



TUS

**Technological University of the Shannon:
Midlands Midwest**
Ollscoil Teicneolaíochta na Sionainne:
Lár Tíre Iarthar Láir

POSTGRADUATE RESEARCH OPPORTUNITY

Project Title: AMicrobioM

Short Project Description:

With anthropogenic climate change, wetter and warmer Irish climate is expected to increase the biotic pressure on crops. The identification of novel bioactive compounds with impacts on crop health is therefore of timely importance. While projects are underway to isolate crop-related bioactives from seaweeds, those do not consider the microorganisms living on and inside the seaweeds themselves. Indeed, seaweeds live in proximity with marine microorganisms that are thought to protect against pathogens and stimulate algal growth and development. Therefore, the seaweed microbiome likely produces molecules of relevance to crop health. In this AMicrobioM project, the microbiomes of Irish seaweeds will be isolated, and their secondary metabolites screened for activity as crop defense elicitors, antimicrobial compounds acting on crop pathogens, and plant growth stimulants. The bioactives will subsequently be characterized and tested for bioactivity on crops relevant to Irish agriculture. Altogether, this project aims to generate novel solutions to alleviate biotic pressure on Irish crops, stimulate growth, and ultimately increase crop yields. The fractions generated could be tested for bioactivity on a range of other study systems and the AMicrobioM collection will place TUS and Ireland at the forefront of discovery efforts for novel bioactives from the marine environment.

Duration of Project: 4 years

Funding Agency: Research Ireland

Type of Degree Offered: PhD

Minimum Qualifications/Experience Necessary/Any Other Requirements:

Candidates with primary honours degree in a biological discipline, with working knowledge in Microbiology.

Minimum classification of 2.1 honours or equivalent relevant Industrial experience.

IELTS [International English Testing System] Applicants must have a minimum of 6.0 with no component score less than 6.0.

Research Supervisors: Dr Antoine Fort

For further information, please contact: Dr. Antoine Fort: antoine.fort@tus.ie

Download TUS Scholarship application form here:

<https://tus.ie/rdi/research/office/funded-research/>

Closing date for receipt of completed application form is 7th of February. Interviews will take place within subsequent weeks.