



## ***PhD Studentship available***

Botany and Plant Science, School of Natural Sciences *and*  
Ryan Institute for Environment, Marine and Energy Research  
National University of Ireland Galway, Ireland

### ***'Seaweed-microbiome interactions'***

#### **Background**

Applications are invited from suitably qualified candidates for a full time PhD (structured PhD programme) under the supervision Dr Stengel's Research Group in Botany and Plant Science (Algal Biosciences; <http://www.nuigalway.ie/science/school-of-natural-sciences/disciplines/botany-plant-science/research/algalbiosciences/>) in collaboration with Microbiology at the National University of Ireland Galway.

We seek to recruit an early career scientist with a keen interest in **seaweed biology, biochemistry and microbiology**. This position is funded by the Department of Agriculture, Food and the Marine and is available from March 2017 for 4 years.

Irish seaweeds are recognised as an important source of valuable bioactives however, their chemical composition is highly variable, and fluctuates according to environmental influences. The effects of biotic impacts on algal chemical composition and associated bioactivity have been demonstrated but their implications remain poorly understood. Storage and processing methodologies potentially influence both directly and indirectly the food value of algal biomass. This project will assess the role of biotic interactions in bioactive production, and potential degradation, and investigate the scope to apply naturally produced enzymes to increase bioactive yields.

The project aims to assess the impacts of seaweed-biota interactions on the chemical composition of Irish seaweed species. The project will have a field-component (collection of algae) but will be largely experimental and lab-based and involve some microbiology. A suitable candidate will ideally have a background in seaweed/plant biology and microbiology, and a keen interest in algal chemical ecology and biochemistry.

The successful candidate will

- Undertake and be responsible for sourcing (collection) of selected macroalgae from the Irish coast and experimental seaweed cultures under controlled conditions
- Conduct research into bioactive compound production, extraction and experimental manipulation thereof
- Undertake extraction and analysis (e.g. HPLC, GC-MS) of bioactive compounds (e.g. pigments, PUFAs, MAAs, phenols) from macroalgae
- Interact with the wider project team; some travel to partner laboratories (Dublin/Cork) may be required.
- Be highly motivated and a good communicator (oral and written skills)

Some previously research experience in the field will be an advantage.

#### **Requirements**

Applicants should have a good primary degree (First or Upper Second Class Honours) in an appropriate discipline (Marine Science, Plant Science, Microbiology or similar). The successful candidate should be highly self-motivated and have some background and particular interest in seaweed biology, biochemistry and microbiology. In addition to a relevant degree(s), the successful candidate will ideally have some additional research experience (e.g. MSc) in the field of algal biology or biotechnology, microbiology, chemical extraction techniques and basic analytical techniques for the determination of algal biochemical composition (e.g. HPLC, GC). A valid driving licence is essential for seaweed collection.

#### **Award**

The PhD Fellow will be placed in the Discipline of Botany and Plant Science in the School of Natural Sciences and Ryan Institute at NUI Galway. The student will be registered at NUI Galway, working under the

supervision of Dr Dagmar Stengel and collaborate with Project partners at Teagasc and University College Cork. The Fellowship will start as soon as possible (March 2014).

The Fellowship provides a stipend of €18,000 which is tenable for 4 years. Additionally University fees are paid (European nationals). The successful candidate will be enrolled for a Structured PhD programme (<http://www.nuigalway.ie/graduatestudies/>).

**Start date:** March 2017

#### **Further Information/Applications**

Dr Dagmar Stengel, Botany and Plant Science, School of Natural Sciences and Ryan Institute; National University of Ireland Galway, Galway.

Email: [dagmar.stengel@nuigalway.ie](mailto:dagmar.stengel@nuigalway.ie)

#### **Application Procedure**

Please submit an electronic copy of *Curriculum Vitae* with 3 referees' contact details and a Letter stating your interest and suitability for the PhD position to:

Dr Dagmar Stengel ([dagmar.stengel@nuigalway.ie](mailto:dagmar.stengel@nuigalway.ie)).

**Closing date:** 10 February 2017 5 pm (local) Irish time.

<http://www.nuigalway.ie/science/school-of-natural-sciences/disciplines/botany-plant-science/research/algalbiosciences/>

[www.nuigalway.ie](http://www.nuigalway.ie)