



Doctoral Vacancy Announcement form

Research Topic Title: Development of Sustainable Packaging Solutions Based on Microalgal Biomass & Bioactive Molecules

No. of Openings: 1

Description: The objective of the thesis is the introduction of economically and environmentally sustainable packaging materials based on microalgal biomass and the evaluation of the effect of novel biodegradable packaging systems on the quality and safety of perishable food and cosmetics in the supply chain of EU. Organic residues will be exploited for production of bioplastics (PHB) and bioactive compounds (polyunsaturated fatty acids – PUFAs, carotenoids) through co-cultivation of microalgae with bacteria, aiming to maximize the productivity of the specific biomolecules under extreme culture conditions. The formulation and characterization of sustainable packaging as well as assessment of its effect on the quality and safety of food and cosmetics will be conducted in the project. Fully funded placements in research groups and companies participating in two European MSCA-SE research projects secured in the lab, MAQUAPACK (<https://aquapack.aua.gr/>) and BIOreCURE, will be available during the whole PhD period. Thus, the successful candidate will be offered the opportunity for cross-cutting interdisciplinary knowledge exchange, technology transfer and training.

Required Qualifications: Candidates should possess a Bachelor's and postgraduate degree of Master's level from accredited Universities in Chemical Engineering, Chemistry, Biotechnology, Bioengineering, Biology, Environmental Engineering or any other related field and to be fluent in English. Past practical experience in bioprocess development will be an advantage.

Funding: The project is supported via 2 MSCA-SE research projects funded by the EU (AQUAPACK, BIOreCURE), which include fully-funded research secondments of the student in different European countries. The successful candidate will be



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offered up to a maximum of 24 months secondments (in one or several mobility periods, split stays are allowed), where the candidate will receive a net amount of €2300-€2500 per month of secondment. Participation of the candidate in the aforementioned projects is optional, while depending on the qualifications of the candidate financial support could be provided by other resources of the lab.

Research Advisor:

Name/Surname: Michalis Koutinas

Position: Professor, Environmental Bioprocessing Lab

(<https://enblab.weebly.com/>), Department of Chemical Engineering

Email: michail.koutinas@cut.ac.cy