



## Doctoral Vacancy Announcement form

**Research Topic Title: Intelligent Robotic Systems**

**No. of Openings: 1**

**Description:** The combination of control systems synthesis with task planning constitutes one of the theoretical cores of intelligent robotic systems. In the field of robotics and autonomous systems, automated control synthesis is used to generate the appropriate controllers, with properties that provide performance guarantees, transparency, and interpretability in the implementation of the individual controllers, in order to complete a requested operation. Within the framework of this position, the candidate will be a member of the "Robotics, Control, and Decision Systems " Digital Innovation Hub ([www.rcdslab.org](http://www.rcdslab.org)) of the Department of Mechanical Engineering and Materials Science and Engineering at the Cyprus University of Technology and will tackle theoretical and applied issues in the domain of intelligent robotic systems concerning autonomous systems, control systems, machine learning, decision systems, and other related fields.

**Required Qualifications:**

- Undergraduate degree in the field of Engineering or Computer Science or other related field.
- Master's degree relevant to Robotics or Control or Decision System or other related field
- Very good analytic capabilities that can be demonstrated by the candidate's grades in mathematics
- Very good knowledge of the English language (desirable CEFR C1, minimum B2)
- Capability to work in EU

**Funding:** The successful candidate will have the option for a scholarship/funding according to the University policy. Funding from participation to external research projects is possible, based on the performance of the candidate and funds availability.

**Research Advisor:**

**Name/Surname:** Savvas G. Loizou

**Position:** Associate Professor

**Email:** [savvas.loizou@cut.ac.cy](mailto:savvas.loizou@cut.ac.cy)



## Doctoral Vacancy Announcement form

**Research Topic Title: Artificial Intelligence-Driven Mechanical Design and Additive Manufacturing (3D printing) of Advanced Functional Structures**

**No. of Openings: 1 PhD Position**

### **Description:**

The Mechanical Engineering Design and Additive Manufacturing (MEDAM) Lab at the Cyprus University of Technology (CUT) invites applications for a PhD position in the area of Artificial Intelligence-assisted Mechanical Engineering Design.

The research will focus on the integration of AI tools into mechanical design workflows, including but not limited to:

- Generative AI for mechanical component and system design
- AI-driven design of porous and biomimetic material structures
- CT-scan and imaging-based geometry reconstruction for 3D printing
- Neural Radiance Fields (NeRF), Gaussian Splatting and vision-based 3D reconstruction
- Topology optimization enhanced by machine learning
- AI-assisted design for additive manufacturing (DfAM)
- Hybrid digital workflows combining simulation, data-driven modelling and fabrication
- AI tools for cultural heritage mechanical replication and functional reconstruction

The candidate will develop novel computational methodologies and experimentally validate designs through additive manufacturing (FDM, SLA and hybrid AM systems) in the MEDAM Lab.

The project may contribute to ongoing EU-funded research activities related to digital heritage, advanced materials and AI-enhanced fabrication.

### **Required Qualifications:**

- MSc in Mechanical Engineering, Materials Engineering, Mechatronics, Computational Engineering or related field
- Strong background in mechanical design and solid mechanics
- Experience in CAD (e.g., Fusion 360, SolidWorks, Blender)
- Programming skills (Python preferred)
- Familiarity with machine learning frameworks (PyTorch, TensorFlow or similar)
- Knowledge of additive manufacturing processes
- Experience with computational modelling, simulation or computer vision will be considered an advantage



Cyprus  
University of  
Technology

Studies and  
Student Welfare  
Services

- Excellent English communication skills

**Highly motivated candidates with interdisciplinary interest in AI and engineering design are strongly encouraged to apply.**

**Funding: n/a**

**Research Advisor:** Dr. Petros Siegkas

Position: Lecturer in Mechanical Engineering Design & Additive Manufacturing

Founder, MEDAM Lab – Mechanical Design and Additive Manufacturing Laboratory

Cyprus University of Technology

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