

## JOB OFFER

Position in the project:	<b>PhD Student</b>
Scientific discipline:	Physics/mathematical physics
Job type (employment contract/stipend):	scholarship
Number of positions offered:	1
Remuneration/stipend amount/month:	scholarship ~3900PLN net/month for 48 months
Position starts on:	<b>Starting date: 01.10.2021</b>
Maximum period of contract/stipend agreement:	48 months
Institution:	<b>Faculty of Mathematics, Physics and Informatics University of Gdańsk, Poland</b>
Project leader:	<b>Michał Studziński, Michał Horodecki</b>
Project title:	Sonata 16 (Symmetries and Entanglement in Quantum Circuits)
Project description:	In the project, we plan to focus on developments in port-based teleportation protocols and studying and designing new protocols for reversing unknown quantum transformations. In both cases, we plan to develop and analyze new applications in quantum information science (new simpler models of universal programmable quantum processors, theoretical limitations of the usefulness of quantum computers, and limitations of quantum mechanics in this area in general). From the technical point of view research objectives strongly relies on methods coming from groups and algebras representation theory, quantum combs formalism, and semidefinite programming.
Key responsibilities include:	<ol style="list-style-type: none"> <li>1. Active scientific research.</li> <li>2. Presentation of project results to internal and external parties.</li> <li>3. Participation in organizational activity</li> <li>4. Active involvement in seminars, group meetings etc.</li> </ol>
Profile of candidates/requirements:	<ol style="list-style-type: none"> <li>1. MSc degree or equivalent in physics, computers science or mathematics.</li> <li>2. Interest in mathematical and conceptual foundations of quantum mechanics and quantum information, and related topics, especially those which are within the research agenda of the project.</li> <li>3. At least basic knowledge of quantum information theory.</li> <li>4. Interest in the subject and motivation to scientific work.</li> </ol>
We offer:	<ol style="list-style-type: none"> <li>1. Full-time scholarship</li> <li>2. Scientific and organizational support.</li> <li>3. Basic equipment and core facilities.</li> <li>4. Friendly, inspiring, interdisciplinary environment.</li> </ol>
Required documents:	<ol style="list-style-type: none"> <li>1. curriculum vitae;</li> <li>2. a research resume with a list of research projects in which the candidate took part (with specification of the role); PDF files of publications (if there are any); A list of talks at conferences and workshops, and a list of prizes and awards;</li> <li>3. motivation letter (including statement of current scientific interests)- up to 2 pages;</li> <li>4. documents confirming scientific degrees (copy of diploma thesis);</li> </ol>

	<p>5. name and contact details (e-mail addresses) to two senior researchers who may provide reference for the candidate (<u>the candidate is expected to contact the referees and ask them to send reference letters directly to <a href="mailto:michal.studzinski@ug.edu.pl">michal.studzinski@ug.edu.pl</a>. The letters must be sent before the deadline</u>). We may also contact the referees directly, to request the letters, or to send reminders.</p>
General rules of the recruitment process:	<ol style="list-style-type: none"> <li>1. The recruitment procedure has two stages: <ul style="list-style-type: none"> <li>○ Interview of pre-selected candidates by the Selection Commission;</li> <li>○ Formal exam in physics, computer science, or mathematics (physics exam – September, 2021). The exam is obligatory for those only who are not already doctoral students at Polish universities in those disciplines.</li> </ul> </li> <li>2. The decision will be made by Selecting Commission (SC) within 1 months from the date of recruitment completion.</li> <li>3. SC reserves the right to invite for the interview only pre-selected candidates.</li> <li>4. SC's decision is final and is not subject to appeal.</li> <li>5. SC reserves the right to close the competition without selecting the candidate.</li> </ol>
Please submit the documents to:	<p><b><a href="mailto:michal.studzinski@ug.edu.pl">michal.studzinski@ug.edu.pl</a></b> Please write in the title of the email: "PhD student position - Sonata 16"</p>
Application deadline:	<b>28.07.2021</b>
Additional informations:	In the case of any further questions please contact to: Michał Studziński ( <a href="mailto:michal.studzinski@ug.edu.pl">michal.studzinski@ug.edu.pl</a> )