

PhD position in Doctoral School Geoplanet

Position in the project:	Phd-student
Scientific discipline:	Theoretical Physics
Job type (employment contract/stipend):	scholarship
Number of job offers:	1
Position starts on:	01.12.2019 (precise starting date flexible)
Maximum period of contract/stipend agreement:	4 years
Institution:	Center for Theoretical Physics, Polish Academy of Sciences
Project leader:	Prof. dr hab. Marek Kuś / Group leader dr Michał Oszmaniec
Project title:	Near-term quantum computers: challenges, optimal implementations and applications
Project description:	<p>Quantum computers promise savings in time and effort necessary to perform certain computational tasks, which themselves are of great practical relevance for many branches of science and industry. Building a working quantum computer is a notoriously difficult task due to the destructive influence of noise and decoherence affecting large-scale quantum systems. Therefore, one expects that in the near future only devices consisting of a limited number of imperfect qubits (basic units of quantum computers) will be available. Our project aims to characterize the computational power and to investigate possible practical applications of such devices. To realize these ambitious goals, we will form a network of closely collaborating research groups working on cutting-edge aspects of quantum computing: quantum machine learning, control of quantum systems, quantum error-correction and identification resources responsible for quantum speedup.</p>
Key responsibilities include:	<ol style="list-style-type: none">1. Conducting research2. Writing scientific papers.3. Preparation of PhD dissertation4. Participation in scientific conferences
Profile of candidates/requirements:	<ol style="list-style-type: none">1. Master degree in physics, mathematics or computer science.2. Interest in the practical and mathematical aspects of quantum computing3. At least basic knowledge in the field of quantum information theory and quantum computing

	<p>4. Optionally (not all skills are required at the same time):</p> <ol style="list-style-type: none"> a. programming experience (C ++, Python or Matlab), b. experience in programming on quantum computers (Qiskit, Forest) c. basic knowledge of mathematical physics (e.g. representation theory of Lie groups and Lie algebras, operator theory) <p>Additional advantage will be the confirmation of above by authorship or co-authorship of publications from the above-mentioned fields;</p>
<p>Required documents:</p>	<ol style="list-style-type: none"> 1. Curriculum vitae; 2. Transcript of academic grades from bachelor and master studies. 3. Certified copy of university diploma or the certificate of graduation. If a candidate is not in possession of the abovementioned documents, they are obliged to submit them before being enrolled in a doctoral school. 4. Motivation letter 5. Research record with a list of publications, and list of research projects; PDF files of the most important paper of the candidates; a list of talks at conferences and workshops, and a list of academic prizes and awards; 6. Certificates or other documents confirming the level of English language skills, if applicable. 7. Names and contact details (e-mail addresses) of at least one senior researcher who may act as reference for the candidate (The candidate is expected to contact the reference and ask them to email reference letter to rekrutacja@cft.edu.pl. The letter must be sent before the deadline.). 8. Application for enrolment in the doctoral school together with the consent for the processing of personal data for the purposes of the recruitment process and the confirmation of having read the present rules and regulations. Application template can be found in Attachment 1 hereto.
<p>Please submit the following documents to:</p>	<p>Submit by email to email address: rekrutacja@cft.edu.pl</p> <p>Please write in the title of the email “NTQC phd-student”</p>
<p>Application deadline:</p>	<p>12:00 CEST 5.12.2019</p>
<p>For more details about the position please visit (website/webpage address):</p>	<p>Selection committee reserves the right to invite for the interviews only preselected candidates. The interviews will be held in the first half of December (the confirmation will be sent to the prospect candidates</p>

shortly after the application deadline).

According to Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016, we also require that by applying, a candidate expresses his/her consent to the processing by the Center for Theoretical Physicists, Polish Academy of Sciences of his/her personal data needed for the recruitment process.

The information obligation for the employee pursuant to Article 13 of the Collective Labour Agreement*:

Information clause in the process of recruitment for studies:

In accordance with Article 13 of Regulation (EU) No. 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data - General Data Protection Regulation (OJ EU L 119/1 of 4 May 2016) informs that:

1) The Administrator, i.e. the entity deciding how your personal data will be used, is the Centre for Theoretical Physics of the Polish Academy of Sciences represented by the Director with its registered office in Warsaw, Al. Lotników 32/46. You can contact the Administrator using one of the forms of contact available on the website: <http://www.cft.edu.pl/>

2) The Director of the Centre for Theoretical Physics of the Polish Academy of Sciences has appointed a Data Protection Inspector (DPO) to whom you may contact in matters concerning your personal data. You can contact the DPO by sending an e-mail to: iod@cft.edu.pl

3) Your personal data will be processed in order to conduct the recruitment process for the studies;

4) The basis for processing your personal data are the provisions of the Law Act.

on Higher Education and Science (consolidated text: Journal of Laws of 2018, item 1668);

5. your personal data will be processed for a period of 6 months after the completion of the recruitment process, and in the case of admission to university in accordance with the course of study, and then will be archived in accordance with the applicable regulations.

6. Your personal data will not be made available to other entities, with the exception of entities authorized under the law. Access to your data will be granted to employees and members of university recruitment committees authorized by the administrator;

7. Providing personal data by you is mandatory, if not provided you will not be able to participate in the recruitment process;

8. You have the right to access the content of your data and the right to rectify them, limit their processing;

9. you have the right to lodge a complaint with the President of the Office for the Protection of Personal Data if you believe that the processing of your personal data violates the provisions of the general regulation on data protection.

I agree to the processing of my personal data by CFT PAN, in order to ensure the conditions for full participation in the recruitment process for studies. I provide personal data voluntarily and declare that they are true. I have familiarized myself with the content of the information clause, including information about the purpose and methods of processing personal data and the right of access to the content of their data and the right to correct them.

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Date, signature of applicant