

Assistant Professor in Quantum Computing (ref. no. CYI_ASP_23_03)**Closing Date: 31/05/2023**

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 is pursued at its five Research Centres: The Computation-based Science and Technology Research Centre (CaSToRC), the Science and Technology in Archaeology and Culture Research Centre (STARC), the Energy Environment Water Research Centre (EEWRC), the Climate and Atmosphere Research Centre (CARE-C), and the Science and Technology Driven Policy and Innovation Research Centre (STeDI-RC). Considerable cross-centre interaction is a characteristic of the Institute's culture.

Amongst other research areas, CaSToRC pursues research in Quantum Computing, a promising new computing methodology that is pursued by computational centres worldwide. It is envisaged that Quantum Computing will add a new component to High Performance Computing, solving problems that are classically very hard or even impossible to address or lead to more efficient solutions than otherwise possible with current supercomputers and HPC algorithms. This will be of benefit to all research fields in computational science. This includes research fields in fundamental science but also in pharmaceutical and medical research in particular drug design, optimization problems in engineering including the energy sector, large scale machine learning applications, and cybersecurity aligning with the missions of the institute within the context of the Resilience Plan of the government.

The Cyprus Institute is seeking to recruit a highly qualified outstanding scientist, at the position of a tenure track Assistant Professor, with a background in quantum computing to strengthen and complement the Institute. As this position is under the ERA Chair funded project (QUEST), the initial contract will be fixed-term until the end of that project (31/12/2027). The initial contract may be renewed until the end of the tenure-track process which is typically of seven years (for approximately an additional 2 years following the completion of the project), subject to performance (based on the Institute's faculty evaluation processes for the tenure process), availability of funds, and organizational requirements at the time of renewal. Following the completion of the successful formal evaluation for promotion and tenure, the candidate will be granted tenure based on the Institute's policies and procedures. The successful candidate is expected to contribute to and extend with their expertise the research activities of the recently EU funded.

As a faculty member of the Cyprus Institute, the selected applicant is intended to enhance the competencies of the Institute in the area of Quantum Computing. S/he will implement and advance the research agenda of the Institute and CaSToRC in close collaboration with faculty, research staff and the leadership of Cyl. An aptitude and/or experience in mentoring and teaching doctoral and Master's students is necessary as the successful candidate will be expected to actively contribute to the Institute's graduate program. The candidate will work in Cyprus and will be offered a tenure-track position and an attractive salary and benefits package depending on the level of experience. be offered, which is commensurate with the level of experience of the successful candidate.

ERA Chair QUEST (Quantum computing for Excellence in Science and Technology) project

QUEST aims to create a research group in Quantum Computing with the ERA chair holder Prof. Karl Jansen and other members of his team. The candidate is also expected to develop research projects and build his/her own group in this field strengthening collaborations with the corresponding group at the Center for Quantum Technology and Applications (CQTA), DESY-Zeuthen in Germany.

The goal is to allow Cyprus to take advantage of opportunities in Quantum Computing at the European level, such as by the EuroHPC Joint Undertaking and the quantum technologies flagship program, which are presently not being fully exploited. The appointment will be on a full-time basis at the Assistant professorship level. An internationally competitive remuneration package will be offered, according to the level of experience of the successful candidate.

Particularly for the project, the faculty member will be expected to:

1. Developing Quantum computing algorithms and methods
2. Benchmarking of quantum computing hardware
3. Developing applications to optimization problems and theoretical models
4. Supervising Ph.D. students and Postdocs
5. Supporting the ERA Chair and the Principal Investigator in the scientific and organizational work

Responsibilities/activities to be involved in:

The new faculty member will contribute in shaping the Institute's research agenda by:

1. Developing and implementing strategies appropriate to the Institute's mission.
2. Developing and expanding the Institute's research, innovation and educational activities;
3. Developing a world-class research program in the area of Quantum Computing;
4. Assisting in building a transdisciplinary research environment and collaborations with other research areas where the aforementioned fields are applicable;
5. Securing financial and other resources from national and international sources;
6. Initiating and sustaining high-level collaborative projects with leading research institutions that conduct research in areas related to his/her respective fields;
7. Contributing to the development and implementation of facilities appropriate to the research of The Cyprus Institute;
8. Communicating the results and implications of research conducted in CaSToRC and The Institute at all levels, including academic, popular, and policy-related.

Required Qualifications

1. PhD in Quantum Information, physics, mathematics, computer science, electrical engineering or equivalent areas is required
2. Strong academic record
3. Experience in quantum information science, quantum algorithms and quantum computing
4. Proven research record of international standing
5. Strong publication record in the general area of quantum computing
6. At least three years of relevant experience following PhD degree completion
7. Excellent knowledge of quantum computing algorithms and devices
8. Proficiency in spoken and written English
9. Excellent interpersonal and management skills

Preferred Qualifications

- Knowledge of programming languages, such as C, C++, Julia or Python
- Knowledge of Qiskit, PennyLane or similar programming languages

Application

For full consideration, interested applicants should process their application at The Cyprus Institute Exelsys Platform (<https://bit.ly/3HDLRTw>) based on the instructions given. Applicants should submit a curriculum vitae including a short letter of interest, [list of publications] and a list of three (3) referees

(including contact information) (all documentation should be in English and in PDF Format). For further information, please contact Ms Christiana Melodias (head.hr@cyi.ac.cy). Please note that applications which do not fulfill the required qualifications and do not follow the announcement's guidelines will not be considered.

Recruitment will continue until the position is filled.

The Cyprus Institute is an Equal Opportunities Employer certified from the Cypriot Ministry of Labor and also an HRS4R accredited Institution that adheres to the European Commission's "Charter & Code" principles for recruitment and selection.

Contact person: Christiana Melodias

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