UNIVERSITAT ROVIRA i VIRGILI
DEPARTMENT OF CHEMICAL ENGINEERING

PhD position offer

Title: Bioanalytical tools based on recognition proteins for toxin detection

Supervisors: Dr. Alex Fragoso (alex.fragoso@urv.cat), Dr. Lluis Masip (lluis.masip@urv.cat)
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Duration: 4 years

Project description

Marine toxins are natural toxic compounds produced as secondary metabolites by a variety of organisms, including toxic microalgae and bacteria. Their harmful effects on human health and the ecosystems have forced the development and implementation of regulations and methodologies for their quantification.

The project aims at developing novel detection systems using small combinatorial proteins (SCP) and DNA binding proteins (DNABP). These recognition elements will be combined with carbon-based nanomaterials to construct electrochemical biosensors for the detection of marine toxins (using SCP) and toxic microorganisms (using DNABP) in real samples. Different immobilization techniques and assay formats will be explored in order to maximize the sensitivity and selectivity of the devices. The developed detection systems will be validated with toxin standards, reference materials and field samples.

Applicant profile

Applicants must have a degree in Chemical Engineering, Chemistry, Biotechnology or related fields and have finished master studies in these fields so that they can access to PhD studies as per Spanish regulations. Laboratory and research experience, especially in biotechnology and (electro)chemistry, will be highly valued. Good level of oral and written English is essential.

Financing

Martí-Franquès Program of URV – Standard Edition (call to open soon). A 4-year work contract is offered (~1500€ gross monthly salary + part of the tuition fees corresponding to 4 academic years). Some teaching duties will also be assigned to the selected candidate.

The deadline of applications is 1 December 2024.

Contact:

If you are interested, please send a short CV (focusing on the requirements indicated in the 'Applicant profile') to Dr. Alex Fragoso (alex.fragoso@urv.cat)