



KIOS RESEARCH AND INNOVATION CENTER OF EXCELLENCE
UNIVERSITY OF CYPRUS

ERC Synergy Grant PhD Student Scholarship

Title : PhD Student
No. of Positions : One (1) position
Location : University of Cyprus, Nicosia, Cyprus.

The KIOS Research and Innovation Center of Excellence (www.kios.ucy.ac.cy) at the University of Cyprus (<https://www.ucy.ac.cy>) announces one full-time PhD Student Scholarship. The KIOS CoE operates within the University of Cyprus, in collaboration with Imperial College London.

The successful candidate will have the opportunity to conduct research at the state-of-the-art KIOS CoE facilities, with **Prof. Marios Polycarpou** towards the goals of the flagship **ERC Synergy Grant** entitled **Water-Futures: Designing the Next Generation of Urban Drinking Water Systems** (<https://waterfutures.eu>), funded by the European Research Council (ERC).

The enrolled student will conduct research in the application area of **smart water systems**, using tools from applied mathematics, optimization, machine learning, systems and control. Motivated candidates with strong mathematical and/or algorithm development backgrounds are especially encouraged to apply.

The selected student will be enrolled in either the Electrical Engineering or the Computer Engineering PhD program of the Department of Electrical and Computer Engineering (ECE) at the University of Cyprus. The ECE Department conducts top-quality research at an international level, offering up-to-date academic programs in multiple areas of research.

KIOS Research and Innovation Center of Excellence (<https://www.kios.ucy.ac.cy/>)

The KIOS Research and Innovation Center of Excellence is the largest research center at the University of Cyprus. Currently, the Center employs more than 180 people, who are supported by externally funded research and innovation projects. KIOS provides an inspiring environment for carrying out top-level research in the area of Information and Communication Technologies, with emphasis on the Monitoring, Control and Security of Critical Infrastructure Systems. The Center instigates interdisciplinary interaction and promotes collaboration between industry, academia and research organizations in high-tech areas of global importance. The KIOS CoE operates in a diverse environment as an equal opportunities' employer.

ERC Synergy Grant Water-Futures (<https://waterfutures.eu>)

The world population living in urban areas is expected to increase to 70% by 2050. Historically, as cities grew, new water infrastructures followed as needed. However, these developments had less to do with real planning than with reacting to crisis situations and urgent needs, due to the inability of urban water planners to consider long-term, deeply uncertain and ambiguous factors affecting urban development and water demand. These, coupled with increasing



uncertain climate conditions, indicate the need for a more holistic and intelligent decision-making framework for managing water infrastructures in the cities of the future.

This project aims to develop a new theoretical framework for the allocation and development decisions on drinking water infrastructure systems, so that they are socially equitable, economically efficient and environmentally resilient, as advocated by the UN Agenda 2030, Sustainable Development Goals. The framework will integrate real-time monitoring and control with long-term robustness and flexibility-based pathway methods, and incorporate economic, social, ethical and environmental considerations for sustainable transitioning of urban water systems under deep uncertainty with multiple possible futures. Specifically, we focus on the theory and application of monitoring and control in urban water distribution systems, while considering their evolution in time, unpredictable events such as contamination, device faults and failures, as well as the evolution of risk in the system and the presence of humans-in-the-loop.

Job details:

Short Description – Duties and Responsibilities:

The successful candidate will have the opportunity to conduct fundamental and/or applied research in the area of Information and Communication Technologies, with emphasis on the Monitoring, Control and Security of Smart Water Systems. The successful candidate is expected to publish his/her research results in high-impact international conferences and journals.

Profile of the ideal candidate:

The ideal candidate must be able to work independently and/or in a team in fundamental and/or applied research. The ideal candidate must be able to produce, publish, and present research results in high-quality conferences and journals, attend academic and/or other conferences and seminars for further personal and professional development, present periodically to KIOS personnel the progress of their research, and assist in the education, and dissemination activities of the KIOS CoE.

Qualifications and Experience:

- Bachelor's or Master's in Engineering, Computer Science, Applied Mathematics
- Previous research experience will be considered an advantage.
- Very good knowledge of the English language. Proficiency in English can be demonstrated through one of the following:
 - GCSE: at least C-grade
 - IELTS Academic: a minimum total score of 6.5
 - Test of English as a foreign language (ETS TOEFL®): a minimum score of 550 (paper-based), 213 (computer-based) or 80 (internet-based)



University
of Cyprus



Scholarship Terms:

The scholarship offered by the KIOS CoE will be for one year and may be renewed annually, based on performance, for 3-5 years. It includes the University tuition fees and a gross monthly salary starting at €1250. From this amount, employee contributions to the Cyprus government funds will be deducted. The 13th salary bonus is incorporated in the monthly salary. Maternity leave will be granted based on Maternity Protection Law 1997(N.100(I)/1997), and the existing amendment laws.

Application:

Interested candidates should submit the following items online through the link:
<https://applications.ucy.ac.cy/recruitment>.

- i. Cover letter that specifies the research area of interest and availability date.
- ii. A statement with short description of academic and research experiences as well as the reasons for applying for the specific scholarship (can be combined with the cover letter) (1-page maximum).
- iii. A detailed curriculum vitae in English.
- iv. Copies of official BSc/MSc degree(s) as well as copies of official transcripts for each degree (if the original language of the degree/transcript is not Greek or English, copies of official translations are also required).
- v. Copy of English language certificate.
- vi. Contact details of two (2) University Professors who can provide reference letters.

The University of Cyprus shall collect and process the candidates' personal data according to the provisions of the General Regulation on Personal Data 2016/679 (EU).

The University of Cyprus (UCY) is committed to promoting inclusivity, diversity, and equality, as well as the elimination of all forms of discrimination in order to provide a fair, safe, and pleasant environment for the entire university community, where students and staff members will feel supported both in their professional and personal development, within and beyond their multiple identities. To this end, UCY seeks to create the necessary conditions that will encourage and respect diversity and ensure dignity both in the workplace and society at large. Moreover, UCY has adopted specific policies to promote equal opportunities, as well as respect and understanding of diversity, while it is committed to promoting and maintaining a working, teaching, and learning environment, free from any form of discrimination, whether direct or indirect.

The applications should be submitted as soon as possible, but not later than **Friday, 27th October 2023, at 5 pm**. The evaluation of the applications will begin immediately after receipt. Top candidates may be funded (travel and accommodation expenses) for an on-site interview at UCY.

For more information, please contact Prof. Marios Polycarpou (mpolycar@ucy.ac.cy), or the KIOS Center of Excellence, by phone at +357 22893460 or via e-mail at kioshiring@ucy.ac.cy.