

INSTITUTION: The National Centre for Nuclear Research



CITY: Otwock / Świerk

**POSITION: PhD candidate - Assistant Research (PL form “Asystent”) - dual-doctorate programme (ADI UPSaclay 2023, cotutelle programme) - Novel Radiopharmaceuticals for Medical Applications**

DISCIPLINE: chemistry, organic chemistry

POSTED: 24|01|2023

EXPIRES: 26|02|2023

WEBSITE: <https://www.ncbj.gov.pl/praca/phd-candidate-co-tutelle-novel-radiopharmaceuticals-medical-applications-mab-nomaten>

KEY WORDS: chemistry, organic chemistry, radiopharmaceuticals

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NOMATEN Centre of Excellence (CoE) is formed through a scientific partnership between the National Centre for Nuclear Research (NCBJ, Poland), the French Alternative Energies and Atomic Energy Commission (CEA, France) and the Technical Research Centre of Finland (VTT, Finland) with joint financial support from the Foundation for Polish Science (FNP) and the European Commission. NOMATEN CoE focuses research on the development and assessment of innovative multifunctional materials for industrial and medical applications.

Currently, we are looking for a candidate on

### **a PhD student position**

with a strong expertise in organic chemistry and already an excellent scientific background, highly motivated person who is passionate for organic chemistry and developing of novel diagnostic and therapeutic radiopharmaceuticals. Topic of the doctorate thesis is related to the development of macrocyclic cage-molecules named bambusurils (BU[4,6]), a family of neutral cavitands with a jigger-like conformation that are prepared via a cheap and easy synthesis. BU[6] are 6-glycolurils membered rings able to strongly stabilize anions of various sizes (particularly iodides) in their cavity, that makes them the most efficient complexing agents currently known for iodides in organic solvent and in aqueous media. Such binding properties could be interesting for anion transport, diagnosis and treatment when using radioactive halides ( $^{125}\text{I}$ ,  $^{124}\text{I}$ ,  $^{131}\text{I}$ ,  $^{211}\text{At}$ ).

PhD student will work on design, synthesis and characterization of new bambusurils to allow them to be selective and to form strong complex with halides, including mentioned above radioactive isotopes; these anionic complexes will be fully characterized and their stability will be studied particularly in biological media. Student will be in charge of the functionalization of bambusurils with various biomolecules (monoclonal antibodies and their fragments or peptides) to specifically interact with receptors on the cancerous cells and of initial preclinical evaluation of developed compounds at

*in vitro* (assays on cancer cells) and *in vivo* (biodistribution in rodents) conditions in collaboration with biologists.

PhD thesis will be done in the frame of a dual-doctorate programme (ADI UPSaclay 2023, cotutelle programme: <https://www.universite-paris-saclay.fr/en/universite-paris-saclay-international-joint-phd-program-cotutelle>) between the two laboratories of the Frédéric Joliot Institute for Life Sciences (Medicines and healthcare technologies department, Molecular labeling and bio-organic chemistry unit CEA, Saclay, France) and the Radiopharmaceuticals Group at the NOMATEN CoE (NCBJ, Poland).

During their employment, PhD candidates are required to timely fulfil all the obligations connected with the process of obtaining the Doctoral degree in the chosen scientific discipline (such as evaluation, passing exams, participating in lectures and other activities).

**Preferred background:** chemistry, organic chemistry.

#### **We offer:**

- ✓ 3 years employment in the frame of dual-doctorate programme (ADI UPSaclay 2023, cotutelle programme): 24 months spend at the CEA (Saclay, France) and 12 months spend at the NOMATEN CoE (Otwock-Swierk, Poland) laboratories.
- ✓ Work in the international network with research institutes and industrial companies.
- ✓ Access to the research potential of NOMATEN's three partners between NCBJ (Poland), CEA (France) and VTT (Finland).
- ✓ Travel funds for participation in conferences and collaboration, attractive working conditions, atmosphere of teamwork, family-friendly environment with flexible working hours, support of an experienced local team in legal, financial and organisational issues as well as logistic support and advice related to working in France and Poland - enabling smooth relocation and equal opportunities.

#### **Required documents:**

- ✓ cover letter that explains the motivating factors for considering the position (max. 1 pp),
- ✓ CV with complete publication list,
- ✓ brief description of important scientific achievements and scientific outlook,
- ✓ a list of 2 reference persons including their positions and contact details (e-mail address),
- ✓ MSc diploma copy/scan.

The recruitment is open to candidates who, at the time of submitting their applications, do not have a diploma confirming MSc, but who have a fixed date for obtaining this title before the planned date of employment. In this case, it is necessary to provide documents that prove that. Excellence of the candidate is expected within this competitive co-tutelle programme (ADI UPSaclay 2023).

- ✓ as an attachment to your application please sign and enclose the following declaration:

*I agree to the processing of my personal data included in this application for the needs necessary to carry out the recruitment.*

**Application deadline: 26<sup>th</sup> February, 2023**

Applications in electronic form should be submitted in English to: [magdalena.jedrkiewicz@ncbj.gov.pl](mailto:magdalena.jedrkiewicz@ncbj.gov.pl).

#### INFORMATION CLAUSE ON PERSONAL DATA PROCESSING:

1. The controllers of the personal data processed during the recruitment process are:
  - 1) National Centre for Nuclear Research, ul. Andrzeja Sołtana 7, 05-400 Otwock and
  - 2) Foundation for Polish Science, ul. I. Krasickiego 20/22, 02-611 Warszawa.
2. The data protection officer can be contacted by using the following address:
  - 1) Personal Data Protection Officer, National Centre for Nuclear Research, Sołtana 7, 05-400 Otwock, Poland
  - 2) [iod@ncbj.gov.pl](mailto:iod@ncbj.gov.pl)
3. Providing data contained in recruitment documents is a condition for applying for a job at NCBJ.
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10. You have the right to lodge a complaint with a supervisory authority (President of the Office for Personal Data Protection) about unlawful processing of your personal data. The right to file a complaint only concerns the lawfulness of the processing of personal data, not the recruitment process.



HR EXCELLENCE IN RESEARCH

The National Centre for Nuclear Research is awarded by [HR Excellence in Research](#)". Recruitment in NOMATEN is based on OTM-R system (Open, Transparent and Merit-based recruitment practices in Research Performing Organisations).



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