Industrial Biotechnology Innovation Centre (IBioIC)/BBSRC-funded PhD Studentship

Project Title: Extracting added value from the Seaweed Industry - a search for novel anti-obesity agents

Academic Supervisors: Professor Cherry Wainwright & Dr Giovanna Bermano, Centre for Natural Products in Health, Robert Gordon University, Aberdeen

Industry Partner & Supervisor: Mr. Franck Hennequart, Algaia, St Lô, France

Seaweed farming is a developing industry in the UK, with the majority of the biomass being used for the extraction of high yield products for use as pharmaceutical and food ingredients, animal feed or as biofuels. Following high yield extractions, a significant amount (~75%) of the biomass remains un-used despite the fact that this material is rich in a variety of valuable chemicals that possess known biological activities. Although the full range of biological activity of these chemicals has not been explored in depth, several chemical groups found in seaweed prevent the uptake of lipid into fat cells and therefore seaweed extracts may be useful as high value nutritional supplements for the management of obesity. There is thus significant potential for increased valorisation of seaweed by exploiting what is currently an "un-tapped" source of valuable chemicals. The aim of the project is to determine the biological activity of seaweed extracts obtained by novel extraction methods, with a view to (i) identifying which extracts have potential as anti-obesity agents using *C Elegans* as a screening model, (ii) determining the mechanism of action in cultured adipocytes and (iii) working with the industrial partner to develop an extraction process to produce identified extracts at pilot.

This PhD Scholarship is a 4-year PhD funded through an IBioIC Collaborative Training Partnership (CTP). The IBioIC CTP training programme aims to ensure that students are fully equipped with both the commercial and technical skills required to meet the demanding needs of a career in biotechnology and to significantly contribute to the growth of the industry. Potential candidates are advised to visit the IBioIC CTP website (http://www.ibioic-ctp.com/) to familiarise themselves of what is required as part of the programme. The successful applicant will be awarded a 4-year studentship including full tuition fees (UK/EU rate) and a tax-free maintenance stipend (currently £14,777). The PhD Studentship, which will commence in October 2018, will also include a mandatory industry placement (minimum 3 months) hosted by the Industrial Partner Algaia in France. Candidates should have (or expect to achieve) a First Class Honours undergraduate degree and/or an excellent postgraduate qualification in biomedical sciences (including microbiology, parasitology and forensic sciences), industrial biotechnology or chemistry with biology. Potential applicants should, in the first instance, make email contact (including a CV) with the project supervisors, Professor Cherry Wainwright (c.wainwright@rgu.ac.uk) or Dr Giovanna Bermano (g.bermano@rgu.ac.uk) to discuss the project. Please note that this position is only open to UK/EU Nationals.

Applicants' data may be shared in an anonymised fashion between project partners and the funding bodies.

Closing Date 5pm Friday 13th April