JOB OFFER

Position in the project:	Post-doc / Quantum Software Engineer
Scientific discipline:	Computer science / Physics / Mathematics
Job type (employment contract/stipend):	Full time employment contract
Number of job offers:	1
Remuneration/stipend amount/month *("X0 000 PLN of full remuneration cost, i.e., expected net salary at X 000 PLN")*:	15000 PLN Full renumeration costs. Expected **net salary** 10000 PLN (2300 Euro)
Position starts on:	01.07.2021 (starting date is flexible)
Maximum period of contract	2.5
Institution:	Center for Theoretical Physics, Polish Academy of Sciences
Project leader:	Dr hab. Michał Oszmaniec
Project title:	National Supercomputing Infrastructure for EuroHPC - EuroHPC PL
Project description:	The main goal of the project is to develop comprehensive library for characterization, certification, and error-mitigation of for near-term quantum computers (including prototypes of IBM quantum computers). We will design modules for effective characterization and mitigation of errors on these devices. We will use the latest scientific research in the field of quantum computing while being compatible with the Qiskit environment (in particular, Qisqit Terra and Ignis). The performance of obtained methods will be tested on paradigmatic quantum algorithms and quantum tasks carried out on

	real-life quantum hardware. This project is a part of a larger initiative aiming at providing access to quantum computers to the industry and scientific community in Poland. The resource-efficient characterization and error mitigation schemes will allow the use of the full potential of noisy and imperfect quantum computers both for research purposes and for potential practical applications such as quantum chemistry or combinatorial optimization problems.
Key responsibilities include:	• Conducting surveys of currently available methods of characterization and error mitigation on NISQ devices • Developing software for quantum characterization and error-mitigation on NISQ devices • Developing visualization packages for error mitigation and characterization • Designing proof-of-principle experiments for testing of the developed software • Preparation of progress reports and documentation for the project • Integration with Qiskit and other quantum programing environments
Profile of candidates/requirements:	• PhD (at the moment of starting of the position) in quantum information, quantum computation, mathematics, computer science or related fields • Strong publication/ project record in relevant discipline • Familiarity with basics of quantum computing, especially with the NISQ paradigm, basics of open quantum systems, generalized quantum measurements • Familiarity with basics of open quantum systems i.e. • Flexibility to work across different aspects of quantum software and underpinning theory • Programming experience (C ++, Python or Matlab), • Experience with quantum software development environments (e.g., Cirq, Qiskit, Forest)
Required documents:	• Curriculum vitae. • Research record with a list of publications, R&D and research and programming projects. • PDF files of up to five most important papers of the candidates; a list of talks at conferences and workshops, and a list of academic prizes and awards. • Motivation letter. • Name 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 *oszmaniec@cft.edu.pl*. The letter must be sent before the deadline.).
We offer:	• Full-time employment for the period of one year with the possible further extensions (maximally for the period of up to 2.5 years). • Working in the friendly and energetic environment of passionates of quantum computing (website of the group: www.quantin.pl) • Access to quantum hardware
Please submit the following documents to:	Submit to email address: **oszmaniec@cft.edu.pl** Please write in the title of the email "NTQC Software Engineer"
Application deadline:	12:00 CEST **10.06.2021**
	An interview is expected. Selection committee reserves the right to invite for the interviews only preselected candidates.
Euraxess job offer	

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 Centre for Theoretical {Physics, Polish Academy of Sciences of his/her personal data needed for the recruitment process.