

JOB OFFER

Position in the project:	Post-doctoral Researcher for the research group Foundational Underpinnings of Quantum Technologies
Scientific discipline:	quantum physics (including foundations of quantum theory, quantum information, quantum computation, categorical quantum mechanics)
Job type (employment contract/stipend):	employment contract
Number of positions offered:	1
Remuneration/stipend amount/month:	gross monthly salary up to 12 500 PLN, depending on experience (based on research resume and publication record)
Position starts on:	01.04.2021, however, the start date is negotiable
Maximum period of contract/stipend agreement:	29 months (full-time employment, subject to periodical evaluations)
Institution:	International Centre for Theory of Quantum Technologies, University of Gdansk, Poland
Project leader:	Marek Żukowski
Project title:	<i>International Centre for Theory of Quantum Technologies (ICTQT)</i> [Project within the International Research Agenda programme of the Foundation for Polish Science]
Project description:	<p><u>About project</u></p> <p>We are looking for an enthusiastic and motivated Post-doctoral Researcher to work in the newly created International Centre for Theory of Quantum Technologies (ICTQT), funded by the Foundation for Polish Science, and hosted by the University of Gdansk. The founders of ICTQT are Marek Zukowski as the director, and Pawel Horodecki as a co-applicant. The Centre's official foreign partner is IQOQI-Vienna of the Austrian Academy of Sciences. Gdansk is the pioneering and leading center of quantum information research in Poland. Gdansk, and the whole Tri-City, is one of the most beautifully located urban areas in Poland, with sandy sea beaches, lakes, and woods in it and the nearby area. It is the birthplace of Polish jazz and rock festivals.</p> <p>The Centre consists of 6 groups: Multiphoton Quantum Optics for Quantum Information (leader Marek Zukowski); New Quantum Resources I (leader Pawel Horodecki); Foundational Underpinnings of Quantum Technologies (leader Ana Belen Sainz); New Quantum Resources II (leader Michał Horodecki); Quantum Cybersecurity and Communication (leader Marcin Pawłowski); Quantum Open Systems (leader Łukasz Rudnicki).</p> <p><u>About the research group</u></p> <p>The group's research program would be tailored at understanding and harnessing nonclassical phenomena from a novel scope, which combines an operational vision with a process-theoretic approach.</p> <p>The specific goals of the group include:</p> <ul style="list-style-type: none"> - Formulating candidate theories that supersede quantum. - Studying causality within and beyond quantum theory. - Characterizing the quantum manifestation of nonclassical phenomena. - Developing resource theories to address quantification. - Identifying current and new forms of nonclassicality as resources for quantum technologies. <p><u>The goal of the post-doctoral researcher will be to tackle foundational and applied problems in quantum theory preferably from a process-theoretical scope.</u></p> <p>More information on the scope of the group may be found at www.fuqt.eu</p> <p><u>Keywords:</u> process theories, resource theories, Bell nonlocality, contextuality, steering, causality, quantum computation.</p>

Key responsibilities include:	<ol style="list-style-type: none"> 1. Active scientific research. 2. Presentation and discussion of ideas and results with a diverse audience at ICTQT and at external events. 3. Participation in mentoring of PhD and Master students. 4. Participation in activities organised by ICTQT. 5. Participation in seminars, group meetings, and other activities of scientific exchange.
Profile of candidates/requirements:	<ol style="list-style-type: none"> 1. PhD degree in physics, mathematics or computer science (PhD degree obtained in 2016 or later). 2. The candidate should be interested in mathematical and conceptual foundations of quantum mechanics and quantum information, and related topics, especially those which are within the research agenda of the group (see www.fuqt.eu) 3. The candidate should be committed to working collaboratively within an inclusive and diverse environment. 4. Some experience in numerical calculation/optimization is welcome. 5. Good written and oral communication skills are appreciated.
Required documents:	<p>All required documents should be prepared in English:</p> <ol style="list-style-type: none"> 1. Filled-in recruitment form 2. Curriculum vitae; 3. 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); 4. Motivation letter (including statement of current scientific interests)– up to 2 pages; 5. Documents confirming scientific degrees (copy of PhD diploma, or equivalent); 6. Name and contact details (e-mail addresses) of two senior researchers who may provide reference letters on behalf of the candidate (<u>the candidate is expected to contact the referees and ask them to send reference letters directly to ictqt@ug.edu.pl. The letters must be sent before the deadline</u>). ICTQT may also contact the referees directly, to request the letters, or to send reminders. <p>General rules of the recruitment process:</p> <ol style="list-style-type: none"> 1. The recruitment procedure has two stages: <ul style="list-style-type: none"> - Pre-selection candidates by the Selection Commission (SC), based on the application form; - Interview of the pre-selected candidates by the SC; 2. A postdoctoral position can be offered to candidates who received their PhD degree in 2016 or later. 3. The interview is expected on January 2021. 4. The SC's decision is final and is not subject to appeal. 5. The SC reserves the right to close the competition without selecting a candidate. 6. The decision will be made by the SC within 3 months from the date of recruitment completion.
We offer:	<ol style="list-style-type: none"> 1. 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; 2. Scientific and organizational support; 3. Basic equipment and core facilities; 4. 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.
Please submit the documents to:	ictqt@ug.edu.pl
Application deadline:	December 29th, 2020
For more details about the position please visit:	https:// www.euraxess.pl/jobs/581365
Euraxess job/stipend offer:	https:// www.euraxess.pl/jobs/581365