Ciências ULisboa
Faculdade de Ciências da Universidade de Lisboa

ERASMUS+ TRAINEESHIP / PLACEMENT OFFER

Project title: Antimicrobial functional agents for water bio-decontamination

Project description:

Water bio-contamination (biofouling) causes serious environmental and economic penalties and health risks on several applications (e.g. seawater/freshwater circuits). Conventional foul-preventing treatments are based on the release of toxic chemicals into the water, which imply limited life-cycle and significant ecotoxicity.
In this work, a new eco-friendly water bio-decontamination alternative will be developed, by using the ability of functional molecules to be selectively modified with functional groups. New bioactive molecules will be functionalized and supported on microparticles and/or nanoparticles. Bioactivity efficacy of the new bioactive agents will be assessed through antibacterial bioassays against several bacteria (e.g. Staphylococcus aureus).
As an ultimate goal, the best bioactive agents (un)supported will be immobilised in polymeric coatings for further antifouling performances evaluation following international standards.
This novel approach can provide new eco-friendly bioactive materials suitable for water bio-decontamination, as well as for many other antimicrobial/antifouling protective systems, in particular, surfaces protection with bioactive nanocomposites such as coatings.

Department: Chemistry and Biochemistry

R&D Unit: BIOISI - Biosystems and Integrative Sciences Institute

Field of study: Eco-friendly antifouling strategies

Supervisor: Elisabete Ribeiro Silva **Personal webpage:** https://orcid.org/0000-0001-6679-4374

Number of weeks offered: 35 (or more) **Within the months:** from March to November

Number of working hours per week: 30

Publication date: 07 / 10 / 2019 **Closing date:** 01 / 01 / 2021

Requirements

General:

- A very good academic record;
- Good writing and presentation skills;
- Good social and organisational skills;
- Very good proficiency in spoken and written English; knowledge of Portuguese language is an asset.

Specific:

- Level of education: Bachelor's or Master's degree in Chemistry, Chemical Engineering or related areas;
- Basic knowledge of chemistry;
- Interest for laboratorial research.

Applications

Applications should include the following information:

- a cover letter, including a description of your research interests and an explanation for why you are applying for this project;
- a curriculum vitae (CV);
- an official transcript of grades issued by your home institution;

and be submitted no later than 01 / 01 / 2021 via email to internacional@ciencias.ulisboa.pt.

Contacts

For inquiries regarding this project you are welcome to contact: ersilva@ciencias.ulisboa.pt.

For inquiries regarding the application procedure you are welcome to contact: internacional@ciencias.ulisboa.pt.