



Stipend Offer

Position in the project:	Stypendysta
Scientific discipline:	quantum information
Scholarship	Scholarship
Number of positions offered:	3
Remuneration/stipend amount/month:	Gross stipend amount 3300PLN per month
Position starts on:	01.04.2021
Maximum period of contract/stipend agreement:	23 months (can be extended).
Institution:	International Centre for Theory of Quantum Technologies, University of Gdansk, Poland
Project leader:	Łukasz Rudnicki
Project title:	Application-ready superresolution in space and frequency (in Polish: Kwantowa super-rozdzielczość w pomiarach przestrzennych i częstotliwościowych)
Funding:	QuantERA ERA-NET Cofund in Quantum Technologies QuantERA is a network of 32 organisations from 27 countries, coordinated by the National Science Centre, Poland, supporting international research projects in the field of Quantum Technologies (QT). QuantERA answers the growing need for collaborative endeavours and common funding scheme within QT research, which due to its highly interdisciplinary nature cannot be confined to an individual institution or state. Through coordination of national and regional research funding programmes QuantERA avoids the problem of fragmentation of national efforts, encouraging transnational collaborations and leveraging Europe's competitive advantage. Join call for proposals for international research groups operating in QuantERA partner countries will become the first step to further integration.
Project description:	<u>About the "Application-ready superresolution in space and frequency" project</u> For the resolution of two sub-Rayleigh sources, such as stars or microscopic fluorophores, novel methods have very recently been theoretically and experimentally shown to outperform direct imaging, reaching the true quantum limits. Further efforts to generalize the theory for arbitrary sources suggest that, despite the existence of harsh quantum limits, the quantum-inspired methods can still offer significant improvements over direct imaging, potentially rendering more applications in astronomy, as well as in fluorescence microscopy. Such protocols for quantum-enhanced parameter estimation can also be applied to measure time or frequency with very high accuracy. <u>Keywords:</u> quantum metrology, superresolution, quantum optics, quantum information.
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 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. candidate's scientific achievements, including publication record2. awards and scientific experience gained outside the home scientific unit in the country or abroad, research workshops and training, participation in research projects3. competence to perform specific tasks in the research project



We offer:	<ol style="list-style-type: none">1. Work in a rapidly developing unit, the International Centre for Theory of Quantum Technologies at the University of Gdansk.2. Scientific and organizational support.3. Basic equipment and core facilities.4. Friendly, inspiring, interdisciplinary environment, including “entanglement” with National Centre for Quantum Information (KCIK) and Institute for Theoretical Physics and Astrophysics (IFTiA) at UG.
Required documents:	<ol style="list-style-type: none">1. Curriculum vitae;2. Documents confirming qualifications;
General rules of the recruitment process:	<p>An interview is expected. ICTQT Selecting Commission (SC) reserves the right to invite for the interview only pre-selected candidates. SC’s decision is final and is not subject to appeal. SC reserves the right to close the competition without selecting a candidate. The decision will be made by SC within 2 weeks from the date of recruitment completion.</p> <p>Detailed rules for the grant are available in the terms of the NCN grant. Document Link: https://www.ncn.gov.pl/sites/default/files/pliki/uchwaly-rady/2016/uchwala96_2016-zal1.pdf</p>
Please submit the documents to:	ictqt@ug.edu.pl
Application deadline:	10.03.2021