



https://ictqt.ug.edu.pl/job/postdoc_ictqt_2023_04/

Postdoctoral Researcher, no.
Postdoc ICTQT_2023_04

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Description

Postdoctoral Researcher for the IRAP project

Project title: *International Centre for Theory of Quantum Technologies*

Positions are offered by the International Centre for Theory of Quantum Technologies of the University of Gdańsk within the implementation of the project "International Centre for Theory of Quantum Technologies " (contract no. MAB/2018/5). The project is carried out within the International Research Agendas Programme of the Foundation for Polish Science co-financed by the European Union from the funds of the Smart Growth Operational Programme, axis IV: Increasing the research potential (Measure 4.3).

We are looking for two Postdoctoral Researchers to work in the [New Quantum Resources and Thermodynamics Group](#) led by Prof. Michał Horodecki at the International Centre for Theory of Quantum Technologies (ICTQT) hosted by the University of Gdańsk (UG) – pioneering and leading center of quantum information research in Poland.

The selected candidates will work on the theory of open quantum systems including:

- long-time behaviour of cumulant equation;
- a problem of steady state coherences;
- benchmarking non-Markovian master equations.

Keywords: weak-coupling, bath, non-Markovianity, steady state, renormalization.

If you would like any further details about the project or the advertised position then please feel free to get in contact (michal.horodecki@ug.edu.pl) for a chat.

About ICTQT

ICTQT was created in 2018 within the International Research Agendas Programme of the [Foundation for Polish Science](#) co-financed by the European Union from the funds of the Smart Growth Operational Programme, axis IV: Increasing the research potential (Measure 4.3). The founders of ICTQT are Marek Żukowski (the director) and Paweł Horodecki (the research group leader). The Centre's official partner is IQOQI-Vienna of the Austrian Academy of Sciences.

The Centre consists of 6 research groups:

Hiring organization

International Centre for Theory of Quantum Technologies

Employment Type

Full-time

Beginning of employment

July 1st, 2023

Duration of employment

6 months (up to 31.12.2023 – possibility of extending the contract for 2 years after passing the evaluation)

Scientific discipline

quantum physics

Base Salary

PLN ~12500 gross (depending on experience)

Date posted

2023-05-12

Application deadline

13.06.2023

Job Location

Jana Bażyńskiego 1A, 80-309, Gdańsk, Poland

- [Multiphoton Quantum Optics for Quantum Information](#) (leader Marek Żukowski);
- [New Quantum Resources](#) (leader Paweł Horodecki);
- [Foundational Underpinnings of Quantum Technologies](#) (leader Ana Belen Sainz);
- [New Quantum Resources and Thermodynamics](#) (leader Michał Horodecki);
- [Quantum Cybersecurity and Communication](#) (leader Marcin Pawłowski);
- [Quantum Open Systems in Relation to Quantum Optics](#) (leader Łukasz Rudnicki).

More information on the scope of ICTQT groups may be found at www.ictqt.ug.edu.pl

Responsibilities

- Active scientific research.
- Presentation and discussion of ideas and results with a diverse audience at the ICTQT and at the external events.
- Participation in mentoring of PhD and Master students.
- Participation in seminars, group meetings, and other activities of scientific exchange.
- Participation in activities organized by the ICTQT.

Qualifications

- PhD degree in physics, mathematics, computer science or philosophy (PhD degree obtained in 2018 or later). Candidates who plan to defend their defense in 2023 are also admitted to the competition.
- The candidate should be interested in quantum open systems, thermodynamics, master equations and related topics.
- Experience in working with cumulant equations and in open quantum systems dynamics in general.
- Some experience in numerical calculation/optimization is welcome.
- Good written and oral communication skills are appreciated.
- The candidate should be committed to working collaboratively within an inclusive and diverse environment.

Job Benefits

- Full time employment in a rapidly developing unit, the International Centre for Theory of Quantum Technologies at the University of Gdansk. The start date of employment is negotiable, the employment period may be extended after an evaluation;
- Scientific and organizational support.
- Basic equipment and core facilities.
- Friendly, inspiring, and interdisciplinary environment, which features close connections to the National Centre for Quantum Information (KCIK) and the Institute for Theoretical Physics and Astrophysics (IFTiA) at UG.

Required documents

All required documents should be prepared in English:

- Recruitment [form](#).
- Curriculum vitae.
- A research resume with a list of publications, and a list of research projects (if any) in which the candidate took part (with specification of the role); PDF files of the three most relevant papers by the candidate (or just web links, in

the case of open access publications); a list of invited talks at conferences and workshops, and a list of academic prizes and awards (if any);

- Motivation letter (including statement of current scientific interests)– up to 2 pages;
- Documents confirming academic degrees (a copy of a PhD diploma or a certificate of obtaining the title or confirmation of the planned date of defense (no later than 3 months from the date of announcement of the competition)). NOTE: Before signing the employment contract, the person selected in the competition requested to submit to the University of Gdańsk the original of the PhD diploma. At the stage of employment, other documents will not be honoured;
- Name and contact details (e-mail addresses) of two senior researchers who may provide reference letters on behalf of the candidate (the candidate is expected to contact the referees and ask them to send reference letters directly to [ictqt-careers\[at\]ug.edu.pl](mailto:ictqt-careers[at]ug.edu.pl). The letters must be sent before the deadline).

Recruitment process

- A postdoctoral position can be offered to candidates who received their PhD degree in 2018 or later. Candidates who plan to defend their defense in 2023 are also admitted to the competition.
- An interview is expected in June 2023.
- ICTQT Selecting Commission (SC) reserves the right to invite for the interview only pre-selected candidates.
- The SC's decision is final and is not subject to appeal.
- The SC reserves the right to close the competition without selecting a candidate.
- The decision will be made by the SC within 1 month from the date of recruitment completion.
- In the event of resignation from accepting the position of the selected candidate, the SC has the right to send the offer to the person placed on the reserve list, and in the absence of such a list, the SC has the right to reconsider the applications submitted to the competition and to indicate a new candidate.

Contacts

Please submit the documents via email to [ictqt-careers\[at\]ug.edu.pl](mailto:ictqt-careers[at]ug.edu.pl),

in the email subject, please include reference code: Postdoc_ICTQT_2023_04

Advert posted on May 12th, 2023.