



Doctoral Vacancy Announcement form

Research Topic Title: “Complex Fluids Rheology and Microfluidic Flows”

No. of Openings: 1

Description: Biofluids, liquid biomass, foods, pharmaceutical products, polymer solutions, suspensions, surfactants, gels, and other industrial fluids show complex rheological properties, which become of particular importance in determining the characteristics of the flow at the microscale. In this program, advanced rheological and structural characterization of various complex fluids will be performed, in order to elucidate the influence of their properties in microscale flows. State of the art rheometry and in-house fabricated microfluidics will be utilised, in combination with flow and structural characterization techniques to investigate various aspects of the complex fluid flow problem.

Required Qualifications: Applicants must have an Undergraduate Degree in Mechanical Engineering, or in a related field, a Master’s degree in Mechanical Engineering or in a related field, and preferably having completed an experimental Masters project in a relevant to the present study field. Experience in experimental biofluid physics/mechanics, rheology/biorheology, microfluidics, and data processing is essential. Candidates without a Master qualification, but with a strong undergraduate degree and relevant experience in fluid (biofluid) mechanics / rheology / microfluidics projects, will be considered; in this case, Master modules of 60 ECTS should be taken and completed successfully as part of the PhD Program. Experience in projects involving blood or biofluid handling and treatment is a significant advantage. The candidate should be able to work in an interdisciplinary team, collaborate with industrial partners, and have good oral and written communication skills in English. The candidates should provide a Cover Letter, an English-written one-page preliminary research proposal, which will be relevant to the theme of the project, and two reference letters.

Funding: The PhD is partially funded under the program Research Infrastructures / Small Scale Infrastructures, of the Cyprus Rresearch and Innovation Foundation, Project CRaFTC.

Research Advisor:

Name/Surname: Efstathios Kaliviotis

Position: Associate Professor

Email: e.kaliviotis@cut.ac.cy



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Research Topic Title: Synthesis and Characterization of Inorganic/Hybrid (Nano)materials for Technological and Biomedical Applications

No. of Openings: 1

Description: The research will explore the synthesis and characterization of inorganic/hybrid (nano)materials, incorporating transition metal ions and/or lanthanides. The study will employ diverse chemical and physical synthetic methodologies, along with advanced structural, spectroscopic, and magnetic characterization techniques. This work has broad implications across various technological and biomedical fields, including Sensors, Drug delivery and Biomedical Imaging, as well as Catalysis among others.

This PhD opportunity provides a collaborative research environment, and opportunities for conference participation, summer schools, training abroad and professional development.

Required Qualifications:

Bachelor's or Master's degree (or an equivalent recognized qualification) in Chemical Engineering, Mechanical Engineering, Chemistry, Physics, Materials Science, or a related field. Strong theoretical background in materials synthesis and characterization techniques (highly desirable).

Hands-on experience in a synthetic laboratory (considered an asset).

Experience in data analysis, programming (e.g., C++, MATLAB), or computational modeling (advantageous).

Strong communication skills and the ability to work effectively in a multidisciplinary research environment.

Funding: (a) Full tuition waiver provided through a scholarship, as per the decisions of the 221st Senate Session.

(b) Partial funding, available for a period of three years, subject to funding availability. This includes start-up funding to support initial research activities.

Research Advisor:

Name/Surname: Melita Menelaou

Position: Assistant Professor

Email: melita.menelaou@cut.ac.cy



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Research Topic Title: “Automated Task Planning”

No. of Openings: 1

Description: Automated task planning is a core technology in Artificial Intelligence. In robotics and autonomous systems, automated task planning is used for the creation and synthesis of the sequence of simple tasks that are necessary to achieve a requested complex operation. For the announced opening the candidate will be involved in the evolution of the algorithms of the SPECTER automated task planning platform, that was developed in the Robotics Control and Decision Systems laboratory (www.rcdslab.org) of the MEM Department of CUT.

Required Qualifications:

- Undergraduate degree in Mathematics / Physics / Computer Science or Engineering.
- Graduate degree in the field of Robotics / Autonomous Systems / AI or a related field.
- Proficient in programming language (e.g. C/C++, Python)
- Strong mathematical background
- Eligibility to work in EU.

Funding: The successful candidate will have the option for a scholarship/funding according to the University policy (<https://www.cut.ac.cy/studies/phd>). Future funding from participation to external research projects is possible, based on the performance of the candidate and the future availability of funds.

Research Advisor:

Name/Surname: Savvas G. Loizou

Position: Associate Professor

Email: savvas.loizou@cut.ac.cy