

JOB OFFER

Position in the project:	Post-doctoral Researcher
Scientific discipline:	quantum physics
Job type (employment contract/stipend):	employment contract
Number of positions offered:	1
Remuneration/stipend amount/month:	gross monthly salary up to 9 600 gross
Position starts on:	Starting date is negotiable and dependant on epidemiologic situation
Maximum period of contract/stipend agreement:	34 months (full-time employment)
Institution:	International Centre for Theory of Quantum Technologies, University of Gdansk, Poland
Project leader:	Marcin Pawłowski
Project title:	<i>QuantERA</i>
Project description:	<p><u>About project</u></p> <p>Current state-of-the art quantum-assisted cryptography provides safety beyond what can be achieved with current classical technologies. Yet still, its safety is at question when we consider possibilities of quantum hacking or malicious producers of necessary quantum resources. This project aims at overcoming these main limitations by radically shifting current paradigms—by using device independent cryptographic (DIC) architecture. This is on one hand more demanding on experimental resources and theoretical understanding but on the other hand provides qualitative improvement in safety. DIC devices would then be not only safe against exploiting deviations of a real life from theoretical model but they would also have possibility of verification whether using such a device is secure.</p> <p>The broad aim of the <u>Quantum Cybersecurity and Communication group</u> would be to perform research concerning quantum phenomena which could be used for quantum methods for information transfer, coding and processing, aimed towards applied physics and possible commercialization.</p> <p>The goals of the group are:</p> <ul style="list-style-type: none"> - Development of self-testing protocols - Security analysis of information processing protocols - Research towards increasing efficiency and reliability of quantum protocols - Studies of general rules for information processing - Studies on quantum hacking and cryptanalysis to identify possible attacks and ways of preventing them - Investigations of the role of information processing protocols as a tool to analyze the fundamental laws of Nature - Finding experimental, applied physics, and industrial partners and collaborating with them towards building commercial quantum devices, prototypes, or obtaining patents.

	<u>The goal of the post-doctoral researchers will be to use expertise from the field of quantum optics and quantum information in order to advance on the research problems delineated in this description.</u>
Key responsibilities include:	<ol style="list-style-type: none"> 1. Active scientific research. 2. Presentation of project results to internal and external parties. 3. Active procurement of new research grants from external sources. 4. Participation in mentoring of PhD and Master students. 5. Participation in organizational activity of ICTQT. 6. Active involvement in seminars, group meetings etc.
Profile of candidates/requirements:	<ol style="list-style-type: none"> 1. PhD degree in physics, mathematics or computer science. 2. Interest in quantum information and communication. 3. Some experience in collaboration with experimental groups is welcome. 4. Written and oral communication skills. 5. Ability to work effectively with people from diverse cultural backgrounds.
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. 2. Scientific and organizational support. 3. Basic equipment and core facilities. 4. Friendly, inspiring, interdisciplinary environment.
Required documents:	<ol style="list-style-type: none"> 1. Curriculum vitae; 2. A research resume with a list of publications, and a list of research projects (esp. those in which the candidate was the principal investigator); PDF files of three most important 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; 3. Motivation letter (including statement of current scientific interests)– up to 2 pages; 4. Documents confirming scientific degrees (copy of PhD diploma, or equivalent); 5. Name and contact details (e-mail addresses) to two senior researchers who may provide reference for the candidate (the candidate is expected to contact the referees and ask them to send reference letters directly to marcin.pawlowski@ug.edu.pl. The letters must be sent before the deadline.). ICTQT may also contact the referees directly, to request the letters, or to send reminders.
General rules of the recruitment process:	<ol style="list-style-type: none"> 1. An interview is expected. 2. ICTQT Selecting Commission (SC) reserves the right to invite for the interview only pre-selected candidates. 3. SC's decision is final and is not subject to appeal. 4. SC reserves the right to close the competition without selecting a candidate. 5. The decision will be made by SC within 3 months from the date of recruitment completion.
Please submit the documents to:	marcin.pawlowski@ug.edu.pl
Application deadline:	16.06.2020 the deadline extended until 31.07.2020
For more details about the position please visit:	https://euraxess.ec.europa.eu/jobs/523250