

## KIOS RESEARCH AND INNOVATION CENTER OF EXCELLENCE

### European MSCA Doctoral Network PhD Scholarships

<b>No. of Positions</b>	: Two (2)
<b>Category</b>	: European Marie Skłodowska-Curie Action Doctoral network "TIRAMISU - Training and Innovation in Reliable and Efficient Chip Design for Edge AI" (2024-2028).
<b>Location</b>	: <b>University of Cyprus (UCY), Nicosia, Cyprus</b>

The KIOS Research and Innovation Center of Excellence (KIOS CoE) at the University of Cyprus (UCY-KIOS) announces **two (2) full-time PhD Student Scholarships**. These positions are a part of new European MSCA Doctoral Network TIRAMISU "Training and Innovation in Reliable and Efficient Chip Design for Edge AI" (2024-2028) <https://tiramisu-project.eu/>. *More information about the specific topics that the successful candidate(s) will work on, can be found in the Vacancies page of the project website (<https://tiramisu-project.eu/vacancies>), specifically under DC 3.1 and DC 3.2.* The action will provide strong interdisciplinary training for future European engineers and researchers driving the innovation for reliable and energy-efficient Edge AI chips. The consortium is strategically designed to foster cross-disciplinary synergies, by seamlessly integrating innovation management research with the technical aspects of Edge AI design. The non-academic sector is represented by a European flagship R&D hub for nanoelectronics - IMEC, a global leader in industrial electronics and the largest semiconductor manufacturer in Germany - Infineon, a trusted automotive solutions provider - Dumarey, the worldwide leader in EDA tools development - Cadence. The academic excellence is established by top ICT and Technology Innovation engineering universities and Europe's largest application-oriented research organization - Fraunhofer.

The selected students 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 (UCY), the top-ranking university of the country. The ECE Department conducts top-quality research, with its faculty securing prestigious projects including multiple ERC Grants, Horizon2020/ Horizon Europe RIA projects, and many more. The selected students will work under the supervision of Prof. Theocharis Theocharides, Prof. Maria K. Michael, and Research Prof. Christos Kyrkou ([https://www.kios.ucy.ac.cy/people\\_category/kios-faculty/](https://www.kios.ucy.ac.cy/people_category/kios-faculty/)).

The successful candidates will conduct their research at the state-of-the-art facilities of the KIOS Center of Excellence in the area of reliable and efficient chip design for edge AI. Very recently, the landscape of Artificial Intelligence (AI) development has undergone a remarkable transformation, marked by the trend of fusion of AI with the edge computing concept. Artificial intelligence is increasingly being brought to the source of data, i.e., the devices at the network's edge, thus establishing the Edge AI concept. Edge AI is gaining momentum across various industries and services by public authorities because it enables new applications requiring high performance, ultra-low latency with high bandwidth, efficient power use, high reliability and security levels, and intelligence beyond regular computing. Moreover, the successful candidates will have the opportunity to work with world renowned scientists within the TIRAMISU EU MSCA Doctoral Network, collaborate with industry, have access to research training and other skills development opportunities offered within the network.

#### **KIOS Research and Innovation Center of Excellence (KIOS CoE)**

The KIOS Research and Innovation Center of Excellence operates within the University of Cyprus and currently is the largest research center at the University. KIOS is a leading research and innovation center in Cyprus and the region on Information and Communication Technologies (ICT). Since its establishment in 2008, the Center

has followed an impressive and continuous development, leading to its significant upgrade to a European Research Center of Excellence through the EU strategic Horizon 2020 Teaming project in 2017. The Center collaborates strategically with Imperial College, London, as well as with a plethora of local and international research organizations and other stakeholders.

The Center provides an inspiring environment for carrying out top-level research in the area of ICT, with emphasis on the Monitoring, Control, Management and Security of Critical Infrastructures, including power and energy systems, water, transportation and telecommunication networks, healthcare systems, as well as systems for emergency management and response. KIOS researchers develop new knowledge and technological solutions to improve the operation, efficiency, reliability, safety, and security of these systems, bringing major socio-economic and environmental benefits at the local and global level.

Since its inception, the Center has been involved in more than 140 externally funded research and innovation projects and has received significant national and international recognition, as evidenced by important research grants, awards and distinctions such as 5 ERC Grants from the European Council (including the first ever ERC Advanced Grant and the first ever ERC Synergy Grant in Cyprus), the coordination of several EU-funded projects such as COCOON, SPARROW and GuardAI, the coordination of the ESF COST Action IntellICIS (the first COST Action to be coordinated by a team from Cyprus), the first EU Teaming project to a Cypriot organization, an IEEE Frank Rosenblatt Technical Field Award, an IEEE Neural Networks Pioneer Award, a National Experienced Researcher of the Year Award, multiple National New Researcher of the Year Awards, National Innovation & Entrepreneurship Awards, and several Best Paper Awards in top-tier international conferences and journals. These awards indicate the high-quality of research undertaken at the Center.

Currently, the Center employs more than 180 people and is involved in more than 40 research and innovation projects funded by various European and national funding agencies, as well as in more than 25 projects funded by the industry. In addition, 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 opportunity employer.

### **University of Cyprus**

The University of Cyprus, founded in 1989, is a young and dynamic academic institution of national and international recognition. Focused on excellence in education, research and innovation, the University of Cyprus is renowned for its high-impact research profile and quality of teaching. In the latest prestigious Shanghai List (2024), it ranked between the top 701-800 universities in the world. Today, it is ranked amongst the top 100 young universities (under 50 years) and #501-600 worldwide by the Times New Higher Education Rankings.

These distinctions indicate the university's focus on research excellence and continuous development. Therefore, it aims to attract high-skilled researchers who will bring new ideas and contribute to the advancement of knowledge for the benefit of society.

### **Scholarship Terms:**

The PhD Scholarship offers a monthly competitive salary to cover living allowance (€2,283 gross salary), social and health insurance (according to the University of Cyprus regulations), mobility (€583 gross amount) plus a family allowance (if the candidate is married: €481 gross amount) per month. Maternity leave will be granted based on Maternity Protection Law 1997(N.100(I)/1997), and the existing amendment laws. The position provides University tuition fees. The scholarship will be offered for a minimum of three years, subject to annual performance evaluation.

**Applicants should fulfil the following requirements:**

- (MSCA DN Mobility Rule) **Applicants must not have resided or carried out their main activity (work, studies, etc.) in Cyprus for more than 12 months in the 36 months immediately before their date of recruitment.** Compulsory national service, short stays such as holidays, and time spent as part of a procedure for obtaining refugee status under the Geneva Convention are not taken into account. Date of Recruitment means the first day of the employment of the researcher for the purposes of the action (i.e. the starting date indicated in the employment contract or equivalent direct contract).
- a Bachelor's degree in Electrical and/or Computer Engineering, Computer Science, Artificial intelligence or related areas.
- a clear interest in the topic of the position (candidates with embedded systems and machine learning backgrounds will be preferred).
- a solid background in linear algebra, math, computer architecture and/or hardware.
- basic understanding of machine learning concepts and hardware reliability.
- a strong background in high-level programming and languages such as Python, C/C++.
- A 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)
- strong writing and communication skills compatible with an entry-level research position.
- capacity to work both as an independent researcher and as part of an international team.
- capacity and willingness to provide assistance in organizational tasks relevant to the project.

**The following experience will be considered as advantage:**

- research and/or professional experience, ability and interest to collaborate across disciplines
- familiarity with ML algorithms and DNN architectures
- familiarity with hardware architectures
- familiarity with EDA tools
- previous research publications at conferences or journals

**Application:**

Interested candidates should submit the following items online through the link: <https://applications.ucy.ac.cy/recruitment>, and concurrently at the Projects Application Portal (<https://tiramisu-project.eu/application-form?view=form>). Note that incomplete applications or applications not submitted concurrently in both portals above, *will NOT be considered*. **Both positions must be filled as soon as possible; evaluation will take place on a rolling basis until the positions are filled.**

- Cover letter that specifies which position the candidate is interest in pursuing (refer to the corresponding descriptions DC 3.1 and DC 3.2 listed here: <https://tiramisu-project.eu/vacancies>).
- A statement with a short description of academic and research experiences as well as the reasons for applying for the specific scholarship (1 page).
- A statement with the candidate's future research plans in context of the announced project positions (up to 1 page).
- A detailed curriculum vitae in English, which includes a list of publications (if any).

- 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).
- Copy of English language proficiency certificate.
- Identify the names of at least two University Professors who can provide reference letters.

The University of Cyprus shall collect and process your 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.

For more information, please contact the KIOS Center of Excellence, by phone at +357 22893460 or via e-mail at [kioshiring@ucy.ac.cy](mailto:kioshiring@ucy.ac.cy).