Center for Theoretical Physics
Polish Academy of Sciences
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Tel. +48 573 823 493
E-mail: cft@cft.edu.pl, NIP: 525-000-92-81, REGON: 000844815

HR EXCELLENCE IN RESEARCH

Msz/10/2026

FORM FOR EMPLOYERS

INSTITUTION: **Center for Theoretical Physics, Polish Academy of Sciences**
CITY: **Warsaw**
POSITION: **Research assistant (PhD candidate)**
- R1 researcher (f/m/x)
DISCIPLINE: **Physical sciences**
POSTED: **2026-05-12**
EXPIRES: **2026-06-30**
WEBSITE: **https://www.cft.edu.pl**
KEY WORDS:
– Computational modelling
– Macroscopic quantum phenomena: superconductivity, superfluidity, etc.
– Mesoscopic physics
– Quantum optics and quantum information
– Ultra-cold atoms and molecules
– Quantum Technologies, Quantum Information, Quantum State generation, Superfluidity

Research assistant (PhD candidate) - R1 researcher (f/m/x)

Ref Number: Msz/10/2026
Location: Warsaw, Poland
Salary: 8 000 - 8 900 PLN/month gross (depending on the candidate's qualifications and experience)
Number of positions available: 2
Work Arrangement: In-Person
The role is available from **01.10.2026** for a period of **36 months** (subject to performance evaluation after 1 year).

Important Dates:
- Application deadline: **30.06.2026**
- Candidates will be informed about the results by **31.07.2026.**

Founding Source:
EUCENTRAL: CENTER FOR QUANTUM TECHNOLOGIES MODELLING - [HORIZON-WIDERA-2023-TALENTS-01-01] — [ERA Chair] project financed by the European Commission (agreement no.: 101186579).

EU Central
Modelling Center for Quantum Technologies

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Project website: https://eucentral.cft.edu.pl/

About us

The Center for Theoretical Physics of the Polish Academy of Sciences (CTP PAS) is a research institute focused on the study of theoretical physics. The CTP is located in Warsaw, Poland, and was founded in 1980.

The CTP PAS conducts research in various fields of physics, including quantum information, space and gravity research, semiconductors, and atomic gases. The Institute's strategy is to employ the strongest scientists, giving them the freedom to conduct their research. This has resulted in the CTP's high standing in Poland, world-class publications (in Nature and Science), a large number of grants (approximately 30 projects), and participation in international consortia. In terms of citations per researcher, CTP PAS ranks among the leading institutions in Polish physics.

The CTP PAS also hosts a number of scientific events, including seminars, workshops, and conferences, which are open to the public. The Institute also creates educational content accessible on its official YouTube channel.

About the role

We are seeking two research assistants - PhD candidates (f/m/x), who will join the Modelling Center for Quantum Technologies group at the CTP PAS, led by Dr. Federico Balducci (Team Leader). The group will collaborate closely with the group of prof. Marzena Szymańska (ERA Chair Holder) at University College London.
It is planned that the assistants will apply for the PhD degree in an external mode based on the scientific results obtained during the execution of the project.
Two research assistants (PhD candidates) positions are planned, among which one will be supervised by Dr. Federico Balducci and the second one supervised jointly by prof. Marzena Szymańska and Dr. Federico Balducci.

The primary responsibilities will include carrying out original research on many-body open quantum systems, by developing both theoretical and computational tools, and attending international conferences and schools. Additional duties will include the maintenance of the developed open-source code libraries.

Enquiries regarding the role or the recruitment process can be addressed to Dr. Federico Balducci (fbalducci@pks.mpg.de).

If you need reasonable adjustments or a more accessible format to apply for this job online, please contact recruitment@cft.edu.pl.

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About you

Essential qualifications, experience and knowledge

Master's degree in Physics, or a related field.

Essential skills and abilities

Strong background in quantum statistical mechanics and many-body theory.
Programming skills and experience with numerical computations.
Excellent written and oral communication skills, and ability to work both independently and as part of a team.

Desirable qualifications, experience and knowledge

Experience with open quantum systems, e.g. master equations and/or quantum stochastic calculus. Alternatively, experience with quantum optimal control and/or quantum information theory.
Familiarity with numerical tools for many-body quantum systems (e.g. exact diagonalization, tensor networks).

Desirable skills and abilities

Experience with version control and collaborative coding (GitHub).

What we offer

- Full-time fixed-term employment contract,
- Salary: ca 8 000 - 8 900 PLN (gross) per month (depending on the candidate's qualifications and experience); additionally, the employee may be entitled to bonuses, awards, or other components of remuneration in accordance with the Remuneration Regulations in force at the Institute. The remuneration is determined and paid in accordance with the Remuneration Regulations in force at the Institute.

1. A scientifically stimulating research environment,
2. A friendly and flexible work environment,
3. Sharing knowledge and experience,
4. Flexible working hours,
5. A diverse and inclusive culture where mutual support, team work and respect are highly valued,
6. Multisport card subsidy,
7. Holiday subsidy
8. Nursery and kindergarten subsidy

We will consider applications to work on a part-time and flexible basis wherever possible. We encourage you to discuss your flexible working needs during the interview process.

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How to apply

Applications should be sent to: recruitment@cft.edu.pl, by 30.06.2026, with the reference number ("**Msz/10/2026**") in the subject line.

Required documents:

- The scientific CV, including the progress in the university studies, scientific achievements (publications, participation in research projects and conferences), with the clause "I agree to the processing of my personal data contained in the application documents for the purposes necessary for the implementation of the process recruitment by Center for Theoretical Physics PAS".
- Cover letter.
- A copy of the Master degree diploma.
- Copies of documents confirming scientific or professional achievements.
- At least one letter of recommendation from a researcher with at least a PhD degree, concerning the candidate and his/her current scientific activity.
- Signed Data Privacy Statement (*GDPR clause*).

Only shortlisted candidates will be contacted.

How we recruit

We carefully review every submitted application. Those whose experience and competencies align with our needs and requirements are invited to an interview (usually held online).

We stay in touch with candidates throughout the entire process, ensuring that interviews take place in a friendly atmosphere, and providing feedback after the interviews. We approach each candidate individually, also considering the needs of people with disabilities.

We appreciate all feedback received after the recruitment process. It motivates us to improve our recruitment efforts.

Our commitment to Equality, Diversity and Inclusion

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The CTP PAS operates in an all-inclusive environment irrespective of personal, physical, or social characteristics. Teamwork is highly valued, individual strengths are recognised and appreciated, and we are committed to advancing the careers of everyone.

Equality, respect, and openness are fundamental values in an academic environment, where diversity is essential. We strive to provide a safe and inclusive space for everyone who is part of our scientific community.

The CTP PAS has regulations for reporting violations of law and protection of whistleblowers.

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