy, convening meetings of the Programme Committee, and participating in such meetings without a casting vote;

9) upon request of at least one Director of an institute constituting PDS IPAS, convening meetings of the Council of Directors, and participating in such meetings without a casting vote;

10) ensuring central administrative, informatics and legal servicing for PDS IPAS;

11) Informing all the entities co-forming PDS PAS on the received subsidies for the functioning of the school;

12) performing other organizational and administrative actions associated with the activity of PDS IPAS.

§ 4.

1. The doctoral school prepares candidates for the degree of doctor in the following disciplines: biological sciences, chemical sciences, physical sciences, medical sciences, agriculture and horticulture.
2. The duration of doctoral studies is from six to eight semesters.
3. The academic year begins on October 1 of each calendar year and lasts until September 30 of the next calendar year.
4. Depending on the timing of the recruitment procedure, admission to the doctoral school for a given academic year may take place at the earliest on the day of the start of that academic year or later, during the academic year. The year is assessed by semester.

§ 5.

The conditions and procedure for recruitment to the doctoral school are laid down in the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences. The decision on admission of a doctoral student to the doctoral school is made by the Director of an Institute funding costs of a given doctoral student.

§ 6.

1. In the case of a doctoral student transferring to PDS IPAS from another doctoral school, or a foreign institution dealing with doctoral training, the coordinator or the deputy coordinator may reckon the previously collected ECTS points. The doctoral student shall keep the status (the accomplished semesters) earned at the previous doctoral school.
2. Transferring is possible only within the same discipline.

3. The doctoral student who is being transferred is obliged to submit the documents stipulated in § 3 of the Rules of Recruitment, and a report from the course of education at the former doctoral school. At the same time, the supervisor or academic tutor shall put forth the opinion on the doctoral student and the request for transferring, addressed to the Head of PDS IPAS.

4. The doctoral student who is being transferred is added to the list of doctoral students by the decision of the director of a given institute.

§ 7.

1. The nature and quantity of classes and activities required for completion of the doctoral school are laid down in the Programme of Study at the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "the Programme of Study".

2. The Programme of Study is made known through *Biuletyn Informacji Publicznej* and the websites of the institutes and the website of the doctoral school at least five months before commencement of the recruitment procedure to the doctoral school for a given academic year.

3. The Programme of Study referred to in § 7.1 comes in six versions, differentiated by the names under which they are registered in the POL-on 2.0 system. These versions are valid at individual institutes co-running the PDS IPAS, and they differ in terms of organisation of mandatory courses and the number of ECTS points associated with them. They are the following:

   a) Programme of Study featuring Biology (IBCH PAS),

   b) Programme of Study featuring Biology II (ID PAS),

   c) Programme of Study featuring Chemistry (IBCH PAS),

   d) Programme of Study featuring Medicine (IHG PAS)

   e) Programme of Study featuring Physics (IMP PAS)

   f) Programme of Study featuring Agriculture (IPG PAS).

4. In specially justified cases, by request of a doctoral student, the coordinator may give approval for an individual plan of study. In such a case the coordinator or deputy, in consultation with the supervisor(s) and the doctoral student, determines an individual programme and a schedule for the completion by the doctoral student of the tasks necessary to complete the doctoral school.

5. The results of study are verified on the basis of credits for courses obtained through written examinations, oral examinations, reports or written papers. The means by which credit is obtained is laid down in the course syllabus.

6. Credits are given according to the following grade scale:

   2 – insufficient grade (credit not won)

   3 – satisfactory grade

   3.5 – satisfactory grade plus

   4 – good grade

   4.5 – good grade plus

   5 – very good grade

7. For the completion of tasks under the programme, a doctoral student is awarded points in accordance with the European Credit Transfer and Accumulation System (ECTS).

8. The number of ECTS points is proposed by coordinators or deputies, and is approved by the Programme Council.

9. Doctoral students of PDS IPAS may also obtain ECTS points from classes and activities run by higher education institutions or PAS scientific establishments outside PDS IPAS, including at foreign institutions offering doctoral studies, subject to paragraphs 10, 11 and 11.

10. Principles for obtaining credits and ECTS points as referred to in paragraph 9:

    1) Based on a list of credits supplied by the doctoral student, indicating the allocated numbers of ECTS points, ECTS points assigned to particular courses are recognised in accordance with the current ECTS system, and the grades obtained are adjusted to the PDS IPAS grade scale. Attainments shown in the list of credits together with ECTS points are counted towards the doctoral student's study progress and grades. 2) A condition for the transfer of credit for classes and activities completed at another institution, including at foreign institutions, in place of points assigned to classes and practical activities laid down in the study plan and programme of study, is confirmation of the equivalence of the educational results.

11. The number of ECTS points obtained from the classes and activities referred to in paragraph 10 may not be greater than one-third of the points obtainable from classes and activities included in the PDS IPAS programme.

12. The award of ECTS points as indicated in paragraph 9 requires the consent of the coordinator or deputy from the doctoral student's home institute, granted on a written request of the doctoral student supported by his or her supervisor.

13. A condition for a doctoral student to gain credit for a year of study at the doctoral school is the obtaining of a positive grade from the compulsory classes and activities laid down in the detailed study programme established for the academic year in question, as referred to in § 2 paragraph 2 of the Programme of Study, the obtaining of credit for the doctoral seminar, and obtaining of a positive evaluation for the report on scientific activity.

14. A doctoral student may, at his or her request, be admitted conditionally by the coordinator or deputy to continue study in the following academic year in case of failure to obtain credit for one of the compulsory courses for the current academic year or for the doctoral seminar.

15. In case of conditional admission to continue study in a given academic year, the doctoral student must then satisfy the condition that was not satisfied in the previous year. If for good reason, not being the responsibility of the doctoral student, it is not possible to obtain credit for the outstanding compulsory course or seminar, satisfaction of that condition will take place in a manner indicated by the coordinator or deputy.

16. A doctoral student may not repeat his or her study in a subsequent academic year except as laid down in paragraphs 14 and 15 of this section.

17. At the halfway point of the period of study – or during the fourth semester, if the duration of study is six semesters – a doctoral student is subject to mid-term evaluation in accordance with Article 202 of the Act. The basis for this evaluation, made by a three-person committee appointed by the coordinator or deputy, is a written report on progress on the individual research plan (constituting Attachment 1 hereto), accompanied by the opinion of the student's supervisor(s), and possible documents confirming its implementation (e.g. publications). The mid-term evaluation may additionally include an interview of the student and his or her supervisor(s) by the committee.

18. The mid-term evaluation committee is headed by the coordinator of a given discipline or his/her deputy. He/she appoints a committee for each doctoral student individually. The supervisor or assistant supervisor

may not be a part of the committee. An expert appointed outside PDS IPAS puts forth an opinion in writing, and receives remuneration on the basis of a contract for a specific task, pursuant to Art. 202, section 5 of the Act. The results of the committee's work are documented in a protocol, template for which constitutes Attachment 2 hereto. The session of the committee must be attended by a representatives of the Board of doctoral students, taking part as an observer.

19. The mid-term evaluation referred to in paragraph 18 of this section concludes with a positive or negative result. The result of the evaluation, together with its reasoning, constitutes open information. The evaluation result may be appealed to the Director of a given institute within 14 days.

20. In justified circumstances, at the request of the supervisor, a coordinator or deputy may order an additional evaluation of a doctoral student other than a mid-term evaluation.

21. A condition for completion of the doctoral school is the completion of the tasks included in the study programme, including the obtaining of credit with a positive grade for all compulsory classes and activities, obtaining of credit for the doctoral seminar in each year of study at the doctoral school, obtaining of a positive evaluation for the annual reports, and submission of a doctoral dissertation, along with a positive opinion of the supervisor.

22. A person who has not completed the doctoral school may, by written request, receive a certificate of progress of study at the doctoral school.

§ 8.

1. Study at the doctoral school is overseen by the Programme Council of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "the Programme Council".

2. The Programme Council is composed of discipline coordinators and their deputies.

3. A member of the Programme Council may be a person holding the title of professor or a habilitation degree or equivalent qualification.

4. Members of the Programme Council and their functions are determined by the Directors of the institutes making up PDS IPAS. Each institute nominates one or two members of the Programme Council in each discipline that it represents.

5. The composition of the Programme Council is approved by the College of Directors of the institutes making up PDS IPAS, hereafter "the College of Directors".

6. Membership of the Programme Council is revoked by the Director of the relevant institute at his or her own initiative or by request of the Programme Council.

7. Scientific councils of institutes, at the request of the institute director and after seeking the opinion of the doctoral students' self-governing body or representatives, approve and adopt the following documents: a) the rules of the doctoral school;

b) the rules on recruitment to the doctoral school;

c) the programme of study at the doctoral school.

8. The scientific councils of institutes, in relation to doctoral students of their institute:

   1) appoint supervisor or supervisors within three months of a doctoral student's commencing study;

   2) appoint assistant supervisors;

   3) remove supervisors/assistant supervisors, and appoint new supervisors/assistant supervisors within not more than three months of the date of removal.

§ 9.

The coordinator or deputy particularly:

1) announces a procedure for recruitment to the doctoral school, conducts the procedure in the form of a competition, and presents to the director of the institute financing a doctoral student the results of the recruitment procedure, indicating potential supervisors and doctoral dissertation topics;
2) approves a doctoral student's individual research plan;
3) makes an annual evaluation of completion of the study programme, the state of advancement of scientific research and progress with work on the doctoral dissertation;
4) grants credit to doctoral students for successive years of study at the doctoral school;
5) informs doctoral students and supervisors of the results of the annual evaluation of progress with their work and the gaining of or failure to gain credit for a year of study at the doctoral school;
6) presents applications to the Director of the institute concerning extension of the period of study at the doctoral school;
7) presents applications to the Director of the institute concerning the removal of persons from the list of students of the doctoral school;
8) informs the Head of PDS IPAS about changes in the course of education of a doctoral student;
9) in consultation with the Director of the institute, recommends to the institute's scientific council a supervisor/supervisors/assistant supervisor for a doctoral student, after obtaining the written consent of the candidate or candidates for supervisor/supervisors/assistant supervisor;
10) oversees adherence to the rules of the doctoral school and the organisation and carrying out of the programme of study;
11) organises doctoral seminars at which doctoral students present their research progress;
12) once a year, presents to the Programme Council and to the College of Directors a report on the activities of the doctoral school at the institute in question.

§ 10.

1. When justified by the need to carry out long-term scientific research essential for the preparation of a doctoral dissertation, the coordinator or deputy, in consultation with the supervisor and by request of the doctoral student, submits to the Director of a given institute a request for an extension to the deadline for submission of the doctoral dissertation, where the total extension may not exceed two years. An extension is possible on condition that the doctoral student has authored at least one peer-reviewed article accepted for publication in a scientific journal indexed in *Journal Citation Reports.* The coordinator or deputy may request documentation of the doctoral student's contribution in the form of declarations of co-authors.

2. The coordinator or deputy, by request of the doctoral student, presents to the institute director a request for the suspension of study at the doctoral school in case of temporary inability to carry out the programme due to:

1) the doctoral student's illness;
2) the need to provide personal care to a sick family member;
3) the need to provide personal care to a child up to three years of age or a child with a certified disability;
4) other adequately justified circumstances;

for a total time not exceeding one year.

3. The coordinator or deputy, by request of the doctoral student, presents to the institute director a request for the suspension of study at the doctoral school for a period corresponding to the duration of maternity leave, leave on conditions of maternity leave, paternity leave or parental leave, as defined in the Labour Code of June 26, 1974 (Journal of Laws 1974, no. 24 item 141 as amended).

4. Requests stipulated in paragraphs 1 and 2 contain:

1) details of the doctoral student: forename, surname, PESEL identification number or, in the absence of such a number, the number of an identity document, and indication of the student's year of study at the doctoral school;

2) reasons;

3) the opinion of the supervisor(s);

4) an updated individual research plan, containing if applicable a proposed new deadline for submission of a doctoral dissertation, later than the original deadline by a total of not more than two years.

5. A doctoral student's request for suspension of study at the doctoral school should include documents confirming the existence of the grounds referred to in paragraph 2 or paragraph 3.

6. Decisions concerning requests stipulated in paragraphs 1 and 2 are made by the Director of a given institute.

§ 11.

1. A doctoral student's studies at the doctoral school are overseen with regard to scientific content by a supervisor/supervisors/assistant supervisor.

2. The supervisor, in conjunction with the assistant supervisor (if appointed), acting in accordance with the programme of study:

1) determines, jointly with the doctoral student, an individual research plan, within 12 months of the commencement of study. In justified cases the plan may be modified with the consent of the coordinator or deputy;

2) introduces the doctoral student to the subject matter of the doctoral dissertation and to relevant research methods and techniques;

3) determines, with regard to scientific content, a detailed study programme for the doctoral student for each successive year of study at the doctoral school, and monitors its progress;

4) assists the doctoral student in obtaining the funding necessary to prepare a doctoral dissertation;
5) oversees progress with the doctoral students work and dissemination of the results;

6) presents to the coordinator or deputy an evaluation of the progress of scientific research and the carrying out of the doctoral student's study programme before the end of each academic year;

7) provides an opinion on any application of the doctoral student for extension or suspension of the period of study at the doctoral school in the cases laid down in § 10 of the rules.

3. Within 12 months of commencing study, the doctoral student presents to the coordinator or deputy an individual research plan, agreed with the supervisor(s), containing in particular a schedule for the preparation of a doctoral dissertation and the planned date of its submission. If an assistant supervisor is appointed, the plan is presented after obtaining the opinion of that supervisor.

4. In justified circumstances, a doctoral student, in consultation with the supervisor(s), may submit to the coordinator or deputy a request for a change to the subject matter of research and the individual research

plan. The request must contain reasons, and must be submitted not later than before the date of the mid-term evaluation.

5. The coordinator or deputy may, at their own initiative or by request of the doctoral student, present to the scientific council of the relevant institute a reasoned request for the removal of a supervisor/assistant supervisor. In case of a change of supervisor/assistant supervisor, the new supervisor/assistant supervisor is appointed by the procedure described in §8.8 and § 9.9).

§ 12.

General entitlements of doctoral students are laid down in the provisions listed in § 2 of the rules and in the present section.

In particular, a doctoral student is entitled:

1) to participate in the academic life of the institutes making up the doctoral school;
2) to use the libraries and reading rooms of the institutes making up the doctoral school;
3) to receive a doctoral scholarship as regulated by the Act;
4) to extend and suspend study at the doctoral school as regulated by the present rules;
5) to take holiday to an amount not exceeding eight weeks annually, at dates agreed with the supervisor;
6) to accept internships and conduct research at other domestic and foreign scientific centres, with the consent of the director of the relevant institute, after obtaining positive opinions from the supervisor(s) and the coordinator or deputy. Classes and activities for which credit is gained during an internship are included in the evaluation of completion of the study programme in accordance with § 7.9. Peridos of internships and other stays away from the home institute are counted towards the period of study at PDS IPAS, and scholarships and other statutory benefits are paid during that time;
7) to receive, for the entire period of study at the doctoral school, scientific supervision and support in research work from a supervisor/supervisors/assistant supervisor;
8) to appeal against decisions of the coordinator or deputy to the director of the institute, whose decisions are final.

§ 13.

1. General obligations of doctoral students are laid down in the provisions listed in § 2 of the rules and in the present section. In particular, doctoral students are obliged:

1) to abide by the present rules;
2) to take a pledge and commence education at PDS IPAS within one month from publication of the recruitment results. This date may be extended, upon justified request of the person interested, with consent of the coordinator or deputy coordinator.
3) to carry out the PDS IPAS study programme and the individual research plan;
4) to carry out research related to the preparation of a doctoral dissertation;
5) to study under the supervision of and according to the guidance of the supervisor/supervisors/assistant supervisor and according to the established study programme;
6) to participate in the classes and activities listed in the study programme;

7) to gain credit for each year of study at the doctoral school in accordance with the requirements contained in these rules and in the study programme;

8) to adhere to the deadlines for preparation of the doctoral dissertation contained in the individual research plan and laid down in these rules and other provisions;

9) to submit to the coordinator or deputy, before the end of the academic year, reports on completed work, accepted by the supervisor;

10) to give reports on the state of advancement and results of research during the doctoral seminar;

11) to publish the results of research in peer-reviewed scientific journals indexed in *Journal Citation Reports*;

12) to inform the coordinator or deputy and the supervisor/supervisors without delay of any change of personal details, including the correspondence address. In case of failure to provide information on a change of address, correspondence sent to the previous address shall be considered to have been effectively delivered;

13) to adhere to the regulations applicable at the doctoral student's home institute, including those relating to the protection of intellectual property, confidential information and know-how.

2. A person admitted to the doctoral school begins study and acquires the rights of a doctoral student on taking a pledge. Within the term stipulated in §12.1.2 herein, upon taking the pledge, the doctoral student also submits a written declaration that he or she is not a student of any other doctoral school.

3. The doctoral student receives a doctoral student's identity card for a fee as laid down in applicable regulations.

4. Publications of the doctoral student related to the doctoral dissertation, whether authored solely or jointly, must indicate the institute to which he or she is affiliated as a place of authorship.

§ 14.

1. A doctoral student is struck off the list of doctoral students in case of:
   1) a negative result of a mid-term evaluation;
   2) failure to submit a doctoral dissertation by the date laid down in the individual research plan;
   3) resignation from study, submitted to the coordinator or deputy.
2. A doctoral student may be struck off the list of doctoral students in case of:
   1) a negative result of an additional evaluation ordered by the coordinator or deputy by request of the supervisor;
   2) failure to perform obligations arising from the pledge or from these rules;
   3) failure to perform obligations arising from the study programme;
   4) unsatisfactory progress in carrying out the individual research plan;
   5) unsatisfactory progress in preparing a doctoral dissertation;
   6) breach of good research practices or the principles laid down in the Code of Ethics for Research Workers.
3. A request for striking off the list of doctoral students is submitted by the coordinator or deputy to the director of the institute, at the same time notifying the doctoral student.
4. The doctoral student is entitled to address the request for striking off the list and submit explanations to the director of the institute within 14 days of the date of delivery of notification of such request.

5. The decision on removal from the list of doctoral students is made by the Director of a given institute. Such a decision is handed over to the doctoral student through the Head of PDS IPAS.
6. The doctoral student is entitled to appeal to the director of the institute for reconsidering the case, within 14 days of the date of delivery of notification of the request for striking off.
7. For the meeting of the deadline referred to in paragraph 6, it shall be sufficient to send the appeal in the form of a registered letter through a public postal operator, pursuant to the Act of November 23rd, 2012 – Postal Law (Journal of Laws of 2012, item 1529, as amended).

§ 15.

The progress of doctoral studies is documented on a study progress sheet, a form for which is contained in the appendix to the Programme of Study.

§ 16.

1. Doctoral students form a doctoral students' self-governing body within the doctoral school.
2. The authorities of the doctoral students' self-governing body represent doctoral students as a group.

§ 17.

1. The structure of the Programme Council is shown schematically in Appendix 1.
2. In matters not covered by these rules or by the legal instruments listed in § 2, decisions shall be taken by the Programme Council, the institute director or the College of Directors.
3. As of September 30th, 2022, the Rules of the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences that entered into force on October 1st, 2020 shall be repealed.
4. The provisions of these rules shall come into effect at the beginning of the 2022/2023 academic year.

Rules of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

§ 1.

The Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "the doctoral school" or "PDS IPAS", is run jointly – pursuant to the agreement on the establishment of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences – by the following units of the Polish Academy of Sciences: Institute of Bioorganic Chemistry PAS, Institute of Dendrology PAS, Institute of Molecular Physics PAS, Institute of Human Genetics PAS, and Institute of Plant Genetics PAS, hereafter called "the institutes", and each separately an "institute". The present rules, hereafter "the rules", determine the organisation and process of study at the doctoral school and the rights and obligations of doctoral students, supervisors, and discipline coordinators directing the doctoral school at the level of disciplines and institutes, hereafter "coordinators", as well as the deputies of coordinators, hereafter "deputies".

§ 2.

The doctoral school operates on the basis of the provisions of:

1) the Act of April 30, 2010 on the Polish Academy of Sciences (Journal of Laws 2018 item 1475 as amended);
2) the Act of July 20, 2018 titled Higher Education and Science Law (Journal of Laws 2018 item 1668 as amended), hereafter "the Act";
3) the agreement on the establishment of the Poznań Doctoral School of Institutes of the Polish Academy of

Sciences, concluded between the institutes;

4) the charters of the institutes;
5) the present rules;
6) other relevant legal instruments, including the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

§ 3.

1. The administrative activity of PDS IPAS is coordinated by its head, further referred to as the Head of PDS IPAS, and two deputies, further referred to as Deputy Heads of PDS IPAS.

2. The Head and the deputies are nominated by the Council of Directors of PDS IPAS through voting, and appointed by Directors of their home institutes, subject to paragraph 3.

3. The Head of PDS IPAS is elected among independent researchers employed at an institute which is an entity entitled to receive funds for joint educating at the doctoral school, pursuant to the agreement on joint management of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, signed by the institutes on April 15th, 2019.

4. The Head of PDS IPAS is appointed for a 4-year term of office.

5. The Deputy Heads of PDS IPAS are elected among all the independent researchers employed at the institutes co-forming PDS IPAS.

6. The Head of PDS IPAS, and in the event of his or her absence – the Deputy Head of PDS IPAS, particularly deals with:

1) coordinating of the actions taken by all the entities constituting PDS IPAS;
2) representing the parties in cases related to joint management of the School handled by public administration authorities, pursuant to an adequate authorization of the Director of the Institute, as stipulated in paragraph 3 herein;
3) elaborating and publicising a detailed programme of study at PDS IPAS, as stipulated in § 4.2 of the Programme of study at PDS IPAS, in cooperation with the coordinators;
4) drawing up a self-evaluation report, as stipulated in Article 262.1 of the Act, an preparing other mandatory reports and statements on the activity of PDS IPAS;
5) informing the candidates about enrolment to the list of doctoral students of PDS IPAS;
6) keeping a joint record of the doctoral students of PDS IPAS;
7) handing over certifications of graduation from PDS IPAS;
8) on his or her own initiative or upon the request of the coordinator or the deputy, convening meetings of the Programme Committee, and participating in such meetings without a casting vote;
9) upon request of at least one Director of an institute constituting PDS IPAS, convening meetings of the Council of Directors, and participating in such meetings without a casting vote;
10) ensuring central administrative, informatics and legal servicing for PDS IPAS;
11) Informing all the entities co-forming PDS PAS on the received subsidies for the functioning of the school;
12) performing other organizational and administrative actions associated with the activity of PDS IPAS.
13)

§ 4.

1. The doctoral school prepares candidates for the degree of doctor in the following disciplines: biological sciences, chemical sciences, physical sciences, medical sciences, agriculture and horticulture.
2. The duration of doctoral studies is from six to eight semesters.
3. The academic year begins on October 1 of each calendar year and lasts until September 30 of the next calendar year.
4. Depending on the timing of the recruitment procedure, admission to the doctoral school for a given academic year may take place at the earliest on the day of the start of that academic year or later, during the academic year. The year is assessed by semester.

§ 5.

The conditions and procedure for recruitment to the doctoral school are laid down in the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences. The decision on admission of a doctoral student to the doctoral school is made by the Director of an Institute funding costs of a given doctoral student.

§ 6.

1. In the case of a doctoral student transferring to PDS IPAS from another doctoral school, or a foreign institution dealing with doctoral training, the coordinator or the deputy coordinator may reckon the

previously collected ECTS points. The doctoral student shall keep the status (the accomplished semesters) earned at the previous doctoral school.

2. Transferring is possible only within the same discipline.
3. The doctoral student who is being transferred is obliged to submit the documents stipulated in § 3 of the Rules of Recruitment, and a report from the course of education at the former doctoral school. At the same time, the supervisor or academic tutor shall put forth the opinion on the doctoral student and the request for transferring, addressed to the Head of PDS IPAS.
4. The doctoral student who is being transferred is added to the list of doctoral students by the decision of the director of a given institute.

§ 7.

1. The nature and quantity of classes and activities required for completion of the doctoral school are laid down in the Programme of Study at the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "the Programme of Study".
2. The Programme of Study is made known through *Biuletyn Informacji Publicznej* and the websites of the institutes and the website of the doctoral school at least five months before commencement of the recruitment procedure to the doctoral school for a given academic year.
3. The Programme of Study referred to in § 7.1 comes in six versions, differentiated by the names under which they are registered in the POL-on 2.0 system. These versions are valid at individual institutes co-running the PDS IPAS, and they differ in subject, terms of organisation of mandatory courses and the number of ECTS points associated with them. They are the following:

   a) Programme of Study featuring Biology (IBCH PAS),

   b) Programme of Study featuring Biology II (ID PAS),

   c) Programme of Study featuring Chemistry (IBCH PAS),

   d) Programme of Study featuring Medicine (IHG PAS)

   e) Programme of Study featuring Physics (IMP PAS)

   f) Programme of Study featuring Agriculture (IPG PAS).
4. In specially justified cases, by request of a doctoral student, the coordinator may give approval for an individual plan of study. In such a case the coordinator or deputy, in consultation with the supervisor(s) and the doctoral student, determines an individual programme and a schedule for the completion by the doctoral student of the tasks necessary to complete the doctoral school.
5. Mandatory classes provided for in the Programme of Study are to be obligatorily completed by the doctoral student at the institute supporting a given doctoral student, however it is possible to adjust the date and conditions for crediting them to the individual course of education. The doctoral student may be exempted from participation in seminars, e.g. upon performing research work outside the institute supporting a given doctoral student.
6. The results of study are verified on the basis of credits for courses obtained through written examinations, oral examinations, reports or written papers. The means by which credit is obtained is laid down in the course syllabus.
7. Credits are given according to the following grade scale:

2 – insufficient grade (credit not won)

3 – satisfactory grade

3.5 – satisfactory grade plus

4 – good grade

4.5 – good grade plus

5 – very good grade

8. For the completion of tasks under the programme, a doctoral student is awarded points in accordance with the European Credit Transfer and Accumulation System (ECTS).
9. The number of ECTS points is proposed by coordinators or deputies, and is approved by the Programme Council.
10. Doctoral students of PDS IPAS may also obtain ECTS points from classes and activities run by higher education institutions or PAS scientific establishments outside PDS IPAS, including at foreign institutions offering doctoral studies, pursuant to paragraphs 5 as well as 11, 12 and 13.
11. Principles for obtaining credits and ECTS points as referred to in paragraph 10:

    1) Based on a list of credits supplied by the doctoral student, indicating the allocated numbers of ECTS points, ECTS points assigned to particular courses are recognised in accordance with the current ECTS system, and the grades obtained are adjusted to the PDS IPAS grade scale. Attainments shown in the list of credits together with ECTS points are counted towards the doctoral student's study progress and grades. 2) A condition for the transfer of credit for classes and activities completed at another institution, including at foreign institutions, in place of points assigned to classes and practical activities laid down in the study plan and programme of study, is confirmation of the equivalence of the educational results.
12. The number of ECTS points obtained from the classes and activities referred to in paragraph 11 may not be greater than 11, and in the case of an individual course of study, not greater than 21, of the ECTS points obtainable from classes and activities included in the PDS IPAS programme
13. The award of ECTS points as indicated in paragraph 9 requires the consent of the coordinator or deputy from the institute supporting a given doctoral student, granted on a written request of the doctoral student supported by his or her supervisor.
14. A condition for a doctoral student to gain credit for a year of study at the doctoral school is the obtaining of a positive grade from the compulsory classes and activities laid down in the detailed study programme established for the academic year in question, as referred to in § 2 paragraph 2 of the Programme of Study, the obtaining of credit for the doctoral seminar, and obtaining of a positive evaluation for the report on scientific activity, notwithstanding sections 4 and 5 of this paragraph.
15. A doctoral student may, at his or her request, be admitted conditionally by the coordinator or deputy to continue study in the following academic year in case of failure to obtain credit for one of the compulsory courses for the current academic year or for the doctoral seminar.
16. In case of conditional admission to continue study in a given academic year, the doctoral student must then satisfy the condition that was not satisfied in the previous year. If for good reason, not being the responsibility of the doctoral student, it is not possible to obtain credit for the outstanding compulsory course or seminar, satisfaction of that condition will take place in a manner indicated by the coordinator or deputy.

17. A doctoral student may not repeat his or her study in a subsequent academic year except as laid down in paragraphs 15 and 16 of this section.

18. At the halfway point of the period of study – or during the fourth semester, if the duration of study is six semesters – a doctoral student is subject to mid-term evaluation in accordance with Article 202 of the Act. The basis for this evaluation, made by a three-person committee appointed by the coordinator or deputy, is a written report on progress on the individual research plan (constituting Attachment 1 hereto), accompanied by the opinion of the student's supervisor(s), and possible documents confirming its implementation (e.g. publications). The mid-term evaluation may additionally include an interview of the student and his or her supervisor(s) by the committee.

19. The mid-term evaluation committee is headed by the coordinator of a given discipline or his/her deputy or, in the event of a conflict of interest, a person appointed by the coordinator. He/she appoints a committee, pursuant to Art. 202 sec. 4 of the Act, for each doctoral student individually. The supervisor or assistant supervisor may not be a part of the committee. A member of the committee from outside of the PDS IPAS puts forth an opinion in writing, and receives remuneration on the basis of a contract for a specific task, pursuant to Art. 202, section 5 of the Act. The results of the committee's work are documented in a protocol, template for which constitutes Attachment 2 hereto. The protocol shall be signed by at least the chairman of the committee. The session of the committee must be attended by a representatives of the Board of doctoral students, taking part as an observer.

20. The mid-term evaluation referred to in paragraph 18 of this section concludes with a positive or negative result. The result of the evaluation, together with its reasoning, constitutes open information. The evaluation result may be appealed to the Director of a given institute within 14 days.

21. Sessions of the committees carrying out the mid-term evaluation may be conducted using electronic means of communication, ensuring in particular:
    1) real-time transmission of the session between its participants,
    2) real-time multilateral communication, where the session participants can speak during the meeting,
    - following the necessary safety rules.

22. In justified cases, upon request of the supervisor, a coordinator or deputy coordinator may order an additional evaluation of a doctoral student other than mid-term evaluation, pursuant to the stipulations of sections 19 and 21, with a proviso that no member from outside of the PDS IPAS is appointed. A negative result of the additional evaluation of the doctoral student may result in removal from the list of doctoral students, pursuant to § 14 sec. 2 point 1 of the Rules.

23. A condition for graduation from the doctoral school, notwithstanding sections 4 and 5 of this paragraph, is the completion of the tasks included in the study programme, including the obtaining of credit with a positive grade for all compulsory classes and activities, obtaining of credit for the doctoral seminar in each year of study at the doctoral school, obtaining of a positive evaluation for the annual reports, and submission of a doctoral dissertation, along with a positive opinion of the supervisor.

24. Only in the case of education programs lasting eight semesters, it is possible to submit a doctoral dissertation earlier and complete the education, provided that six semesters have elapsed from the commencement of education, passing all obligatory classes and seminars at that time, notwithstanding sec. 4 and 5 of this paragraph, and obtaining the appropriate number of ECTS points, as specified in the Study Programme as well as obtaining approval of the annual report of the scientific activity for the last year of doctoral research.

25. Doctoral students shall enclose an abstract in English to a doctoral dissertation prepared in Polish, and an abstract in Polish to a doctoral dissertation prepared in a foreign language.

26. In case of submitting a doctoral dissertation in the form of a collection (so-called pin) of peer-reviewed scientific articles, with appropriate commentary, abstracts and statements of co-authors (doctoral student and the corresponding author) about the doctoral student's participation in the preparation of the article, the fact of accepting the article for publication is sufficient, confirmed by the journal editorial board. Final publication of the article is not required at this stage.

27. The fact of submitting a doctoral dissertation, in paper and electronic form, with a positive opinion of the supervisor, is to be confirmed by the coordinator or deputy coordinator within 14 days. The date of approval of the submission of the doctoral dissertation is the date of graduation from the doctoral school. Within 30 days from the date of graduation from the doctoral school, a certificate of completion of the doctoral school is issued, along with a certificate of progress of study at the doctoral school.

28. A person who has not completed the doctoral school may, by written request, receive a certificate of progress of study at the doctoral school.

§ 8.

1. Study at the doctoral school is overseen by the Programme Council of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter “the Programme Council”.
2. The Programme Council is composed of discipline coordinators and their deputies.
3. A member of the Programme Council may be a person holding the title of professor or a habilitation degree or equivalent qualification.
4. Members of the Programme Council and their functions are determined by the Directors of the institutes making up PDS IPAS. Each institute nominates one or two members of the Programme Council in each discipline that it represents.
5. The composition of the Programme Council is approved by the College of Directors of the institutes making up PDS IPAS, hereafter “the College of Directors”.
6. Membership of the Programme Council is revoked by the Director of the relevant institute at his or her own initiative or by request of the Programme Council.
7. Scientific councils of institutes, at the request of the institute director and after seeking the opinion of the doctoral students’ self-governing body or representatives, approve and adopt the following documents: a) the rules of the doctoral school;

b) the rules on recruitment to the doctoral school;

c) the programme of study at the doctoral school.

8. The scientific councils of institutes, in relation to doctoral students of their institute:

   1) appoint supervisor or supervisors within three months of a doctoral student’s commencing study;

   2) appoint assistant supervisors;

   3) remove supervisors/assistant supervisors, and appoint new supervisors/assistant supervisors within not more than three months of the date of removal.

§ 9.

The coordinator or deputy particularly:

1) announces a procedure for recruitment to the doctoral school, conducts the procedure in the form of a competition, and presents to the director of the institute financing a doctoral student the results of the recruitment procedure, indicating potential supervisors and doctoral dissertation topics;

2) approves a doctoral student's individual research plan;

3) makes an annual evaluation of completion of the study programme, the state of advancement of scientific research and progress with work on the doctoral dissertation;

4) grants credit to doctoral students for successive years of study at the doctoral school;

5) informs doctoral students and supervisors of the results of the annual evaluation of progress with their work and the gaining of or failure to gain credit for a year of study at the doctoral school;

6) presents applications to the Director of the institute concerning extension of the period of study at the doctoral school;

7) presents applications to the Director of the institute concerning the removal of persons from the list of students of the doctoral school;

8) informs the Head of PDS IPAS about changes in the course of education of a doctoral student;

9) in consultation with the Director of the institute, recommends to the institute's scientific council a supervisor/supervisors/assistant supervisor for a doctoral student, after obtaining the written consent of the candidate or candidates for supervisor/supervisors/assistant supervisor;

10) oversees adherence to the rules of the doctoral school and the organisation and carrying out of the programme of study;

11) organises doctoral seminars at which doctoral students present their research progress;

12) once a year, presents to the Programme Council and to the College of Directors a report on the activities of the doctoral school at the institute in question.

§ 10.

1. When justified by the need to carry out long-term scientific research essential for the preparation of a doctoral dissertation, the coordinator or deputy, in consultation with the supervisor and by request of the doctoral student, submits to the Director of a given institute a request for an extension to the deadline for submission of the doctoral dissertation, where the total extension may not exceed two years. An extension is possible on condition that the doctoral student has authored at least one peer-reviewed article accepted for publication in a scientific journal indexed in *Journal Citation Reports.* The coordinator or deputy may request documentation of the doctoral student's contribution in the form of declarations of co-authors.

2. The coordinator or deputy, by request of the doctoral student, presents to the institute director a request for the suspension of study at the doctoral school in case of temporary inability to carry out the programme due to:

1) the doctoral student's illness;

2) the need to provide personal care to a sick family member;

3) the need to provide personal care to a child up to three years of age or a child with a certified disability;

4) other adequately justified circumstances;

for a total time not exceeding one year.

3. The coordinator or deputy, by request of the doctoral student, presents to the institute director a request for the suspension of study at the doctoral school for a period corresponding to the duration of maternity leave, leave on conditions of maternity leave, paternity leave or parental leave, as defined in the Labour Code of June 26, 1974 (Journal of Laws 1974, no. 24 item 141 as amended).

4. Requests stipulated in paragraphs 1 and 2 contain:

1) details of the doctoral student: forename, surname, PESEL identification number or, in the absence of such a number, the number of an identity document, and indication of the student's year of study at the doctoral school;

2) reasons;

3) the opinion of the supervisor(s);

4) an updated individual research plan, containing if applicable a proposed new deadline for submission of a doctoral dissertation, later than the original deadline by a total of not more than two years.

5. A doctoral student's request for suspension of study at the doctoral school should include documents confirming the existence of the grounds referred to in paragraph 2 or paragraph 3.

6. Decisions concerning requests stipulated in paragraphs 1 and 2 are made by the Director of a given institute.

§ 11.

1. A doctoral student's studies at the doctoral school are overseen with regard to scientific content by a supervisor/supervisors/assistant supervisor.

2. The supervisor, in conjunction with the assistant supervisor (if appointed), acting in accordance with the programme of study:

1) determines, jointly with the doctoral student, an individual research plan, within 12 months of the commencement of study. In justified cases the plan may be modified with the consent of the coordinator or deputy;

2) introduces the doctoral student to the subject matter of the doctoral dissertation and to relevant research methods and techniques;

3) determines, with regard to scientific content, a detailed study programme for the doctoral student for each successive year of study at the doctoral school, and monitors its progress;

4) assists the doctoral student in obtaining the funding necessary to prepare a doctoral dissertation;

5) oversees progress with the doctoral students work and dissemination of the results;

6) presents to the coordinator or deputy an evaluation of the progress of scientific research and the carrying out of the doctoral student's study programme before the end of each academic year;

7) provides an opinion on any application of the doctoral student for extension or suspension of the period of study at the doctoral school in the cases laid down in § 10 of the rules.

3. Within 12 months of commencing study, the doctoral student presents to the coordinator or deputy an individual research plan, agreed with the supervisor(s), containing in particular a schedule for the

preparation of a doctoral dissertation and the planned date of its submission. If an assistant supervisor is appointed, the plan is presented after obtaining the opinion of that supervisor.

4. In justified circumstances, a doctoral student, in consultation with the supervisor(s), may submit to the coordinator or deputy a request for a change to the subject matter of research and the individual research plan. The request must contain reasons, and must be submitted not later than before the date of the mid-term evaluation.

5. The coordinator or deputy may, at their own initiative or by request of the doctoral student, present to the scientific council of the relevant institute a reasoned request for the removal of a supervisor/assistant supervisor. In case of a change of supervisor/assistant supervisor, the new supervisor/assistant supervisor is appointed by the procedure described in §8.8 and § 9.9).

§ 12.

General entitlements of doctoral students are laid down in the provisions listed in § 2 of the rules and in the present section.

In particular, a doctoral student is entitled:

1) to participate in the academic life of the institutes making up the doctoral school;
2) to use the libraries and reading rooms of the institutes making up the doctoral school;
3) to receive a doctoral scholarship as regulated by the Act;
4) to extend and suspend study at the doctoral school as regulated by the present rules;
5) to take holiday to an amount not exceeding eight weeks annually, at dates agreed with the supervisor;
6) to accept internships and conduct research at other domestic and foreign scientific centres, with the consent of the director of the relevant institute, after obtaining positive opinions from the supervisor(s) and the coordinator or deputy. Classes and activities for which credit is gained during an internship are included in the evaluation of completion of the study programme in accordance with § 7 sec. 10. Peridos of internships and other stays away from the home institute are counted towards the period of study at PDS IPAS, and scholarships and other statutory benefits are paid during that time;
7) to receive, for the entire period of study at the doctoral school, scientific supervision and support in research work from a supervisor/supervisors/assistant supervisor;
8) to appeal against decisions of the coordinator or deputy to the director of the institute, whose decisions are final.

§ 13.

1. General obligations of doctoral students are laid down in the provisions listed in § 2 of the rules and in the present section. In particular, doctoral students are obliged:

1) to abide by the present rules;
2) to take a pledge and commence education at PDS IPAS within one month from publication of the recruitment results. This date may be extended, upon justified request of the person interested, with consent of the coordinator or deputy coordinator.
3) to carry out the PDS IPAS study programme and the individual research plan;

4) to carry out research related to the preparation of a doctoral dissertation;

5) to study under the supervision of and according to the guidance of the supervisor/supervisors/assistant supervisor and according to the established study programme;

6) to participate in the classes and activities listed in the study programme;

7) to gain credit for each year of study at the doctoral school in accordance with the requirements contained in these rules and in the study programme;

8) to adhere to the deadlines for preparation of the doctoral dissertation contained in the individual research plan and laid down in these rules and other provisions;

9) to submit to the coordinator or deputy, before the end of the academic year, reports on completed work, accepted by the supervisor;

10) to give reports on the state of advancement and results of research during the doctoral seminar;

11) to publish the results of research in peer-reviewed scientific journals indexed in *Journal Citation Reports*;

12) to inform the coordinator or deputy and the supervisor/supervisors without delay of any change of personal details, including the correspondence address. In case of failure to provide information on a change of address, correspondence sent to the previous address shall be considered to have been effectively delivered;

13) to adhere to the regulations applicable at the doctoral student's home institute, including those relating to the protection of intellectual property, confidential information and know-how.

2. A person admitted to the doctoral school begins study and acquires the rights of a doctoral student on taking a pledge. Within the term stipulated in §12.1.2 herein, upon taking the pledge, the doctoral student also submits a written declaration that he or she is not a student of any other doctoral school.

3. The doctoral student receives a doctoral student's identity card for a fee as laid down in applicable regulations.

4. Publications of the doctoral student related to the doctoral dissertation, whether authored solely or jointly, must indicate the institute to which he or she is affiliated as a place of authorship.

§ 14.

1. A doctoral student is struck off the list of doctoral students in case of:
   1) a negative result of a mid-term evaluation;
   2) failure to submit a doctoral dissertation by the date laid down in the individual research plan;
   3) resignation from study, submitted to the coordinator or deputy.
   4) failure to undertake education;
   5) violation of the prohibition referred to in Art. 200 sec. 7 or Art. 209 sec. 10 of the Act;
   6) being imposed a disciplinary penalty of expulsion from the doctoral school.
2. A doctoral student may be struck off the list of doctoral students in case of:
   1) a negative result of an additional evaluation ordered by the coordinator or deputy by request of the supervisor;
   2) failure to perform obligations arising from the pledge or from these rules;

3) failure to perform obligations arising from the study programme;

4) unsatisfactory progress in carrying out the individual research plan;

5) unsatisfactory progress in preparing a doctoral dissertation;

6) breach of good research practices or the principles laid down in the Code of Ethics for Research Workers.

3. A request for striking off the list of doctoral students is submitted by the coordinator or a deputy director of a given institute, at the same time notifying the doctoral student, except for situation where the reason for expulsion is the doctoral student's resignation from education.

4. The doctoral student is entitled to address the request for striking off the list and submit explanations to the director of the institute within 14 days of the date of delivery of notification of such request.

5. The decision on removal from the list of doctoral students is made by the Director of a given institute. The director may request additional explanations from the doctoral student or supervisor or other persons. The decision on removal is forwarded to the doctoral student, whereas its copy is forwarded to the Head of PDS IPAS.

6. The doctoral student is entitled to appeal to the director of the institute for reconsidering the case, within 14 days of the date of delivery of notification of the request for striking off.

7. For the meeting of the deadline referred to in paragraph 6, it shall be sufficient to send the appeal in the form of a registered letter through a public postal operator, pursuant to the Act of November 23rd, 2012 – Postal Law (Journal of Laws of 2012, item 1529, as amended).

§ 15.

The progress of doctoral studies is documented on a study progress sheet, a form for which is contained in the appendix to the Programme of Study.

§ 16.

1. Doctoral students form a doctoral students' self-governing body within the doctoral school.

2. The authorities of the doctoral students' self-governing body represent doctoral students as a group.

§ 17.

1. The structure of the Programme Council is shown schematically in Appendix 3.

2. In matters not covered by these rules or by the legal instruments listed in § 2, decisions shall be taken by the Programme Council, the institute director or the College of Directors.

3. As of September 30th, 2023, the Rules of the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences that entered into force on October 1st, 2022 shall be repealed.

4. The provisions of these rules shall come into effect at the beginning of the 2023/2024 academic year.

Rules of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

§ 1.

The Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "the doctoral school" or "PDS IPAS", is run jointly – pursuant to the agreement on the establishment of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences – by the following units of the Polish Academy of Sciences: Institute of Bioorganic Chemistry PAS, Institute of Dendrology PAS, Institute of Molecular Physics PAS, Institute of Human Genetics PAS, and Institute of Plant Genetics PAS, hereafter called "the institutes", and each separately an "institute". The present rules, hereafter "the rules", determine the organisation and process of study at the doctoral school and the rights and obligations of doctoral students, supervisors, and discipline coordinators directing the doctoral school at the level of disciplines and institutes, hereafter "coordinators", as well as the deputies of coordinators, hereafter "deputies".

§ 2.

The doctoral school operates on the basis of the provisions of:

1) the Act of April 30, 2010 on the Polish Academy of Sciences (Journal of Laws 2018 item 1475 as amended);
2) the Act of July 20, 2018 titled Higher Education and Science Law (Journal of Laws 2018 item 1668 as amended), hereafter "the Act";
3) the agreement on the establishment of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, concluded between the institutes;
4) the charters of the institutes;
5) the present rules;
6) other relevant legal instruments, including the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

§ 3.

1. The administrative activity of PDS IPAS is coordinated by its head, further referred to as the Head of PDS IPAS, and two deputies, further referred to as Deputy Heads of PDS IPAS.
2. The Head and the deputies are nominated by the Council of Directors of PDS IPAS through voting, and appointed by Directors of their home institutes, subject to paragraph 3.
3. The Head of PDS IPAS is elected among independent researchers employed at an institute which is an entity entitled to receive funds for joint educating at the doctoral school, pursuant to the agreement on joint management of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, signed by the institutes on April 15th, 2019.
4. The Head of PDS IPAS is appointed for a 4-year term of office.
5. The Deputy Heads of PDS IPAS are elected among all the independent researchers employed at the institutes co-forming PDS IPAS.

6. The Head of PDS IPAS, and in the event of his or her absence – the Deputy Head of PDS IPAS, particularly deals with:

1) coordinating of the actions taken by all the entities constituting PDS IPAS;
2) representing the parties in cases related to joint management of the School handled by public administration authorities, pursuant to an adequate authorization of the Director of the Institute, as stipulated in paragraph 3 herein;
3) elaborating and publicising a detailed programme of study at PDS IPAS, as stipulated in § 4.2 of the Programme of study at PDS IPAS, in cooperation with the coordinators;
4) drawing up a self-evaluation report, as stipulated in Article 262.1 of the Act, an preparing other mandatory reports and statements on the activity of PDS IPAS;
5) informing the candidates about enrolment to the list of doctoral students of PDS IPAS;
6) keeping a joint record of the doctoral students of PDS IPAS;
7) handing over certifications of graduation from PDS IPAS;
8) on his or her own initiative or upon the request of the coordinator or the deputy, convening meetings of the Programme Committee, and participating in such meetings without a casting vote;
9) upon request of at least one Director of an institute constituting PDS IPAS, convening meetings of the Council of Directors, and participating in such meetings without a casting vote;
10) ensuring central administrative, informatics and legal servicing for PDS IPAS;
11) Informing all the entities co-forming PDS PAS on the received subsidies for the functioning of the school;
12) performing other organizational and administrative actions associated with the activity of PDS IPAS.

§ 4.

1. The doctoral school prepares candidates for the degree of doctor in the following disciplines: biological sciences, chemical sciences, physical sciences, forestry, medical sciences, agriculture and horticulture.
2. The duration of doctoral studies is from six to eight semesters.
3. The academic year begins on October 1 of each calendar year and lasts until September 30 of the next calendar year.
4. Depending on the timing of the recruitment procedure, admission to the doctoral school for a given academic year may take place at the earliest on the day of the start of that academic year or later, during the academic year. The year is assessed by semester.

§ 5.

The conditions and procedure for recruitment to the doctoral school are laid down in the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences. The decision on admission of a doctoral student to the doctoral school is made by the Director of an Institute funding costs of a given doctoral student.

§ 6.

1. In the case of a doctoral student transferring to PDS IPAS from another doctoral school, or a foreign institution dealing with doctoral training, the coordinator or the deputy coordinator may reckon

the previously collected ECTS points. The doctoral student shall keep the status (the accomplished semesters) earned at the previous doctoral school.

2. Transferring is possible only within the same discipline.
3. The doctoral student who is being transferred is obliged to submit the documents stipulated in § 3 of the Rules of Recruitment, and a report from the course of education at the former doctoral school. At the same time, the supervisor or academic tutor shall put forth the opinion on the doctoral student and the request for transferring, addressed to the Head of PDS IPAS.
4. The doctoral student who is being transferred is added to the list of doctoral students by the decision of the director of a given institute.

§ 7.

1. The nature and quantity of classes and activities required for completion of the doctoral school are laid down in the Programme of Study at the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "the Programme of Study".
2. The Programme of Study is made known through *Biuletyn Informacji Publicznej* and the websites of the institutes and the website of the doctoral school at least five months before commencement of the recruitment procedure to the doctoral school for a given academic year.
3. The Programme of Study referred to in § 7.1 comes in seven versions, differentiated by the names under which they are registered in the POL-on 2.0 system. These versions are valid at individual institutes co-running the PDS IPAS, and they differ in subject, terms of organisation of mandatory courses and the number of ECTS points associated with them. They are the following:

   a) Programme of Study featuring Biology (IBCH PAS),

   b) Programme of Study featuring Biology II (ID PAS),

   c) Programme of Study featuring Chemistry (IBCH PAS),

   d) Programme of Study featuring Medicine (IHG PAS)

   e) Programme of Study featuring Physics (IMP PAS)

   f) Programme of Study featuring Agriculture (IPG PAS)

   g) Programme of Study featuring Forestry (ID PAS).
4. In specially justified cases, by request of a doctoral student, the coordinator may give approval for an individual plan of study. In such a case the coordinator or deputy, in consultation with the supervisor(s) and the doctoral student, determines an individual programme and a schedule for the completion by the doctoral student of the tasks necessary to complete the doctoral school.
5. Mandatory classes provided for in the Programme of Study are to be obligatorily completed by the doctoral student at the institute supporting a given doctoral student, however it is possible to adjust the date and conditions for crediting them to the individual course of education. The doctoral student may be exempted from participation in seminars, e.g. upon performing research work outside the institute supporting a given doctoral student.
6. The results of study are verified on the basis of credits for courses obtained through written examinations, oral examinations, reports or written papers. The means by which credit is obtained is laid down in the course syllabus.
7. Credits are given according to the following grade scale:

   2 – insufficient grade (credit not won)

   3 – satisfactory grade

3.5 – satisfactory grade plus

4 – good grade

4.5 – good grade plus

5 – very good grade

8. For the completion of tasks under the programme, a doctoral student is awarded points in accordance with the European Credit Transfer and Accumulation System (ECTS).

9. The number of ECTS points is proposed by coordinators or deputies, and is approved by the Programme Council.

10. Doctoral students of PDS IPAS may also obtain ECTS points from classes and activities run by higher education institutions or PAS scientific establishments outside PDS IPAS, including at foreign institutions offering doctoral studies, pursuant to paragraphs 5 as well as 11, 12 and 13.

11. Principles for obtaining credits and ECTS points as referred to in paragraph 10:

    1) Based on a list of credits supplied by the doctoral student, indicating the allocated numbers of ECTS points, ECTS points assigned to particular courses are recognised in accordance with the current ECTS system, and the grades obtained are adjusted to the PDS IPAS grade scale. Attainments shown in the list of credits together with ECTS points are counted towards the doctoral student's study progress and grades.

    2) A condition for the transfer of credit for classes and activities completed at another institution, including at foreign institutions, in place of points assigned to classes and practical activities laid down in the study plan and programme of study, is confirmation of the equivalence of the educational results.

12. The number of ECTS points obtained from the classes and activities referred to in paragraph 11 may not be greater than 11, and in the case of an individual course of study, not greater than 21, of the ECTS points obtainable from classes and activities included in the PDS IPAS programme

13. The award of ECTS points as indicated in paragraph 9 requires the consent of the coordinator or deputy from the institute supporting a given doctoral student, granted on a written request of the doctoral student supported by his or her supervisor.

14. A condition for a doctoral student to gain credit for a year of study at the doctoral school is the obtaining of a positive grade from the compulsory classes and activities laid down in the detailed study programme established for the academic year in question, as referred to in § 2 paragraph 2 of the Programme of Study, the obtaining of credit for the doctoral seminar, and obtaining of a positive evaluation for the report on scientific activity, notwithstanding sections 4 and 5 of this paragraph.

15. A doctoral student may, at his or her request, be admitted conditionally by the coordinator or deputy to continue study in the following academic year in case of failure to obtain credit for one of the compulsory courses for the current academic year or for the doctoral seminar.

16. In case of conditional admission to continue study in a given academic year, the doctoral student must then satisfy the condition that was not satisfied in the previous year. If for good reason, not being the responsibility of the doctoral student, it is not possible to obtain credit for the outstanding compulsory course or seminar, satisfaction of that condition will take place in a manner indicated by the coordinator or deputy.

17. A doctoral student may not repeat his or her study in a subsequent academic year except as laid down in paragraphs 15 and 16 of this section.

18. At the halfway point of the period of study – or during the fourth semester, if the duration of study is six semesters – a doctoral student is subject to mid-term evaluation in accordance with Article 202 of the Act. The basis for this evaluation, made by a three-person committee appointed by the coordinator or deputy, is a written report on progress on the individual research plan (constituting Attachment 1 hereto), accompanied by the opinion of the student's supervisor(s), and possible documents confirming its implementation (e.g. publications). The mid-term evaluation may additionally include an interview of the student and his or her supervisor(s) by the committee.

19. The mid-term evaluation committee is headed by the coordinator of a given discipline or his/her deputy or, in the event of a conflict of interest, a person appointed by the coordinator. He/she appoints a committee, pursuant to Art. 202 sec. 4 of the Act, for each doctoral student individually. The supervisor or assistant supervisor may not be a part of the committee. A member of the committee from outside of the PDS IPAS puts forth an opinion in writing, and receives remuneration on the basis of a contract for a specific task, pursuant to Art. 202, section 5 of the Act. The results of the committee's work are documented in a protocol, template for which constitutes Attachment 2 hereto. The protocol shall be signed by at least the chairman of the committee. The session of the committee must be attended by a representatives of the Board of doctoral students, taking part as an observer.

20. The mid-term evaluation referred to in paragraph 18 of this section concludes with a positive or negative result. The result of the evaluation, together with its reasoning, constitutes open information. The evaluation result may be appealed to the Director of a given institute within 14 days.

21. Sessions of the committees carrying out the mid-term evaluation may be conducted using electronic means of communication, ensuring in particular:
    1) real-time transmission of the session between its participants,
    2) real-time multilateral communication, where the session participants can speak during the meeting,
    - following the necessary safety rules.

22. In justified cases, upon request of the supervisor, a coordinator or deputy coordinator may order an additional evaluation of a doctoral student other than mid-term evaluation, pursuant to the stipulations of sections 19 and 21, with a proviso that no member from outside of the PDS IPAS is appointed. A negative result of the additional evaluation of the doctoral student may result in removal from the list of doctoral students, pursuant to § 14 sec. 2 point 1 of the Rules. Additional evaluation of the doctoral student is carried out in the presence of at least one representative of the doctoral students. For this purpose, it is possible to invite a doctoral student from any institute co-leading PDS IPAS.

23. A condition for graduation from the doctoral school, notwithstanding sections 4 and 5 of this paragraph, is the completion of the tasks included in the study programme, including the obtaining of credit with a positive grade for all compulsory classes and activities, obtaining of credit for the doctoral seminar in each year of study at the doctoral school, obtaining of a positive evaluation for the annual reports, and submission of a doctoral dissertation, along with a positive opinion of the supervisor.

24. Only in the case of education programs lasting eight semesters, it is possible to submit a doctoral dissertation earlier and complete the education, provided that six semesters have elapsed from the commencement of education, passing all obligatory classes and seminars at that time, notwithstanding sec. 4 and 5 of this paragraph, and obtaining the appropriate number of ECTS points, as specified in the Study Programme as well as obtaining approval of the annual report of the scientific activity for the last year of doctoral research.

25. Doctoral students shall enclose an abstract in English to a doctoral dissertation prepared in Polish, and an abstract in Polish to a doctoral dissertation prepared in a foreign language.

26. In case of submitting a doctoral dissertation in the form of a collection (so-called pin) of peer-reviewed scientific articles, with appropriate commentary, abstracts and statements of co-authors (doctoral student and the corresponding author) about the doctoral student's participation in the preparation of the article, the fact of accepting the article for publication is sufficient, confirmed by the journal editorial board. Final publication of the article is not required at this stage.

27. The fact of submitting a doctoral dissertation, in paper and electronic form, with a positive opinion of the supervisor, is to be confirmed by the coordinator or deputy coordinator within 14 days. The date of approval of the submission of the doctoral dissertation is the date of graduation from the doctoral school. Within 30 days from the date of graduation from the doctoral school, a certificate of completion of the doctoral school is issued, along with a certificate of progress of study at the doctoral school.

28. A person who has not completed the doctoral school may, by written request, receive a certificate of progress of study at the doctoral school.

§ 8.

1. Study at the doctoral school is overseen by the Programme Council of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter “the Programme Council”.
2. The Programme Council is composed of discipline coordinators and their deputies.
3. A member of the Programme Council may be a person holding the title of professor or a habilitation degree or equivalent qualification.
4. Members of the Programme Council and their functions are determined by the Directors of the institutes making up PDS IPAS. Each institute nominates one or two members of the Programme Council in each discipline that it represents.
5. The composition of the Programme Council is approved by the College of Directors of the institutes making up PDS IPAS, hereafter “the College of Directors”.
6. Membership of the Programme Council is revoked by the Director of the relevant institute at his or her own initiative or by request of the Programme Council.
7. Scientific councils of institutes, at the request of the institute director and after seeking the opinion of the doctoral students’ self-governing body or representatives, approve and adopt the following documents: a) the rules of the doctoral school;

b) the rules on recruitment to the doctoral school;

c) the programme of study at the doctoral school.

8. The scientific councils of institutes, in relation to doctoral students of their institute:

1) appoint supervisor or supervisors within three months of a doctoral student’s commencing study;

2) appoint assistant supervisors;

3) remove supervisors/assistant supervisors, and appoint new supervisors/assistant supervisors within not more than three months of the date of removal.

§ 9.

The coordinator or deputy particularly:

1) announces a procedure for recruitment to the doctoral school, conducts the procedure in the form of a competition, and presents to the director of the institute financing a doctoral student the results of the recruitment procedure, indicating potential supervisors and doctoral dissertation topics;

2) approves a doctoral student's individual research plan;

3) makes an annual evaluation of completion of the study programme, the state of advancement of scientific research and progress with work on the doctoral dissertation;

4) grants credit to doctoral students for successive years of study at the doctoral school;

5) informs doctoral students and supervisors of the results of the annual evaluation of progress with their work and the gaining of or failure to gain credit for a year of study at the doctoral school;

6) presents applications to the Director of the institute concerning extension of the period of study at the doctoral school;

7) presents applications to the Director of the institute concerning the removal of persons from the list of students of the doctoral school;

8) informs the Head of PDS IPAS about changes in the course of education of a doctoral student;

9) in consultation with the Director of the institute, recommends to the institute's scientific council a supervisor/supervisors/assistant supervisor for a doctoral student, after obtaining the written consent of the candidate or candidates for supervisor/supervisors/assistant supervisor;

10) oversees adherence to the rules of the doctoral school and the organisation and carrying out of the programme of study;

11) organises doctoral seminars at which doctoral students present their research progress;

12) once a year, presents to the Programme Council and to the College of Directors a report on the activities of the doctoral school at the institute in question.

§ 10.

1. When justified by the need to carry out long-term scientific research essential for the preparation of a doctoral dissertation, the coordinator or deputy, in consultation with the supervisor and by request of the doctoral student, submits to the Director of a given institute a request for an extension to the deadline for submission of the doctoral dissertation, where the total extension may not exceed two years. An extension for a period longer than 1 year is possible on condition that the doctoral student has authored at least one peer-reviewed article accepted for publication in a scientific journal indexed in *Journal Citation Reports.* The coordinator or deputy may request documentation of the doctoral student's contribution in the form of declarations of co-authors.
2. The coordinator or deputy, by request of the doctoral student, presents to the institute director a request for the suspension of study at the doctoral school in case of temporary inability to carry out the programme due to:

1) the doctoral student's illness;

2) the need to provide personal care to a sick family member;

3) the need to provide personal care to a child up to three years of age or a child with a certified disability;

4) other adequately justified circumstances;

for a total time not exceeding one year.

3. The coordinator or deputy, by request of the doctoral student, presents to the institute director a request for the suspension of study at the doctoral school for a period corresponding to the duration of maternity leave, leave on conditions of maternity leave, paternity leave or parental leave, as defined in the Labour Code of June 26, 1974 (Journal of Laws 1974, no. 24 item 141 as amended).
4. Requests stipulated in paragraphs 1 and 2 contain:

1) details of the doctoral student: forename, surname, PESEL identification number or, in the absence of such a number, the number of an identity document, and indication of the student's year of study at the doctoral school;

2) reasons;

3) the opinion of the supervisor(s);

4) an updated individual research plan, containing if applicable a proposed new deadline for submission of a doctoral dissertation, later than the original deadline by a total of not more than two years.

5. A doctoral student's request for suspension of study at the doctoral school should include documents confirming the existence of the grounds referred to in paragraph 2 or paragraph 3.

6. Decisions concerning requests stipulated in paragraphs 1 and 2 are made by the Director of a given institute.

§ 11.

1. A doctoral student's studies at the doctoral school are overseen with regard to scientific content by a supervisor/supervisors/assistant supervisor.

2. The supervisor, in conjunction with the assistant supervisor (if appointed), acting in accordance with the programme of study:

1) determines, jointly with the doctoral student, an individual research plan, within 12 months of the commencement of study. In justified cases the plan may be modified with the consent of the coordinator or deputy;

2) introduces the doctoral student to the subject matter of the doctoral dissertation and to relevant research methods and techniques;

3) determines, with regard to scientific content, a detailed study programme for the doctoral student for each successive year of study at the doctoral school, and monitors its progress;

4) assists the doctoral student in obtaining the funding necessary to prepare a doctoral dissertation;

5) oversees progress with the doctoral students work and dissemination of the results;

6) presents to the coordinator or deputy an evaluation of the progress of scientific research and the carrying out of the doctoral student's study programme before the end of each academic year;

7) provides an opinion on any application of the doctoral student for extension or suspension of the period of study at the doctoral school in the cases laid down in § 10 of the rules.

3. Within 12 months of commencing study, the doctoral student presents to the coordinator or deputy an individual research plan, agreed with the supervisor(s), containing in particular a schedule for the preparation of a doctoral dissertation and the planned date of its submission. If an assistant supervisor is appointed, the plan is presented after obtaining the opinion of that supervisor.

4. In justified circumstances, a doctoral student, in consultation with the supervisor(s), may submit to the coordinator or deputy a request for a change to the subject matter of research and the individual research plan. The request must contain reasons, and must be submitted not later than before the date of the mid-term evaluation.

5. The coordinator or deputy may, at their own initiative or by request of the doctoral student, present to the scientific council of the relevant institute a reasoned request for the removal of a supervisor/assistant supervisor. In case of a change of supervisor/assistant supervisor, the new supervisor/assistant supervisor is appointed by the procedure described in §8.8 and § 9.9).

§ 12.

General entitlements of doctoral students are laid down in the provisions listed in § 2 of the rules and in the present section.

In particular, a doctoral student is entitled:

1) to participate in the academic life of the institutes making up the doctoral school;
2) to use the libraries and reading rooms of the institutes making up the doctoral school;
3) to receive a doctoral scholarship as regulated by the Act;
4) to extend and suspend study at the doctoral school as regulated by the present rules;
5) to take holiday to an amount not exceeding eight weeks annually, at dates agreed with the supervisor;
6) to accept internships and conduct research at other domestic and foreign scientific centres, with the consent of the director of the relevant institute, after obtaining positive opinions from the supervisor(s) and the coordinator or deputy. Classes and activities for which credit is gained during an internship are included in the evaluation of completion of the study programme in accordance with § 7 sec. 10. Peridos of internships and other stays away from the home institute are counted towards the period of study at PDS IPAS, and scholarships and other statutory benefits are paid during that time;
7) to receive, for the entire period of study at the doctoral school, scientific supervision and support in research work from a supervisor/supervisors/assistant supervisor;
8) to appeal against decisions of the coordinator or deputy to the director of the institute, whose decisions are final.

§ 13.

1. General obligations of doctoral students are laid down in the provisions listed in § 2 of the rules and in the present section. In particular, doctoral students are obliged:

1) to abide by the present rules;
2) to take a pledge and commence education at PDS IPAS within one month from publication of the recruitment results. This date may be extended, upon justified request of the person interested, with consent of the coordinator or deputy coordinator.
3) to carry out the PDS IPAS study programme and the individual research plan;
4) to carry out research related to the preparation of a doctoral dissertation;
5) to study under the supervision of and according to the guidance of the supervisor/supervisors/ assistant supervisor and according to the established study programme;
6) to participate in the classes and activities listed in the study programme;
7) to gain credit for each year of study at the doctoral school in accordance with the requirements contained in these rules and in the study programme;
8) to adhere to the deadlines for preparation of the doctoral dissertation contained in the individual research plan and laid down in these rules and other provisions;
9) to submit to the coordinator or deputy, before the end of the academic year, reports on completed work, accepted by the supervisor;
10) to give reports on the state of advancement and results of research during the doctoral seminar;
11) to publish the results of research in peer-reviewed scientific journals indexed in *Journal Citation Reports*;

12) to inform the coordinator or deputy and the supervisor/supervisors without delay of any change of personal details, including the correspondence address. In case of failure to provide information on
a change of address, correspondence sent to the previous address shall be considered to have been effectively delivered;

13) to adhere to the regulations applicable at the doctoral student's home institute, including those relating to the protection of intellectual property, confidential information and know-how.

2. A person admitted to the doctoral school begins study and acquires the rights of a doctoral student on taking a pledge. Within the term stipulated in §12.1.2 herein, upon taking the pledge, the doctoral student also submits a written declaration that he or she is not a student of any other doctoral school.

3. The doctoral student receives a doctoral student's identity card for a fee as laid down in applicable regulations.

4. Publications of the doctoral student related to the doctoral dissertation, whether authored solely or jointly, must indicate the institute to which he or she is affiliated as a place of authorship.

§ 14.

1. A doctoral student is struck off the list of doctoral students in case of:
   1) a negative result of a mid-term evaluation;
   2) failure to submit a doctoral dissertation by the date laid down in the individual research plan;
   3) resignation from study, submitted to the coordinator or deputy.
   4) failure to undertake education;
   5) violation of the prohibition referred to in Art. 200 sec. 7 or Art. 209 sec. 10 of the Act;
   6) being imposed a disciplinary penalty of expulsion from the doctoral school.

2. A doctoral student may be struck off the list of doctoral students in case of:
   1) a negative result of an additional evaluation ordered by the coordinator or deputy by request of the supervisor;
   2) failure to perform obligations arising from the pledge or from these rules;
   3) failure to perform obligations arising from the study programme;
   4) unsatisfactory progress in carrying out the individual research plan;
   5) unsatisfactory progress in preparing a doctoral dissertation;
   6) breach of good research practices or the principles laid down in the Code of Ethics for Research Workers.

3. A request for striking off the list of doctoral students is submitted by the coordinator or a deputy director of a given institute, at the same time notifying the doctoral student, except for situation where the reason for expulsion is the doctoral student's resignation from education.

4. The doctoral student is entitled to address the request for striking off the list and submit explanations to the director of the institute within 14 days of the date of delivery of notification of such request.

5. The decision on removal from the list of doctoral students is made by the Director of a given institute. The director may request additional explanations from the doctoral student or supervisor or other persons. The decision on removal is forwarded to the doctoral student, whereas its copy is forwarded to the Head of PDS IPAS.

6. The doctoral student is entitled to appeal to the director of the institute for reconsidering the case, within 14 days of the date of delivery of notification of the request for striking off.

7. For the meeting of the deadline referred to in paragraph 6, it shall be sufficient to send the appeal in the form of a registered letter through a public postal operator, pursuant to the Act of November 23rd, 2012 – Postal Law (Journal of Laws of 2012, item 1529, as amended).

§ 15.

The progress of doctoral studies is documented on a study progress sheet, a form for which is contained in the appendix to the Programme of Study.

§ 16.

1. Doctoral students form a doctoral students' self-governing body within the doctoral school.

2. The authorities of the doctoral students' self-governing body represent doctoral students as a group.

§ 17.

1. The structure of the Programme Council is shown schematically in Appendix 3.

2. In matters not covered by these rules or by the legal instruments listed in § 2, decisions shall be taken by the Programme Council, the institute director or the College of Directors.

3. As of September 30th, 2024, the Rules of the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences that entered into force on October 1st, 2023 shall be repealed.

4. The provisions of these rules shall come into effect at the beginning of the 2024/2025 academic year.

Attachment 1

Report on the implementation of the Individual Research Plan

of the doctoral student for the purposes of mid-term evaluaton

at the Poznan Doctoral School of the IPAS

Doctorant data:

Imię (imiona) i nazwisko doktoranta / First, middle and family name of the PhD. Student:
Imię i nazwisko oraz stopień/tytuł naukowy promotora / First and family name of supervisor, degree/title:
Imię i nazwisko oraz stopień/tytuł naukowy promotora pomocniczego / First and family name of assistant supervisor, degree/title:
Tematyka badawcza / Research topics:
Dyscyplina naukowa / Scientific discipline:
Nazwa Instytutu / Institute name:
Nazwa Zakładu / Department name:

Description of realized research activities

Poniżej proszę podać stopień i zakres realizacji działań badawczych zaplanowanych w przedłożonym wcześniej Indywidualnym Planie Badawczym/ Below, please provide the degree of advancement and scope of implementation of research activities planned in the previously submitted Individual Research Plan

Date and signature of the Doctoral Student: ……

Supervisor's opinion:

□ positive □ negative *

Date, signature:……

Assistant Supervisor's opinion:

□ positive □ negative *

Date, signature:……

Attachment 2 (only in Polish)

.....

miejscowość, data

POZNAŃSKA SZKOŁA DOKTORSKA
INSTYTUTÓW POLSKIEJ AKADEMII NAUK

PROTOKÓŁ Z ZEBRANIA KOMISJI DS. OCENY ŚRÓDOKRESOWEJ

DOKTORANTA PSD IPAN……

imię i nazwisko

przeprowadzonego w Instytucie ……..PAN

w dyscyplinie: ……..

Przez komisję ds. oceny śródokresowej w składzie*:*

…….. - Przewodniczący Komisji

……..

……..

Posiedzenie komisji zostało przeprowadzone przy użyciu środków komunikacji elektronicznej.*

W trakcie posiedzenia komisji doktorant/doktorantka* przedstawił/a* postępy w realizacji indywidualnego planu badawczego związanego z przygotowywaniem rozprawy doktorskiej na temat:……
……

Komisja zadała następujące pytania:
-…….
-……
-…….

W wyniku przeprowadzonej oceny śródokresowej, zgodnie z § 7 ust. 18, 19 i 20 Regulaminu Poznańskiej Szkoły Doktorskiej Instytutów Polskiej Akademii Nauk, po zapoznaniu się z pisemną opinią ……., która stanowi załącznik do protokołu komisja stwierdza, że (uzasadnienie oceny):

……
……
……

Podpis Przewodniczącego Komisji

…….

Podpisy Członków Komisji

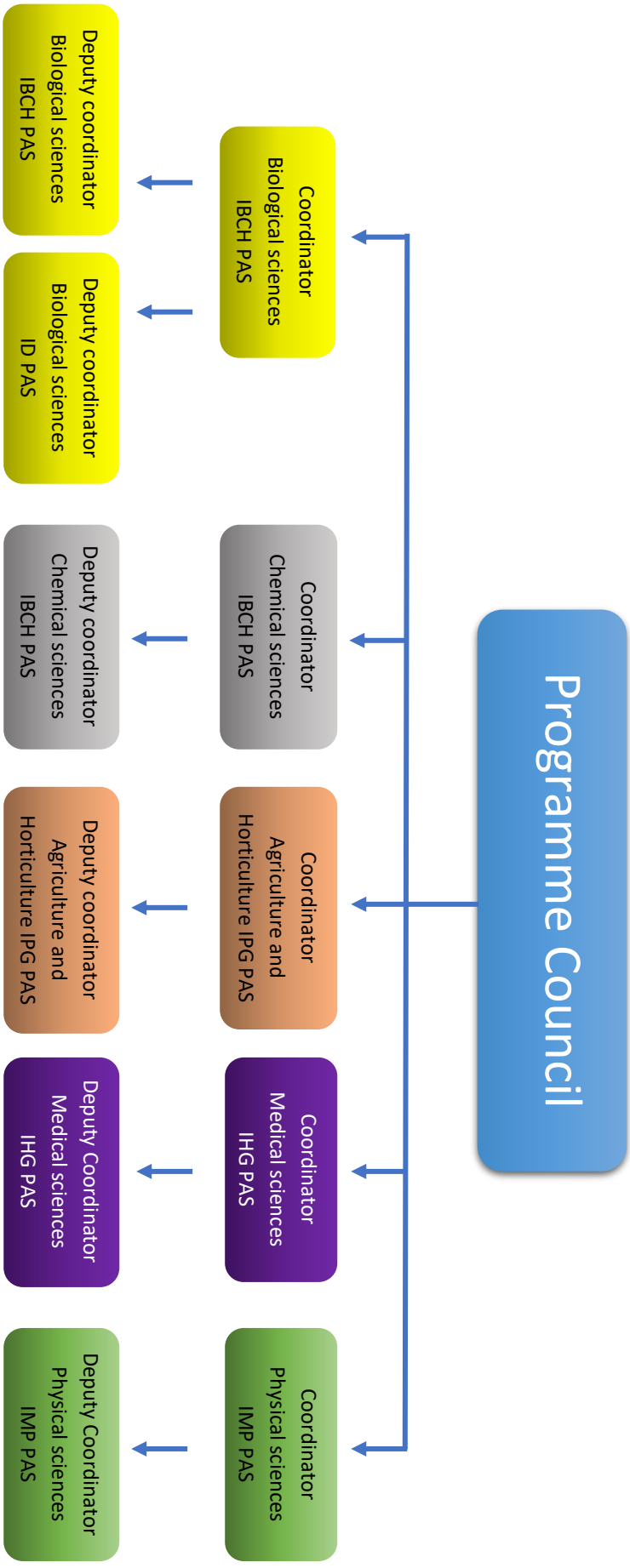
1. ……..*

2. ……..*

W posiedzeniu komisji uczestniczył w charakterze obserwatora przedstawiciel Samorządu doktorantów Pani/Pan ……*

* - niepotrzebne skreślić

Attachment 3



Rules of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences

§ 1.

The Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "the doctoral school" or "PDS IPAS", is run jointly – pursuant to the agreement on the establishment of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences – by the following units of the Polish Academy of Sciences: Institute of Bioorganic Chemistry PAS, Institute of Dendrology PAS, Institute of Molecular Physics PAS, Institute of Human Genetics PAS, and Institute of Plant Genetics PAS, hereafter called "the institutes", and each separately an "institute". The present rules, hereafter "the rules", determine the organisation and process of study at the doctoral school and the rights and obligations of doctoral students, supervisors, and discipline coordinators directing the doctoral school at the level of disciplines and institutes, hereafter "coordinators", as well as the deputies of coordinators, hereafter "deputies".

§ 2.

The doctoral school operates on the basis of the provisions of:

1) the Act of April 30, 2010 on the Polish Academy of Sciences (Journal of Laws 2018 item 1475 as amended);
2) the Act of July 20, 2018 titled Higher Education and Science Law (Journal of Laws 2018 item 1668 as amended), hereafter "the Act";
3) the agreement on the establishment of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, concluded between the institutes;
4) the charters of the institutes;
5) the present rules;
6) other relevant legal instruments, including the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers.

§ 3.

1. The administrative activity of PDS IPAS is coordinated by its head, further referred to as the Head of PDS IPAS, and two deputies, further referred to as Deputy Heads of PDS IPAS.
2. The Head and the deputies are nominated by the Council of Directors of PDS IPAS through voting, and appointed by Directors of their home institutes, subject to paragraph 3.
3. The Head of PDS IPAS is elected among employees holding the title of professor or a post-doctoral degree - Doctor of Sciences from the institute which is an entity entitled to receive funds for joint educating at the doctoral school, pursuant to the agreement on joint management of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, signed by the institutes on April 15th, 2019.
4. The Deputy Heads of PDS IPAS are elected among all the researchers employed at the institutes co-forming PDS IPAS, holding the title of professor or a post-doctoral degree - Doctor of Sciences.
5. The Head of PDS IPAS, and in the event of his or her absence – the Deputy Head of PDS IPAS, particularly deals with:

1) coordinating of the actions taken by all the entities constituting PDS IPAS;

2) representing the parties in cases related to joint management of the School handled by public administration authorities, pursuant to an adequate authorization of the Director of the Institute, as stipulated in paragraph 3 herein;
3) elaborating and publicising a detailed programme of study at PDS IPAS, as stipulated in § 4.2 of the Programme of study at PDS IPAS, in cooperation with the coordinators;
4) drawing up a self-evaluation report, as stipulated in Article 262.1 of the Act, and preparing other mandatory reports and statements on the activity of PDS IPAS;
5) informing the candidates about enrolment in the list of doctoral students of PDS IPAS;
6) keeping a joint record of the doctoral students of PDS IPAS;
7) handing over certifications of graduation from PDS IPAS;
8) on his or her own initiative or upon the request of the coordinator or the deputy, convening meetings of the Programme Committee, and participating in such meetings without a casting vote;
9) upon request of at least one Director of an institute constituting PDS IPAS, convening meetings of the Council of Directors, and participating in such meetings without a casting vote;
10) ensuring central administrative, informatics and legal servicing for PDS IPAS;
11) Informing all the entities co-forming PDS PAS on the received subsidies for the functioning of the school;
12) performing other organizational and administrative actions associated with the activity of PDS IPAS.

§ 4.

1. The doctoral school prepares candidates for the degree of Doctor in the following disciplines: biological sciences, chemical sciences, physical sciences, forestry, medical sciences, agriculture and horticulture.
2. The duration of doctoral studies is from six to eight semesters.
3. The academic year begins on October 1 of each calendar year and lasts until September 30 of the next calendar year.

Depending on the timing of the recruitment procedure, admission to the doctoral school is continuous, depending on the date of recruitment. The year of education is assessed by semester.

§ 5.

The conditions and procedure for recruitment to the doctoral school are laid down in the Rules on Recruitment to the Poznań Doctoral School of Institutes of the Polish Academy of Sciences. The decision on admission of a doctoral student to the doctoral school is made by the Director of an Institute funding costs of a given doctoral student.

§ 6.

1. In the case of a doctoral student transferring to PDS IPAS from another doctoral school, or a foreign institution dealing with doctoral training, the coordinator or the deputy coordinator may reckon the previously collected ECTS points. The doctoral student shall keep the status (the accomplished semesters) earned at the previous doctoral school.
2. Transferring is possible only within the same discipline.

3. The doctoral student who is being transferred is obliged to submit the documents stipulated in § 3 of the Rules of Recruitment, and a report from the course of education at the former doctoral school. At the same time, the supervisor or academic tutor shall put forth the opinion on the doctoral student and the request for transferring, addressed to the Head of PDS IPAS.
4. The doctoral student who is being transferred is added to the list of doctoral students by the decision of the director of a given institute.

§ 7.

1. The nature and quantity of classes and activities required for completion of the doctoral school are laid down in the Programme of Study at the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "the Programme of Study".
2. The Programme of Study is made known through *Biuletyn Informacji Publicznej* and the websites of the institutes and the website of the doctoral school at least five months before commencement of the recruitment procedure to the doctoral school for a given academic year.
3. The Programme of Study referred to in § 7.1 comes in seven versions, differentiated by the names under which they are registered in the POL-on 2.0 system. These versions are valid at individual institutes co-running the PDS IPAS, and they differ in subject, terms of organisation of mandatory courses and the number of ECTS points associated with them. They are the following:

   a) Programme of Study featuring Biology (IBCH PAS),

   b) Programme of Study featuring Biology II (ID PAS),

   c) Programme of Study featuring Chemistry (IBCH PAS),

   d) Programme of Study featuring Medicine (IHG PAS)

   e) Programme of Study featuring Physics (IMP PAS)

   f) Programme of Study featuring Agriculture (IPG PAS)

   g) Programme of Study featuring Forestry (ID PAS).
4. In specially justified cases, by request of a doctoral student, the coordinator may give approval for an individual plan of study. In such a case the coordinator or deputy, in consultation with the supervisor(s) and the doctoral student, determines an individual programme and a schedule for the completion by the doctoral student of the tasks necessary to complete the doctoral school.
5. Mandatory classes provided for in the Programme of Study are to be obligatorily completed by the doctoral student at the institute supporting a given doctoral student, however it is possible to adjust the date and conditions for crediting them to the individual course of education. The doctoral student may be exempted from participation in seminars, e.g. upon performing research work outside the institute supporting a given doctoral student.
6. The results of study are verified on the basis of credits for courses obtained through written examinations, oral examinations, reports or written papers. The means by which credit is obtained is laid down in the course syllabus.
7. Credits are given according to the following grade scale:

   2 – insufficient grade (credit not won)

   3 – satisfactory grade

   3.5 – satisfactory grade plus

   4 – good grade

4.5 – good grade plus

5 – very good grade

8. For the completion of tasks under the programme, a doctoral student is awarded points in accordance with the European Credit Transfer and Accumulation System (ECTS).
9. The number of ECTS points is proposed by coordinators or deputies, and is approved by the Programme Council.
10. Doctoral students of PDS IPAS may also obtain ECTS points from classes and activities run by higher education institutions or PAS scientific establishments outside PDS IPAS, including at foreign institutions offering doctoral studies, pursuant to paragraphs 5 as well as 11, 12 and 13.
11. Principles for obtaining credits and ECTS points as referred to in paragraph 10:

    1) Based on a list of credits supplied by the doctoral student, indicating the allocated numbers of ECTS points, ECTS points assigned to particular courses are recognised in accordance with the current ECTS system, and the grades obtained are adjusted to the PDS IPAS grade scale. Attainments shown in the list of credits together with ECTS points are counted towards the doctoral student's study progress and grades.

    2) A condition for the transfer of credit for classes and activities completed at another institution, including at foreign institutions, in place of points assigned to classes and practical activities laid down in the study plan and programme of study, is confirmation of the equivalence of the educational results.
12. The number of ECTS points obtained from the classes and activities referred to in paragraph 11 may not be greater than 11, and in the case of an individual course of study, not greater than 21, of the ECTS points obtainable from classes and activities included in the PDS IPAS programme
13. The award of ECTS points as indicated in paragraph 9 requires the consent of the coordinator or deputy from the institute supporting a given doctoral student, granted on a written request of the doctoral student supported by his or her supervisor.
14. A condition for a doctoral student to gain credit for a year of study at the doctoral school is the obtaining of a positive grade from the compulsory classes and activities laid down in the detailed study programme established for the academic year in question, as referred to in § 2 paragraph 2 of the Programme of Study, the obtaining of credit for the doctoral seminar, and obtaining of a positive evaluation for the report on scientific activity, notwithstanding sections 4 and 5 of this paragraph.
15. A doctoral student may, at his or her request, be admitted conditionally by the coordinator or deputy to continue study in the following academic year in case of failure to obtain credit for one of the compulsory courses for the current academic year or for the doctoral seminar.
16. In case of conditional admission to continue study in a given academic year, the doctoral student must then satisfy the condition that was not satisfied in the previous year. If for good reason, not being the responsibility of the doctoral student, it is not possible to obtain credit for the outstanding compulsory course or seminar, satisfaction of that condition will take place in a manner indicated by the coordinator or deputy.
17. A doctoral student may not repeat his or her study in a subsequent academic year except as laid down in paragraphs 15 and 16 of this section.
18. At the halfway point of the period of study – or during the fourth semester, if the duration of study is six semesters – a doctoral student is subject to mid-term evaluation in accordance with Article 202 of the Act. The basis for this evaluation, made by a three-person committee appointed by the coordinator or deputy, is a written report on progress on the individual research plan (constituting

Attachment 1 hereto), accompanied by the opinion of the student's supervisor(s), and possible documents confirming its implementation (e.g. publications). The mid-term evaluation may additionally include an interview of the student and his or her supervisor(s) by the committee.

19. The mid-term evaluation committee is headed by the coordinator of a given discipline or his/her deputy or, in the event of a conflict of interest, a person appointed by the coordinator. He/she appoints a committee, pursuant to Art. 202 sec. 4 of the Act, for each doctoral student individually. The supervisor or assistant supervisor may not be a part of the committee. A member of the committee from outside of the PDS IPAS puts forth an opinion in writing, and receives remuneration on the basis of a contract for a specific task, pursuant to Art. 202, section 5 of the Act. The results of the committee's work are documented in a protocol, a template for which constitutes Attachment 2 hereto. The protocol shall be signed by at least the chairman of the committee. The session of the committee may be attended by a representative of the Self-government of doctoral students, taking part as an observer.

20. The mid-term evaluation referred to in paragraph 18 of this section concludes with a positive or a negative result. The result of the evaluation, together with its reasoning, constitutes open information. The evaluation result may be appealed to the Director of a given institute within 14 days.

21. Sessions of the committees carrying out the mid-term evaluation may be conducted using electronic means of communication, ensuring in particular:
    1) real-time transmission of the session between its participants,
    2) real-time multilateral communication, where the session participants can speak during the meeting,
    - following the necessary safety rules.

22. In justified cases, upon request of the supervisor, a coordinator or deputy coordinator may order an additional evaluation of a doctoral student other than a mid-term evaluation, pursuant to the stipulations of sections 19 and 21, with a proviso that no member from outside of the PDS IPAS is appointed. Additional evaluation of the doctoral student is carried out in the presence of at least one representative of the doctoral students. For this purpose, it is possible to invite a doctoral student from any institute co-leading the PDS IPAS.

23. A condition for graduation from the doctoral school, notwithstanding sections 4 and 5 of this paragraph, is the completion of the tasks included in the study programme, including the obtaining of credit with a positive grade for all compulsory classes and activities, obtaining credit for the doctoral seminar in each year of study at the doctoral school, obtaining a positive evaluation for the annual reports, and submission of a doctoral dissertation, along with a positive opinion of the supervisor.

24. Only in the case of education programs lasting eight semesters, it is possible to submit a doctoral dissertation earlier and complete the education, provided that six semesters have elapsed from the commencement of education, passing all obligatory classes and seminars at that time, notwithstanding sec. 4 and 5 of this paragraph, and obtaining the appropriate number of ECTS points, as specified in the Study Programme as well as obtaining approval of the annual report of the scientific activity for the last year of doctoral research.

25. Doctoral students shall enclose an abstract in English to a doctoral dissertation prepared in Polish, and an abstract in Polish to a doctoral dissertation prepared in a foreign language.

26. In case of submitting a doctoral dissertation in the form of a collection (so-called pin) of peer-reviewed scientific articles, with appropriate commentary, abstracts and statements of co-authors (doctoral student and the corresponding author) about the doctoral student's participation in the preparation of the article, the fact of accepting the article for publication is sufficient, confirmed by the journal editorial board. Final publication of the article is not required at this stage.

27. The fact of submitting a doctoral dissertation, in paper and electronic form, with a positive opinion of the supervisor, is to be confirmed by the coordinator or deputy coordinator within 14 days. The date of approval of the submission of the doctoral dissertation is the date of graduation from the doctoral

school. Within 30 days from the date of graduation from the doctoral school, a certificate of completion of the doctoral school is issued, along with a certificate of progress of study at the doctoral school.

28. A person who has not completed the doctoral school may, by written request, receive a certificate of the progress of study at the doctoral school.

§ 8.

1. Study at the doctoral school is overseen by the Programme Council of the Poznań Doctoral School of Institutes of the Polish Academy of Sciences, hereafter "the Programme Council".
2. The Programme Council is composed of discipline coordinators and their deputies.
3. A member of the Programme Council may be a person holding the title of professor or a post-doctoral degree - Doctor of Sciences or equivalent qualification.
4. Members of the Programme Council and their functions are determined by the Directors of the institutes making up PDS IPAS. Each institute nominates one or two members of the Programme Council in each discipline that it represents.
5. The composition of the Programme Council is approved by the College of Directors of the institutes making up PDS IPAS, hereafter "the College of Directors".
6. Membership of the Programme Council is revoked by the Director of the relevant institute at his or her own initiative or by request of the Programme Council.
7. Scientific councils of institutes, at the request of the institute director and after seeking the opinion of the doctoral students' self-governing body or representatives, approve and adopt the following documents: a) the rules of the doctoral school;

b) the rules on recruitment to the doctoral school;

c) the programme of study at the doctoral school.

8. The scientific councils of institutes, in relation to doctoral students of their institute:

1) appoint a supervisor or supervisors within three months of a doctoral student's commencing study;
2) appoint assistant supervisors;
3) remove supervisors/assistant supervisors, and appoint new supervisors/assistant supervisors within not more than three months of the date of removal.

§ 9.

The coordinator or deputy, particularly:

1) announces a procedure for recruitment to the doctoral school, conducts the procedure in the form of a competition, and presents to the director of the institute financing a doctoral student the results of the recruitment procedure, indicating potential supervisors and doctoral dissertation topics;
2) approves a doctoral student's individual research plan;
3) makes an annual evaluation of completion of the study programme, the state of advancement of scientific research and progress with work on the doctoral dissertation;
4) grants credit to doctoral students for successive years of study at the doctoral school;
5) informs doctoral students and supervisors of the results of the annual evaluation of progress with their work and the gaining of or failure to gain credit for a year of study at the doctoral school;

6) presents applications to the Director of the institute concerning extension of the period of study at the doctoral school;

7) presents applications to the Director of the institute concerning the removal of persons from the list of students of the doctoral school;

8) informs the Head of PDS IPAS about changes in the course of education of a doctoral student;

9) in consultation with the Director of the institute, recommends to the institute's scientific council a supervisor/supervisors/assistant supervisor for a doctoral student, after obtaining the written consent of the candidate or candidates for supervisor/supervisors/assistant supervisor;

10) oversees adherence to the rules of the doctoral school and the organisation and carrying out of the programme of study;

11) organises doctoral seminars at which doctoral students present their research progress;

12) once a year, presents to the Programme Council and to the College of Directors a report on the activities of the doctoral school at the institute in question.

§ 10.

1. When justified by the need to carry out long-term scientific research essential for the preparation of a doctoral dissertation, the coordinator or deputy, in consultation with the supervisor and by request of the doctoral student, submits to the Director of a given institute a request for an extension to the deadline for submission of the doctoral dissertation, where the total extension may not exceed two years. An extension for a period longer than 1 year is possible on condition that the doctoral student has authored at least one peer-reviewed article accepted for publication in a scientific journal indexed in *Journal Citation Reports.* The coordinator or deputy may request documentation of the doctoral student's contribution in the form of declarations of co-authors.
2. The coordinator or deputy, by request of the doctoral student, presents to the institute director a request for the suspension of study at the doctoral school in case of temporary inability to carry out the programme due to:
   1) the doctoral student's illness;
   2) the need to provide personal care to a sick family member;
   3) the need to provide personal care to a child up to three years of age or a child with a certified disability;
   4) other adequately justified circumstances;

   for a total time not exceeding one year.
3. The coordinator or deputy, by request of the doctoral student, presents to the institute director a request for the suspension of study at the doctoral school for a period corresponding to the duration of maternity leave, leave on conditions of maternity leave, paternity leave or parental leave, as defined in the Labour Code of June 26, 1974 (Journal of Laws 1974, no. 24 item 141 as amended).
4. Requests stipulated in paragraphs 1 and 2 contain:

1) details of the doctoral student: forename, surname, PESEL identification number or, in the absence of such a number, the number of an identity document, and indication of the student's year of study at the doctoral school;

2) reasons;

3) the opinion of the supervisor(s);

4) an updated individual research plan, containing if applicable a proposed new deadline for submission of a doctoral dissertation, later than the original deadline by a total of not more than two years.

5. A doctoral student's request for suspension of study at the doctoral school should include documents confirming the existence of the grounds referred to in paragraph 2 or paragraph 3.

6. Decisions concerning requests stipulated in paragraphs 1 and 2 are made by the Director of a given institute.

§ 11.

1. A doctoral student's studies at the doctoral school are overseen with regard to scientific content by a supervisor/supervisors/assistant supervisor.

2. The supervisor, in conjunction with the assistant supervisor (if appointed), acting in accordance with the programme of study:

   1) determines, jointly with the doctoral student, an individual research plan, within 12 months of the commencement of study. In justified cases the plan may be modified with the consent of the coordinator or deputy;

   2) introduces the doctoral student to the subject matter of the doctoral dissertation and to relevant research methods and techniques;

   3) determines, with regard to scientific content, a detailed study programme for the doctoral student for each successive year of study at the doctoral school, and monitors its progress;

   4) assists the doctoral student in obtaining the funding necessary to prepare a doctoral dissertation;

   5) oversees progress with the doctoral students' work and dissemination of the results;

   6) presents to the coordinator or deputy an evaluation of the progress of scientific research and the carrying out of the doctoral student's study programme before the end of each education year;

   7) provides an opinion on any application of the doctoral student for extension or suspension of the period of study at the doctoral school in the cases laid down in § 10 of the rules.

3. Within 12 months of commencing study, the doctoral student presents to the coordinator or deputy an individual research plan, agreed with the supervisor(s), containing in particular a schedule for the preparation of a doctoral dissertation and the planned date of its submission. If an assistant supervisor is appointed, the plan is presented after obtaining the opinion of that supervisor.

4. In justified circumstances, a doctoral student, in consultation with the supervisor(s), may submit to the coordinator or deputy a request for a change to the subject matter of research and the individual research plan. The request must contain reasons and must be submitted not later than the date of the mid-term evaluation.

5. The coordinator or deputy may, at their own initiative or by request of the doctoral student, present to the scientific council of the relevant institute a reasoned request for the removal of a supervisor/assistant supervisor. In case of a change of supervisor/assistant supervisor, the new supervisor/assistant supervisor is appointed by the procedure described in §8.8 and § 9.9).

§ 12.

General entitlements of doctoral students are laid down in the provisions listed in § 2 of the rules and in the present section.

In particular, a doctoral student is entitled:

1) to participate in the academic life of the institutes making up the doctoral school;

2) to use the libraries and reading rooms of the institutes making up the doctoral school;

3) to receive a doctoral scholarship as regulated by the Act;

4) to extend and suspend study at the doctoral school as regulated by the present rules;

5) to take a holiday to an amount not exceeding eight weeks annually, at dates agreed with the supervisor;

6) to accept internships and conduct research at other domestic and foreign scientific centres, with the consent of the director of the relevant institute, after obtaining positive opinions from the supervisor(s) and the coordinator or deputy. Classes and activities for which credit is gained during an internship are included in the evaluation of completion of the study programme in accordance with § 7 sec. 10. Periods of internships and other stays away from the home institute are counted towards the period of study at PDS IPAS, and scholarships and other statutory benefits are paid during that time;

7) to receive, for the entire period of study at the doctoral school, scientific supervision and support in research work from a supervisor/supervisors/assistant supervisor;

8) to appeal against decisions of the coordinator or deputy to the director of the institute, whose decisions are final.

9) Doctoral students having a decision on disability, a decision on the degree of disability or a decision referred to in Article 5 and Article 62 of the Act of 27 August 1997 on vocational and social rehabilitation and employment of disabled persons may apply for support in the education process and in the implementation of scientific activities. The type and forms of support are determined individually, upon the doctoral student's request addressed to the appropriate Director of the institute co-running the Doctoral School.

§ 13.

1. General obligations of doctoral students are laid down in the provisions listed in § 2 of the rules and in the present section. In particular, doctoral students are obliged:

1) to abide by the present rules;

2) to take a pledge and commence education at PDS IPAS within one month from publication of the recruitment results. This date may be extended, upon justified request of the person interested, with consent of the coordinator or deputy coordinator.

3) to carry out the PDS IPAS study programme and the individual research plan;

4) to carry out research related to the preparation of a doctoral dissertation;

5) to study under the supervision of and according to the guidance of the supervisor/supervisors/ assistant supervisor and according to the established study programme;

6) to participate in the classes and activities listed in the study programme;

7) to gain credit for each year of study at the doctoral school in accordance with the requirements contained in these rules and in the study programme;

8) to adhere to the deadlines for preparation of the doctoral dissertation contained in the individual research plan and laid down in these rules and other provisions;

9) to submit to the coordinator or deputy, before the end of each year of education, reports on completed work, accepted by the supervisor;

10) to give reports on the state of advancement and results of research during the doctoral seminar;

11) to publish the results of research in peer-reviewed scientific journals indexed in *Journal Citation Reports*;

12) to inform the coordinator or deputy and the supervisor/supervisors without delay of any change of personal details, including the correspondence address. In case of failure to provide information on a change of address, correspondence sent to the previous address shall be considered to have been effectively delivered;

13) to adhere to the regulations applicable at the doctoral student's home institute, including those relating to the protection of intellectual property, confidential information and know-how.

14) to adhere to the good research practices or the principles laid down in the Code of Ethics for Research Workers.

2. A person admitted to the doctoral school begins study and acquires the rights of a doctoral student on taking a pledge. Within the term stipulated in §12.1.2 herein, upon taking the pledge, the doctoral student also submits a written declaration that he or she is not a student of any other doctoral school.

3. The doctoral student receives a doctoral student's identity card for a fee as laid down in applicable regulations.

4. Publications of the doctoral student related to the doctoral dissertation, whether authored solely or jointly, must indicate the institute to which he or she is affiliated as a place of authorship.

§ 14.

1. A doctoral student is struck off the list of doctoral students in case of:
   1) a negative result of a mid-term evaluation;
   2) failure to submit a doctoral dissertation by the date laid down in the individual research plan;
   3) resignation from study, submitted to the coordinator or deputy.
   4) failure to undertake education;
   5) violation of the prohibition referred to in Art. 200 sec. 7 of the Act;
   6) being imposed a disciplinary penalty of expulsion from the doctoral school.

2. A doctoral student may be struck off the list of doctoral students in case of:
   1) failure to perform obligations arising from these rules;
   2) failure to perform obligations arising from the study programme;
   3) unsatisfactory progress in carrying out the individual research plan;
   4) unsatisfactory progress in preparing a doctoral dissertation;

3. A request for striking off the list of doctoral students is submitted by the coordinator or a deputy director of a given institute, at the same time notifying the doctoral student, except for situation where the reason for expulsion is the doctoral student's resignation from education.

4. The doctoral student is entitled to address the request for striking off the list and submit explanations to the director of the institute within 14 days of the date of delivery of notification of such request.

5. The decision on removal from the list of doctoral students is made by the Director of a given institute. The director may request additional explanations from the doctoral student or supervisor or other persons. The decision on removal is forwarded to the doctoral student, whereas its copy is forwarded to the Head of PDS IPAS.

6. The doctoral student is entitled to appeal to the director of the institute for reconsidering the case, within 14 days of the date of delivery of notification of the request for striking off.

7. For the meeting of the deadline referred to in paragraph 6, it shall be sufficient to send the appeal in the form of a registered letter through a public postal operator, pursuant to the Act of November 23rd, 2012 – Postal Law (Journal of Laws of 2012, item 1529, as amended).

§ 15.

The progress of doctoral studies is documented on a study progress sheet, a form for which is contained in the appendix to the Programme of Study.

§ 16.

1. Doctoral students form a doctoral students' self-governing body within individual institutes of the Doctoral School.

2. The authorities of the individual doctoral students' councils may associate, on a voluntary basis in the Collective Body of Doctoral Students of PSD IPAN.

3. The principles of association and the tasks of the Collective Body of Doctoral Students of PDS IPAS, common to all self-governments, are specified in the Regulations of the Doctoral Students' Self-Government of individual institutes.

§ 17.

1. The structure of the Programme Council is shown schematically in Appendix 3.

2. In matters not covered by these rules or by the legal instruments listed in § 2, decisions shall be taken by the Programme Council, the institute director or the College of Directors.

3. As of September 30th, 2024, the Rules of the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences that entered into force on October 1st, 2024 shall be repealed.

4. The provisions of these rules shall come into effect at the beginning of the 2025/2026 academic year.

Attachment 1

Report on the implementation of the Individual Research Plan

of the doctoral student for the purposes of mid-term evaluaton

at the Poznan Doctoral School of the IPAS

Doctorant data:

Imię (imiona) i nazwisko doktoranta / First, middle and family name of the PhD. Student:
Imię i nazwisko oraz stopień/tytuł naukowy promotora / First and family name of supervisor, degree/title:
Imię i nazwisko oraz stopień/tytuł naukowy promotora pomocniczego / First and family name of assistant supervisor, degree/title:
Tematyka badawcza / Research topics:
Dyscyplina naukowa / Scientific discipline:
Nazwa Instytutu / Institute name:
Nazwa Zakładu / Department name:

Description of realized research activities

Poniżej proszę podać stopień i zakres realizacji działań badawczych zaplanowanych w przedłożonym wcześniej Indywidualnym Planie Badawczym/ Below, please provide the degree of advancement and scope of implementation of research activities planned in the previously submitted Individual Research Plan

Date and signature of the Doctoral Student: ……

Supervisor's opinion:

□ positive □ negative *

Date, signature:……

Assistant Supervisor's opinion:

□ positive □ negative *

Date, signature:……

Attachment 2 (only in Polish)

.....

miejscowość, data

POZNAŃSKA SZKOŁA DOKTORSKA
INSTYTUTÓW POLSKIEJ AKADEMII NAUK

PROTOKÓŁ Z ZEBRANIA KOMISJI DS. OCENY ŚRÓDOKRESOWEJ

DOKTORANTA PSD IPAN……
imię i nazwisko

przeprowadzonego w Instytucie ……..PAN

w dyscyplinie: ……..

Przez komisję ds. oceny śródokresowej w składzie*:*

…….. - Przewodniczący Komisji

……..

……..

Posiedzenie komisji zostało przeprowadzone przy użyciu środków komunikacji elektronicznej.*

W trakcie posiedzenia komisji doktorant/doktorantka* przedstawił/a* postępy w realizacji indywidualnego planu badawczego związanego z przygotowywaniem rozprawy doktorskiej na temat:……
……

Komisja zadała następujące pytania:
-…….
-……
-…….

W wyniku przeprowadzonej oceny śródokresowej, zgodnie z § 7 ust. 18, 19 i 20 Regulaminu Poznańskiej Szkoły Doktorskiej Instytutów Polskiej Akademii Nauk, po zapoznaniu się z pisemną opinią ……., która stanowi załącznik do protokołu komisja stwierdza, że (uzasadnienie oceny):

……
……
……

Podpis Przewodniczącego Komisji

…….

Podpisy Członków Komisji

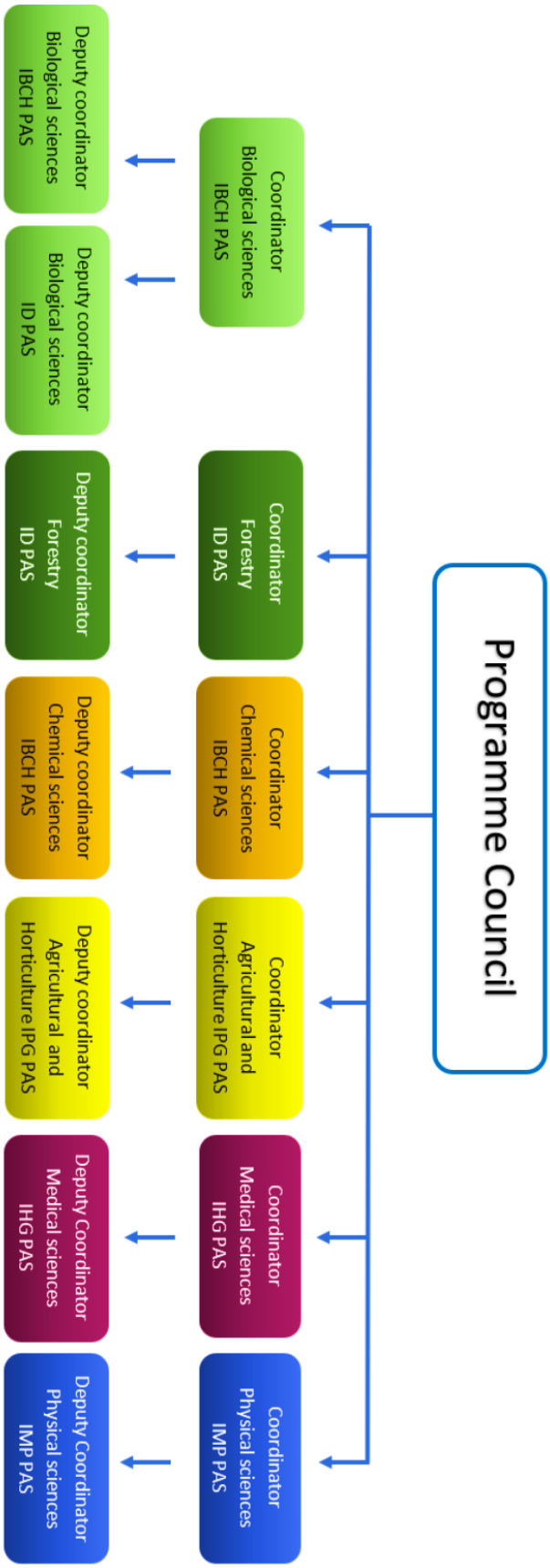
1. ……..*

2. ……..*

W posiedzeniu komisji uczestniczył w charakterze obserwatora przedstawiciel Samorządu doktorantów Pani/Pan ……*

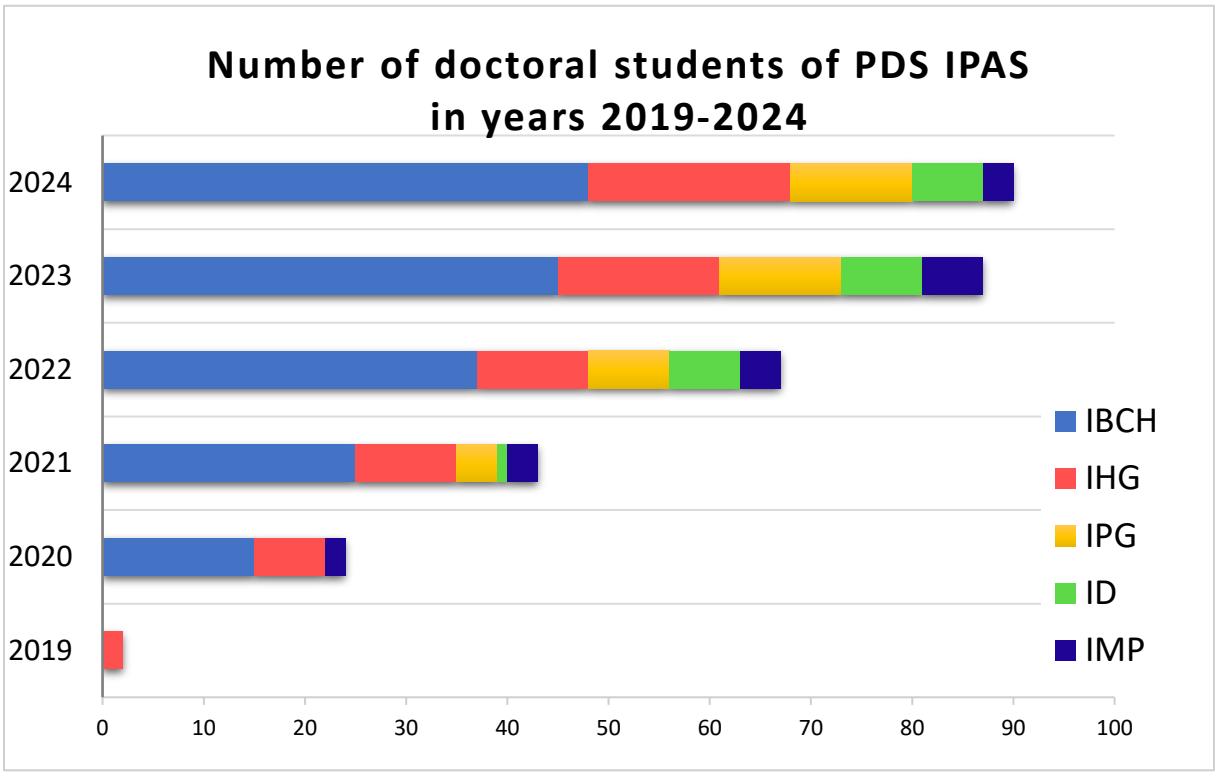
* - niepotrzebne skreślić

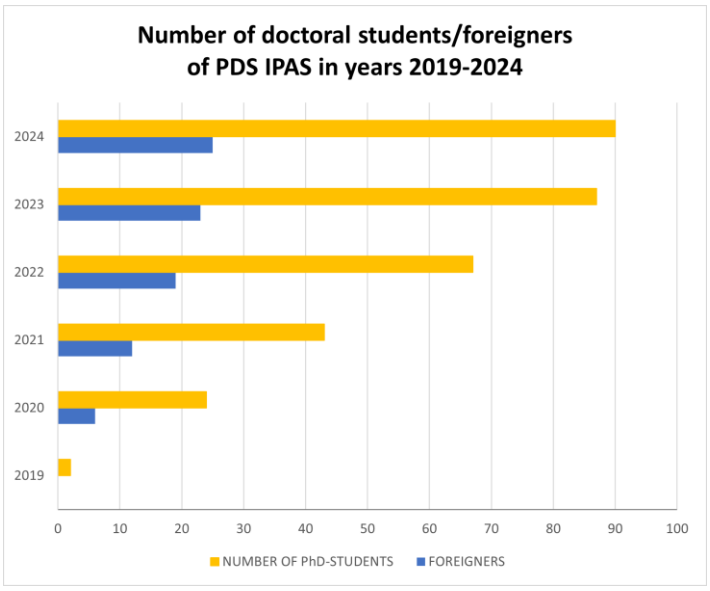
Attachment 3

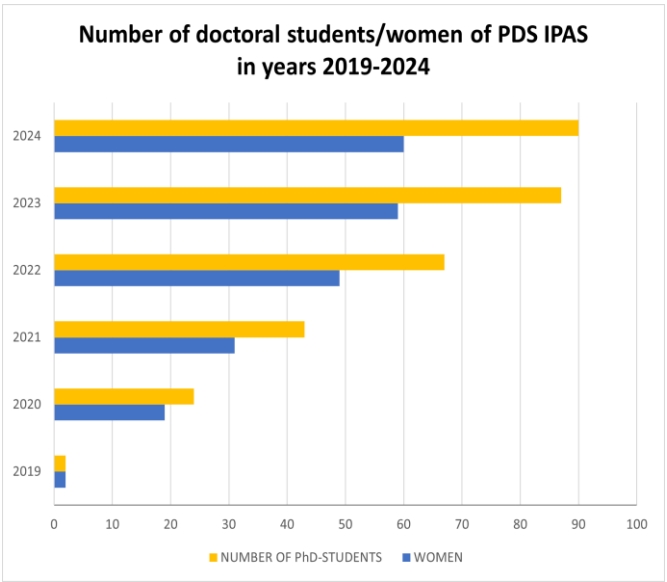


Appendix 4.1. Graphs of the number of doctoral students admitted to the doctoral school

The graphs present the number of doctoral students admitted to the doctoral school, active on December 31 of each year, divided into institutes co-running PSD IPAN (a), taking into account the number of foreigners (b) and women (c).







MID-TERM EVALUATION PROCEDURE
(updated May 2023)

1. Mid-term evaluation of PhD students at PDS IPAS takes place in the last 2 months of the fourth or the first 2 months of the fifth semester of study. For 36-month programs, it occurs in the last 2 months of the fourth semester (in accordance with Art. 202 para. 2 of Act 2.0). No later than 2 months before the planned mid-term evaluation, the PDS IPAS Secretariat notifies the PhD student of the necessity to submit a report on the implementation of their Individual Research Plan (IRP). The PhD student is obliged to submit the report within 3 weeks of notification.
2. The IRP implementation report should be signed by the PhD student and approved by the Supervisor.
3. The report, along with attached supporting documents (e.g., publications or conference materials), is to be delivered to the Discipline Coordinator (or their deputy) in which the PhD student is studying (CC: PDS Secretariat).
4. The Coordinator appoints a 3-person Committee for the PhD student's mid-term evaluation and designates its Chairperson.
5. A committee member must hold at least a doctoral degree in the discipline in which the PhD student is studying, or a related discipline.
6. At least 2 members of the Committee should hold a habilitation degree or a professor title.
7. The Committee includes 1 person holding a habilitation degree or a professor title in the discipline in which the doctoral dissertation is being prepared, employed outside the Institutes conducting PDS IPAS, hereinafter referred to as the "Reviewer."
8. The Coordinator is responsible for obtaining the Reviewer's consent to participate in the Committee, along with a declaration of no conflict of interest between the PhD student and the Reviewer (conflict of interest is understood, in particular, as close kinship or affinity, a partnership, official dependence, and joint research projects or publications within the last 10 years).
9. Neither the Supervisor nor the Auxiliary Supervisor can be a member of the Committee.
10. The composition of the Committee is public.
11. The Reviewer is entitled to a fee of 20% of a professor's salary for conducting the evaluation. PDS IPAS does not reimburse the Reviewer for travel and accommodation costs associated with participation in the Committee.
12. The PDS IPAS Secretariat prepares a request for a contract for specific work for the review, based on information provided by the Coordinator, and sends a personal questionnaire to the Reviewer electronically or by traditional mail, along with a request for acceptance of the terms (remuneration, deadline, subject of the contract). The request is delivered to the HR department by the 20th day of the month preceding the conclusion of the contract.
13. The PDS IPAS Secretariat electronically sends the PhD student's report to the Reviewer, along with the Supervisor's opinion and information about the PhD student's education progress (date of admission to PDS IPAS, completed courses and grades, internships, etc.).

14. The review is prepared in writing and should include an assessment of the progress of education and the preparation of the doctoral dissertation. It should conclude with a recommendation regarding a positive or negative mid-term evaluation result. The review should not exceed 3000 characters (without spaces).
15. The review should be submitted to the PDS IPAS Secretariat within 4 weeks of the materials being sent to the Reviewer for evaluation. The review is sent electronically as a scan of a signed document or a document with a qualified digital signature.
16. The review is made available to the PhD student and the Supervisor.
17. The Coordinator sets the date of the Committee meeting and informs the PDS IPAS Secretariat, which organizes the meeting (provides a room and, if necessary, an online broadcast).
18. All members of the Committee are obliged to participate in the meeting. A representative of the Doctoral Student Self-Government is present as an observer during the Committee meeting.
19. The Committee meeting takes place with the physical presence of its participants in the room, or if such an arrangement is not possible, partially or entirely via online broadcast.
20. During the Committee meeting, the PhD student presents their achievements in the form of a presentation (max. 10 min) and answers questions from the Committee.
21. The Supervisor or Auxiliary Supervisor may be invited to the Committee meeting to provide additional explanations. This takes place in the first part of the Committee meeting, in the absence of the PhD student, after which the supervisor leaves the meeting, and the PhD student joins.
22. The Reviewer's opinion is read aloud at the Committee meeting.
23. In the closed part of the meeting, the Committee agrees on a positive or negative mid-term evaluation of the PhD student.
24. The Committee prepares an opinion and a protocol of the meeting, which are signed by at least the chairperson of the Committee. The protocol is submitted to the PDS IPAS Secretariat and included in the PhD student's file.
25. In case of a lack of unanimity, the outcome of the evaluation is decided by a majority vote. The votes of all Committee members are equal.
26. The PhD student is notified of the evaluation result immediately after the Committee submits the protocol to the PDS Secretariat.
27. A PhD student who receives a negative mid-term evaluation is removed from the list of PhD students.
28. The PDS IPAS Secretariat notifies the HR Department about the completion of the contract for specific work with the Reviewer and publishes the evaluation result on the PDS IPAS website.
29. After receiving a positive mid-term evaluation, the doctoral scholarship amounts to at least 57% of a professor's salary.

Translation of „**ZASADY ORGANIZACJI OCENY ŚRÓDOKRESOWEJ W INSTYTUCIE DENDROLOGII PAN”**

MID-TERM EVALUATION RULES AT THE INSTITUTE OF DENDROLOGY PAS

1. The mid-term evaluation of PhD students at the Institute of Dendrology, PAS who are enrolled in the Poznań Doctoral School of the Institutes of the Polish Academy of Sciences (PDS IPAS), takes place in the last two months of the fourth semester or the first two months of the fifth semester of their studies. For 36-month programs, the evaluation occurs in the last two months of the fourth semester (in accordance with Article 202, para. 2 of Act 2.0). No later than two months before the planned date of the mid-term evaluation, the Department of Scientific Information of the ID PAS notifies the PhD student of the requirement to submit a report on the implementation of their individual research plan. The PhD student is obligated to submit the report within two weeks of this notification.
2. Before submission, the report is reviewed by the supervisor.
3. The report, along with the supervisor's opinion, is then submitted to the Department of Scientific Information.
4. The Coordinator or Deputy Coordinator appoints a three-person Mid-term Evaluation Committee for the PhD student, designates its Chairperson, and provides the Committee with all necessary documents for the mid-term evaluation procedure.
5. The Committee comprises the Coordinator or Deputy Coordinator and at least one person holding a habilitated doctor degree (dr hab.) or a professor title in the discipline in which the doctoral dissertation is being prepared, employed outside the institutes running the PDS IPAS. The composition of the Committee is public.
6. The Coordinator or Deputy Coordinator is responsible for obtaining the consent of the Committee members to participate, along with a declaration of no conflict of interest between the PhD student and the Committee members, no conflict of interest between the supervisor and the Committee members, and no connections between the Committee and the supervisor that could affect the objectivity of the individual (a conflict of interest is understood to include, in particular, close kinship or affinity, a partnership, professional dependence, and joint research projects or publications within the last 10 years).
7. The Committee may not include:
   a) The supervisor or assistant supervisor.
   b) A person who, within the last five years: was the supervisor of four PhD students who were removed from the list of PhD students due to a negative mid-term evaluation result or supervised the preparation of a dissertation by at least two individuals applying for a doctoral degree who did not receive positive reviews, as referred to in Article 191, para. 1 of the Act.
   c) A person who has been subject to a disciplinary penalty of deprivation of the right to perform the duties of a supervisor, as referred to in Article 276, para. 1, item 4 of the Act.
8. A person from outside the PDS IPAS who conducts the evaluation is entitled to remuneration equal to 20% of a professor's salary.
9. The Committee's evaluation is prepared in writing by an reviewer from outside the PDS IPAS and by one Committee member. It should include an analysis of the implementation of the individual research plan and conclude with a recommendation regarding a positive or negative mid-term evaluation result.
10. The review should be submitted to the Department of Scientific Information of the ID PAS within four weeks of the evaluation materials being sent to the Committee. The

review is sent electronically as a scan of a signed document or a document with a qualified electronic signature.

11. The Coordinator or Deputy Coordinator sets the date of the Committee meeting.
12. The Committee meeting takes place with the physical presence of its participants in a room, or, if such organization is not possible, partly or entirely via online transmission.
13. During the Committee meeting, the PhD student presents their achievements in a presentation (max. 10 min.) and answers questions from the Committee.
14. The supervisor or assistant supervisor may be invited to the Committee meeting to provide additional clarifications.
15. In the closed part of the meeting, the Committee agrees on a positive or negative mid-term evaluation of the PhD student. The Committee prepares an opinion and signs the meeting protocol, which is then submitted to the Department of Scientific Information and included in the PhD student's file. In the absence of unanimity, the evaluation outcome is decided by a majority vote. The votes of all Committee members are equal. The PhD student is notified of the evaluation result no later than the next business day after the Committee meeting.
16. A PhD student who receives a negative mid-term evaluation is removed from the list of PhD students.
17. Within fourteen days from the date of delivery of the decision to remove them from the list of PhD students, the PhD student has the right to submit a request for reconsideration to the Director of the Institute of Dendrology PAS.

INSTYTUT
GENETYKI CZŁOWIEKA
POLSKIEJ AKADEMII NAUK

Powołanie komisji do przeprowadzenia oceny śródokresowej
w Poznańskiej Szkole Doktorskiej
Instytutów Polskiej Akademii Nauk nr 3/2024

z dnia 29 sierpnia 2024 r.

1. Na podstawie § 7 ust. 18 Regulaminu Poznańskiej Szkoły Doktorskiej Instytutów Polskiej Akademii Nauk, powołuję komisję do przeprowadzenia oceny śródokresowej dla doktoranta, **Pana mgra Daniela Sikory.**

   Skład komisji:

   Przewodniczący: prof. dr hab. Ewa Ziętkiewicz – IGC PAN

   Członek komisji: Monika Drobna-Śledzińska – IGC PAN

   Członek komisji: prof. dr hab. Krzysztof Lewandowski **(ekspert zewnętrzny)**

   Do zadań komisji należy przeprowadzenie oceny śródokresowej dla doktoranta, w tym w szczególności:

   - ocena postępów z realizacji indywidualnego planu badawczego przedstawionych przez doktoranta

   - przeprowadzenie dodatkowej rozmowy z doktorantem i promotorem/promotorami w razie potrzeby

   - wydanie pisemnej opinii odnośnie realizacji przez doktoranta indywidualnego planu badawczego wraz z oceną pozytywną bądź negatywną

   - sporządzenie protokołu z zebrania komisji do przeprowadzenia oceny śródokresowej doktoranta PSD IPAN

Koordynator Dyscypliny Nauki Medyczne w PSD IPAN

.....
Prof. dr hab. Jadwiga Jaruzelska

Otrzymują:
Członkowie komisji
a/a

Do wiadomości:
Dyrektor Instytutu Genetyki Człowieka PAN

Attachment 1

Report on the implementation of the Individual Research Plan of the doctoral student for the purposes of mid-term evaluaton at the Poznan Doctoral School of the IPAS

Doctoral student data:

Imię (imiona) i nazwisko doktoranta / First, middle and family name of the PhD. Student:
Imię i nazwisko oraz stopień/tytuł naukowy promotora / First and family name of supervisor, degree/title:
Imię i nazwisko oraz stopień/tytuł naukowy promotora pomocniczego / First and family name of assistant supervisor, degree/title:
Tematyka badawcza / Research topics:
Dyscyplina naukowa / Scientific discipline:
Nazwa Instytutu / Institute name:
Nazwa Zakładu / Department name:

Description of realized research activities

Poniżej proszę podać stopień i zakres realizacji działań badawczych zaplanowanych w przedłożonym wcześniej Indywidualnym Planie Badawczym/ Below, please provide the degree of advancement and scope of implementation of research activities planned in the previously submitted Individual Research Plan

Date and signature of the Doctoral Student: ……

Supervisor's opinion:

□ positive □ negative *

Date, signature:……

Helper Supervisor's opinion:

□ positive □ negative *

Date, signature:……

*- delete unnecessary

POZNAŃSKA SZKOŁA DOKTORSKA
INSTYTUTÓW POLSKIEJ AKADEMII NAUK

INDYWIDUALNY PLAN BADAWCZY
POZNAŃSKA SZKOŁA DOKTORSKA INSTYTUTÓW PAN

INIVIDUAL RESEARCH PLAN
POZNAŃ DOCTORAL SCHOOL OF INSTITUTES OF PAS

Imię (imiona) i nazwisko doktoranta First, middle and family name of the PhD student	
Imię i nazwisko oraz stopień/tytuł naukowy promotora First and family name of supervisor, degree/title	
Imię i nazwisko oraz stopień/tytuł naukowy promotora pomocniczego First and family name of assistant supervisor, degree/title	
Tematyka badawcza Research topics	
Dyscyplina naukowa Scientific discipline	
Nazwa Instytutu Institute name	
Nazwa Zakładu Department name	

Koncepcja rozprawy, hipoteza badawcza (do 1000 znaków bez spacji) Dissertation concept, research hypothesis (no more than 1000 characters not including spaces)

Harmonogram przygotowania rozprawy doktorskiej, data rozpoczęcia kształcenia, zadania badawcze, przewidywany termin złożenia rozprawy (do 2000 znaków) Timetable of the dissertation preparation, commencement date, research tasks, expected date for submission of the dissertation (< 2000 characters)

Znaczenie efektów badań dla rozwoju nauki (do 1000 znaków) **Expected impact of the research on the development of science (< 1000 characters)**

Podpis doktoranta **Signiture of Ph.D.student** ……

Podpis promotora **Supervisor's signature** ……

Podpis promotora pomocniczego **Assistant Supervisor's signature** ……

Data złożenia IPB **Submission date of the IRP** ……

Uwaga: IPB powinien być złożony przed upływem 12 miesięcy od momentu rozpoczęcia kształcenia, do koordynatora odpowiedniej dyscypliny, w sekretariacie PSD IPAN.
Note: The IRP should be submitted within 12 months from the start of the doctoral education, to the appropriate discipline coordinator, in the secretariat of the PDS IPAS.

Zatwierdzenie IPB przez koordynatora **Confirmation of the IRP by coordinator:**

…… **(data, podpis)** **(date, signature)**

KEN

2023-2027

NATIONAL INFORMATION PROCESSING INSTITUTE

Minister of Science and Higher Education
Republic of Poland

Assessment of the quality of education in doctoral schools
is made by the Science Evaluation Committee

The Evaluation System of Doctoral Schools
is financed by the Minister of Science and Higher Education