

Marie Curie Early Stage Researcher (ESR) positions / Ph.D. positions

Applications are invited for 2 Ph.D. student positions ("Early Stage Researchers" (ESRs)) at **Nireas-International Water Research Center of the University of Cyprus**, to be funded by the Marie Skłodowska Curie Innovative Training Network ANSWER - "Antibiotics and mobile resistance elements in wastewater reuse applications: risks and innovative solutions" within the Horizon 2020 Programme of the European Commission.

Number of PhD positions available: 2

The main objective of ANSWER is to develop well-trained and creative ESRs through innovative Ph.D. projects to unravel the highly complex factors driving antibiotics and antibiotic-resistant bacteria and resistance genes (A&ARB&ARG) propagation in the framework of urban wastewater reuse, in order to assess the relevant environmental and public health risks, able to face current and future challenges and to convert knowledge and ideas into products and services for economic and social benefit. ANSWER aims to substantially contribute to the relevant EU wastewater policies, by providing valuable contributions for guidelines and recommendations for sustainable wastewater reuse. This will be achieved by a combination of innovative hypothesis-based empirical studies encompassing small- to field-scale experiments, novel combination of bioassays for effect monitoring, which will collectively result in the determination of A&ARB&ARG with highest impact in effluent reuse. Novel protocols/systems for their identification will be developed, particularly for wastewater, for soil where irrigation is taking place, groundwater beneath such soils, in crops and in surface water that serve as storage before reuse. Soil amendment strategies will be explored in order to reduce their bioavailability during irrigation. The fate of A&ARB&ARG during activated sludge treatment will be investigated and modelled, while innovative wastewater treatment technologies will be evaluated for their potential to minimise in downstream environments. A scientific base for prioritization and policy development will be developed. This will improve the understanding of how various conditions and processes impact the diversity and spreading of A&ARB&ARG, supporting the implementation of measures to prevent the contamination of the environment and food chain.

* **Early stage researchers (ESRs):** are those who are, at the time of recruitment by the host organization, in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree. This is measured from the date when they obtained the degree which formally entitles them to embark on a doctorate, either in the country in which the degree was obtained or in the country in which the researcher is recruited or seconded, irrespective of whether or not a doctorate is or was ever envisaged.

Eligibility criteria

We are looking for talented, highly motivated and enthusiastic junior scientists, able to plan and prioritise their work in order to meet deadlines, with a preferential background in **environmental sciences, chemical engineering, environmental engineering, analytical chemistry, molecular biology, microbial ecology and microbiology**. Previous experience in fields directly related to the specific positions is a plus. Excellent research skills and analytical abilities are required, fluency in English (both spoken and written), proactive communication skills and problem solving as part of a team, strong record keeping, great work ethic and initiatives are essential characteristics.

Each candidate that is interested in the Ph.D. positions shown below should submit **TWO** application forms:

- A. The first application regarding ESRs positions should be submitted by email to **Dr. Fatta-Kassinou** (dfatta@ucy.ac.cy) coordinator of Marie Skłodowska-Curie ITN project "ANSWER". Submission deadline: **October 31, 2015.**
- B. The second application regarding the Ph.D. positions that are available at the Department of Civil and Environmental Engineering of the University of Cyprus, **should be made online in the official website of the University of Cyprus**. The abovementioned Ph.D. positions will be announced in the following link (<http://www.ucy.ac.cy/graduateschool/index.php/en/>) early October. Submission deadline: **October 31, 2015.**



Successful candidates will be considered those that will receive a positive response from both evaluation committees, i.e. (i) Marie Curie project ANSWER and (ii) Department of Civil and Environmental Engineering of the University of Cyprus.

Salary

ESRs participating in "ANSWER" ITN will receive a salary (approx. 2500 € per month), determined by the Marie Curie Actions/Horizon 2020 guidelines.

For more information, please see:

http://ec.europa.eu/research/mariecurieactions/careers_en.htm

Applications

A) Early Stage Researcher (ESR) position for Marie Skłodowska-Curie ITN - "ANSWER":

All applications should be submitted by email to **Dr. Fatta-Kassinou** (dfatta@ucy.ac.cy):

1. a cover letter detailing your suitability for the position in question;
2. a detailed CV;
3. original or certified copies of all tertiary-level academic transcripts and grading schemes;
4. two recommendation letters from Academics;
5. evidence of proficiency in English language;
6. a recent photograph.

*All the above certifications should be applied/translated in English language.

All applications will be evaluated by a committee, consisting of representatives from the host institutions, with equality and based strictly on the candidates' skills, whereas issues as gender, ethnicity, disability, etc. will be irrelevant to the selection.

Application submission' deadline: October 31, 2015

B) Ph.D. position at the Department of Civil and Environmental Engineering of the University of Cyprus:

Please visit the following link for more details: <http://www.ucy.ac.cy/graduateschool/en/>

Application submission' deadline: October 31, 2015



Ph.D. positions

Ph.D. position 1

Title: Membrane bioreactor (MBR) followed by light-driven oxidation for the minimization of antibiotics and antibiotic-resistant bacteria and resistance genes (A&ARB&ARG) from urban wastewater intended for reuse

Brief description: - determine the potential of MBR treatment, operated at pilot scale, to remove selected A&ARB&ARG;

- evaluate the efficiency of the MBR process when combined with light-driven + H₂O₂ oxidation to remove A&ARB&ARG;
- assess the uptake potential of A&ARB&ARG by selected crops in irrigated experimental fields;
- cost analysis of the optimum technology to be identified.

Duration: 36 months

Location: University of Cyprus (UCY), Cyprus

Contact: Dr. D. Fatta-Kassinos; email: dfatta@ucy.ac.cy

Ph.D. position 2

Title: Investigating the potential of transformation products (TPs) of antibiotics formed during advanced wastewater treatment to induce biological adverse effects and antibiotic resistance

Brief description: - elucidate the structures of TPs of selected antibiotics formed during light-driven + H₂O₂ oxidation;

- evaluate their potential of being active after their release in the environment and to contribute to the development of resistance in soil bacteria;
- evaluate the potential of the antibiotics and their TPs to induce toxicity and understand the implications that this may have on ecological and human health;
- test/validate the aforementioned tools and methods for wastewater treated by various advanced oxidation technologies.

Duration: 36 months

Location: University of Cyprus (UCY), Cyprus

Contact: Dr. D. Fatta-Kassinos; email: dfatta@ucy.ac.cy
