

**Director of Institute of Theoretical and Applied Informatics,
Polish Academy of Sciences announces open competition for
PhD student positions in Quantum Systems of Informatics Group
(three positions)**

INSTITUTION: Institute of Theoretical and Applied Informatics, PAS

CITY: Gliwice

COUNTRY: Poland

POSITION: PhD student scholarship (in polish stypendium)

DISCIPLINE: informatics

POSTED: 27.08.2019

DOCUMENTS SUBMISSION DEADLINE: 30.09.2019 15.00

URL: www.iitis.pl

KEYWORDS: quantum information; quantum machine learning; control of quantum systems;
quantum error-correction; quantum speedup.

DESCRIPTION:

Project title:

Near-term quantum computers: challenges, optimal implementations and applications

Project is carried out within the Team-Net programme of the Foundation for Polish Science

Project description:

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.

Project leader:

Prof. dr hab. Marek Kuś / Group leader dr hab. Zbigniew Puchała

Requirements:

- having a status of a PhD student on the date of 1st November 2019;
- good knowledge of the subjects:
 - quantum information theory,
 - numerical calculations,
 - classical probability theory;

- knowledge of:
 - Julia,
 - Python;
- good team-working skills;
- good spoken and written English.
- additional advantages will be the confirmation of above by authorship or co-authorship of publications from the above-mentioned fields.

List of required documents:

- Curriculum Vitae (containing **email address** to which recruitment results will be sent);
- Declaration of participation in PhD studies at the date of 1 November 2019.
 - Certificate confirming status of a PhD student should be delivered before 1 November 2019.
- research record with a list of publications, and list of research projects;
- copies of the most important paper of the candidates;
- a list of talks at conferences and workshops,
- a list of academic prizes and awards;
- 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 **office@iitis.pl**; the letter must be sent before the deadline.
- additional documents (or copies) verifying qualifications.

Scholarship applications have to be submitted personally or by mail to Secretary of Institute of Theoretical and Applied Informatics, PAS to the address:

Instytut Informatyki Teoretycznej i Stosowanej PAN,
ul. Bałtycka 5,
44-100, Gliwice, Poland.

On the envelope it should be written: "**NTQC phd-student**". The deadline for submitting applications expires on **30.09.2019** (date of receipt).

An interview is expected. Selection committee reserves the right to invite for the interviews only preselected candidates. The interviews will be held in the first week of October (the confirmation will be sent to the prospect candidates shortly after the application deadline).

We offer scholarships from 1 November 2019 till 30 June 2023 (44 months), subject to periodical evaluations. Scientific and organizational support; Basic equipment and core facilities.

RENUMERATION: 3800 PLN scholarship (850 EUR), additionally the 3800 PLN (850 EUR) budget is reserved for PhD student development costs, which can be used to cover conference fees, travel, summer schools etc.

The competition is organized under the project carried out within the Team-Net programme of the Foundation for Polish Science, and is subject to “Team-Net competition regulations”.

The decision of the Selection Committee will be announced on the webpage of IITiS PAN (www.iitis.pl) and through emails to candidates. The decision of Selection Committee is subject to appeal within 7 days from its announcement.

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 Institute of Theoretical and Applied Informatics, Polish Academy of Sciences of his/her personal data needed for the recruitment process.