

## **Researcher in Quantum Computing**

**Closing date: 30<sup>th</sup> of September**

The Cyprus Institute (Cyl) is a European non-profit science and technology oriented Educational and Research Institution based in Cyprus and led by an acclaimed Board of Trustees. The research agenda of the Cyl are pursued at its four Research Centers: the Computation-based Science and Technology Research Center (CaSToRC), the Science and Technology in Archaeology and Culture Research Center (STARC), the Energy Environment Water Research Center (EEWRC) and the Climate and Atmospheric Research Center (CARE-C). Considerable cross-center interaction is a characteristic of the Institute's culture.

CaSToRC is seeking to recruit a researcher in Quantum Computing, to contribute in the research activities of the recently approved project with title "Future-proofing Scientific Applications for the Supercomputers of Tomorrow". The research activities foresee investigating quantum speed-ups for statistical systems relevant in fundamental physics and implementing novel algorithms suitable for quantum computers.

The successful candidate will contribute to the research activities of the Cyprus Institute computational sciences group with focus in forward-looking applications. The group includes researchers in algorithmic and code development for various computer architectures and large-scale simulations of Quantum Field Theories. CaSToRC has established several strategic partnerships for the development of its research program, including with the National Center for Supercomputing Applications of the University of Illinois at Urbana Champaign, as well as with the Jülich Supercomputing Centre of the Research Center Jülich.

The position provides opportunities for exchanges, including the collaborating Quantum Computing group at DESY-Zeuthen.

The position will be in the rank of post-doctoral fellow or Associate Research Scientist, depending on candidate's qualifications, for a fixed term period, renewable depending on performance and availability of funds. The annual salary will depend on the applicants' experience and qualifications.

### **Responsibilities**

The successful candidate(s), will participate in the research activities of the fundamental physics group at CaSToRC, and in particular will carry out the following activities:

1. Investigating quantum speed-ups for statistical systems relevant in fundamental physics
2. Implementation of novel algorithms suitable for quantum computers
3. Publishing and communicating research findings

### **Required Qualifications**

- PhD in theoretical physics with expertise in Quantum Computing and Quantum Field Theories
- Academic track record (publications, presentations at international conferences)
- Excellent knowledge of oral and written English.

### **Preferred knowledge**

- Knowledge of programming languages, such as C, C++, or Fortran
- Knowledge of Quantum Computing fundamentals

- Experience with Lattice Gauge Theories
- Mathematical algorithms

**Application**

For full consideration, interested applicants should process their application at The Cyprus Institute JobBoard (<http://jobboard.cyi.ac.cy/>) based on the instructions given. Applicants should submit a curriculum vitae including a letter of interest and a list of three references (including contact information) (all documentation should be in English and in PDF Format). For further information, please contact Dr Giannis Koutsou ([g.koutsou@cyi.ac.cy](mailto:g.koutsou@cyi.ac.cy)). Please note that applications which do not follow the announcement's guidelines will not be considered.

Recruitment will continue until the position is filled.

**Ref. no.:** CaSToRC\_RQC\_19\_08

**Contact Person:** Dr Giannis Koutsou