



## Hosting offer for Marie Skłodowska-Curie Postdoctoral Fellowships (PF) 2022 at University of Cyprus / Research group of Dr Argyro Tsipa, Environmental Biotechnology

[MSCA Postdoctoral Fellowships](#) are individual research grants offering excellent postdoctoral researchers the chance to develop their skills by means of international mobility. Through the implementation of an original and personalised research project, MSCA Postdoctoral Fellowships aim to foster excellence through training and mobility and to equip researchers with new skills and competences in order to identify solutions to current and future challenges.

The University of Cyprus / research group of Dr Argyro Tsipa's: Environmental Biotechnology (EmBIOSysTech) group invites strongly motivated postdoctoral researchers to jointly prepare an application for the [MSCA-PF-2022 call Marie Skłodowska-Curie Postdoctoral Fellowships](#) call ([MSCA-PF-2022](#)) with them as host organisation.

### **Description of Hosting organisation/group**

The Laboratory of Environmental Biotechnology (EmBIOSysTech Lab) combats environmental pollution taking advantage of **microorganisms' vast properties and capabilities**. The microorganisms, which naturally survive among us, are the workhorse of de-pollution due to their ability to consume different types of waste streams decreasing their pollutant load. Simultaneously, this process results in the production of added-value products such as pharmaceuticals, biofuels, electricity, clean water etc. Furthermore, this process leads to cost-effective and environmental-friendly technologies, and effective strategies for sustainability, urbanization and circular bio-economy. **The EmBIOSysTech Lab** supports the needs of the **Department of Civil and Environmental Engineering**. In addition, it participates in the research activities of **Nireas International Water Research Center**. The research group participates in European networks, and European programs, developing strong collaborations across Europe. **The group aims at high scientific research, while solving challenging environmental problems.**

**The laboratory is fully equipped to support microbial cultures growth, understanding of microorganisms' properties and has the necessary machinery of analytical chemistry.** The infrastructure of the laboratory covers all the equipment necessary for the observation, growth and analysis of microorganisms, wastewater and extraction of added-value products. More specifically, the equipment of the lab consists of: GC/MS, incubators for microbial growth, balances, magnetic stirrers, autoclave, water system, laminar flow cabinet, fume hood, UV-VIS spectrophotometer. The lab has access for qPCR analysis and other analytical equipment to other laboratories of UCY.

### **Links:**

<https://www.ucy.ac.cy/cee/en/research/laboratories>

<https://nireas-iwrc.org/facilities/embios/>

### **Social media:**

<https://www.facebook.com/Environmental-Biotechnology-Embiosystech-lab-224923339469740>

## Topics/expertise

Postdoctoral candidates for a MSCA-PF application are welcome in the research topics above:

- *Microbial fuel cells: Biodegradation of wastewater and generation of electricity*
- *Circular bio-economy: Biosurfactants and Polyhydroxyalkanoates (PHAs) production from industrial wastewater bioremediation*
- *Metabolomics and genomics analysis*
- *Bioinformatics*
- *Mathematical modelling-DOEs*

Supervisor: Dr Argyro Tsipa, Lecturer in Environmental Biotechnology, expert in biodegradation of wastewater, omics, molecular biology, biochemical engineering, mathematical modelling of biological systems.

## Dr Argyro Tsipa's profile

Dr Argyro Tsipa obtained her first degree (2010) in Chemical Engineering from the National Technical University of Athens (NTUA) in Greece, whereas she received her M.Sc. (2011) and Ph.D. (2016) degrees, also in Chemical Engineering, from the Imperial College London in the UK. During her PhD studies, she studied the biodegradation of aromatic pollutants by *P. putida* mt-2 at molecular level and validated a mathematical model predicting gene and microbial growth kinetics through gene regulation modelling. Subsequently, she worked as research associate at the UK's national Innovation and Knowledge Centre for the adoption and use of synthetic biology by industry and the Centre of Synthetic Biology. During her work, Dr Tsipa was trained in high-throughput assay development using liquid handling systems for transcriptomics, proteomics and metabolomics. Dr. Tsipa is currently Lecturer in the Department of Civil and Environmental Engineering at the University of Cyprus, a member of the academic council of Nireas International Water Research Center and she leads the Environmental Biotechnology (EmBIOSysTech) lab and group. Dr. Tsipa's research lies on biological systems engineering and biodegradation of waste transformed to added-value products focusing on high-throughput omics of the microorganisms involved.

- **Expected qualifications/expertise of the candidate:** The candidate should be aware of growth of microbial cultures, microbiology, analytical techniques related to chromatography, biodegradation of organic pollutants, and, ideally interested in process systems engineering/mathematical modelling.  
The candidate should also be highly motivated, passionate about solving environmental problems, with organisation skills, and ready to move to Cyprus.
  - PhD degree in (bio)chemical engineering, environmental biotechnology, environmental microbiology and relevant areas.
- You must have a completed PhD at the time of the call deadline (14 September 2022).
- Candidates must have a maximum of 8 years full-time research experience from the PhD award date until September 14, 2022. Periods of inactivity in research (e.g. unemployment, periods of employment outside research, parental or sick leave) do not count towards the time of research experience.
- For European fellowships, candidates can be of any nationality and 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 September 14, 2022.
- Highly motivated candidate with an excellent research track record appropriate to career stage, as evidenced by academic publications and other scientific output.

**What we offer**

- Support and guidance for the preparation of your MSCA PF proposal.
- A stimulating, interdisciplinary environment for high-level research.
- Supportive environment to develop as an independent researcher and enhance your skills.
- Training opportunities and full training to all the equipment available.
- Participation to European and global conferences and meetings.
- Participation in established European networks.

**How to apply?**

Indicate your interest by contacting the host institution as follows:

**Please contact Dr Argyro Tsipa at [tsipa.argyro@ucy.ac.cy](mailto:tsipa.argyro@ucy.ac.cy)** with a short CV and motivation to indicate your interest to prepare a MSCA-PF application.

After the supervisor agrees to support you as a MSCA-PF candidate, you can start preparation of MSCA PF project proposal and will be supported further by the Research Support Office of the host university.

For more information please contact the MSCA coordinator of the host institution: Christina Delaporta: [delaport@ucy.ac.cy](mailto:delaport@ucy.ac.cy)