



Technical
University
of Crete



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Pre-announcement of PhD position in oil spill research

The School of Environmental Engineering of the Technical University of Crete in Chania, Crete is seeking a PhD candidate within the frame of the ELIDEK-funded project: “Determination of the self-healing capabilities of the Eastern Mediterranean Sea from accidental deep-sea oil releases (HEALMED)”.

As exploration for new oil and gas fields moves to progressively deeper waters, the risk of oil spills originating in the deep sea is bound to increase in the future. The recent Deepwater Horizon (DWH) oil spill at 1500 m in the Gulf of Mexico was a stark reminder of the risks attached to human activity in largely unknown extreme environments and has evidently demonstrated the shortcomings of current response strategies in tackling accidental oil releases in the deep sea. In recent years, several major offshore oil and natural gas deposits have been discovered in the Eastern Mediterranean that could be translated into economic growth and energy security for associated countries. However, a similar to DWH incident in the eastern Mediterranean would have disproportionate consequences due to the semi-enclosed nature and the concentrated economic activity along the Mediterranean coast. Today we know that deep-water microbial communities play a pivotal role in oil spill remediation. This PhD project will contribute to our understanding of three broad questions; **WHO** – what microorganisms comprise the hydrocarbon-responsive community in the deep E. Mediterranean and how does pressure affect community structure? **WHAT** – how do these communities affect ecosystem processes, namely the attenuation of hydrocarbon contamination, under the environmental conditions encountered in the deep E. Mediterranean? **HOW** – how can we enhance *in situ* bioremediation to mitigate the effects of a deep-sea oil spill in the E. Mediterranean?

The PhD student will work at the Biochemical Engineering and Environmental Biotechnology Laboratory of Prof. Kalogerakis at the Department of Environmental Engineering, Technical University of Crete. Experiments will be conducted using high-pressure experimentation systems available at the host lab. The PhD candidate will be trained in techniques in analytical chemistry and molecular biology, as well as statistical data analysis. He/She will participate in oceanographic research cruises for sample collection, onboard and laboratory experimentation, and will be responsible for the publication of results in peer-review journals. The PhD student will be enrolled at the Technical University of Crete or any other recognized establishment of higher education in Greece.

The PhD candidate should have a BSc in Natural Sciences or Environmental Engineering and hold (or expect to hold) a MSc on a relevant field. The candidate should be highly proficient in spoken and written English. Experience in microbiology/molecular biology and seagoing expeditions and experimentation will be considered as an advantage. Salary is 900 euros gross per month for 19 months. Complementary funds will be granted through successful applications to calls for PhD scholarship from the IKI and ELIDEK foundations.

Candidates should send their applications by email to Dr. Evina Gontikaki (egontikaki@isc.tuc.gr) with a letter of motivation, their Master degree and transcripts, and the contact details of two referees. The pre-announcement will close on the 15th of February 2019. PhD is expected to start in spring 2019.