

We are looking for an enthusiastic and motivated Postdoctoral Researcher to join the Institute of Theoretical Physics and Astrophysics at the University of Gdańsk. The position is part of the project “Exploring Non-Classical Correlations with Randomized Measurements: A Modern and Unified Approach to Revealing Non-Classical Correlations Without Reference Frames”, funded by the National Science Centre in Poland.

About the project

Randomised measurements provide a powerful toolbox for revealing non-trivial properties of quantum states in the absence of reference frames. They have already been used to witness quantum entanglement, Bell non-locality, and many-body topological invariants, among others. Our aim is to further extend this applicability and provide necessary and sufficient conditions that determine the capabilities of randomized measurements. We will achieve this systematically by covering the fields of Bell inequalities, quantum steering, and quantum entanglement.

See <https://doi.org/10.1016/j.physrep.2024.09.009> for more information on the topic.

Responsibilities

1. Conduct active scientific research.
2. Participate in the mentoring of PhD and MSc students.

Qualifications

1. PhD degree in physics, mathematics, or computer science.
2. Interest in quantum information and the foundations of quantum mechanics.
3. Programming skills (Mathematica, MATLAB, Julia, Python, etc.).

Job Benefits

1. Full-time employment for up to 24 months, with a salary of approximately 8,200 PLN gross per month.
2. Funding for participation in conferences and research visits.
3. Scientific and organizational support.
4. Social benefits.
5. A friendly, inspiring, and interdisciplinary environment with close connections to the International Centre for Theory of Quantum Technologies (ICTQT) at UG.

Required Documents

1. Curriculum vitae, including a research summary: a list of publications, research projects (especially those in which the candidate was the principal investigator), conference presentations, etc.
2. Motivation letter (including a statement of current scientific interests, up to one page).
3. Copy of PhD diploma or equivalent document confirming the scientific degree.
4. Contact details of two senior researchers who may provide references (including email addresses).

Application Submission: Please submit the required documents via email to wieslaw.laskowski@ug.edu.pl

Deadline: April 30th, 2025, 00:00