



## Institute of Technology

### Ciência sem Fronteiras / Science Without Borders

#### Postgraduate Project Template

<b>Institution:</b>	Institute of Technology, Sligo
<b>Title of Postgraduate Opportunity:</b> (include level of study)	Masters of Science (MSc) / PhD Microbial Source Tracking: Molecular Biology Methods applied to tracking Indicator Microorganisms and pathogenic microorganisms in the environment.
<b>PI Name &amp; Contact Details:</b>	Dr. Michael Broaders <a href="mailto:Broaders.michael@itsligo.ie">Broaders.michael@itsligo.ie</a> Dept. Environmental Science Institute of Technology, Sligo Ash Lane Sligo
<b>Department/School:</b>	Environmental Science
<b>Research Centre /Group:</b>	The Centre for Biomolecular Environmental and Public Health Research
<b>Research Centre/Group website:</b>	<a href="http://itsligo.ie/external-examiners/research-welcome/research-groups/beph/">http://itsligo.ie/external-examiners/research-welcome/research-groups/beph/</a>
<b>Brief Summary of PI research / research group /centre activity</b>	
<p>The Centre for Biomolecular Environmental and Public Health Research is a multidisciplinary research and education centre, committed to leadership in the field of biomolecular environmental health research. Based at the Institute of Technology, Sligo, and founded in 2007, the centre collaborates with researchers, scientists and stakeholders across various disciplines to advance knowledge on environmental health research for the 21st century both in Ireland and internationally.</p> <p>The priorities of the Centre are to:</p> <ul style="list-style-type: none"> <li>• Demonstrate and develop sustainable advanced, quality biomolecular research in strategically emerging important areas of environment and public health;</li> <li>• Engage in collaborative research with other scientists at home and abroad;</li> <li>• Educate students, staff and external learners both in theory and practice;</li> <li>• Involve state agencies and other relevant bodies;</li> <li>• Inform stakeholders in cogent terms on regional, national and international research issues;</li> </ul>	

- Establish partnerships with environmental and health agencies, as well as business concerns and thus provide an applied endpoint to the Centre's research activities;
- Develop and evaluate strategies to provide the highest quality education on public health;
- Assess national and internationally available scientific funding and resources;
- Promote developments in research via workshops, literature and media;

**Brief Description of Masters or PhD Project**

Microbial Source Tracking: Molecular Biology Methods applied to tracking Indicator Microorganisms and pathogenic microorganisms in the environment.

Project 1. Discharges from Wastewater treatment and distribution into the environment.

Project 2. Discharges from onsite wastewater treatment and groundwater contamination in rural areas.

Project 3. Fate of microbial discharges into estuarine environments.

Develop and exploit methodologies to detect pathogenic microorganisms from environmental sources.

**Key Attributes of Project for Brazilian Postgraduate Students**

Three multi-disciplinary projects to develop and exploit methodologies to detect pathogenic microorganisms from environmental sources.

**Name and contact details for project queries, if different from PI named above:**

As above

**Please indicate graduate disciplines which are eligible for application:**

Environmental Microbiology

Microbial Molecular Biology

**Alignment with Science Without Borders Priority Areas:**

Engineering and other technological areas	
Pure and Natural Sciences (e.g. mathematics, physics, chemistry)	
Health and Biomedical Sciences	
Information and Communication Technologies (ICTs)	
Aerospace	
Pharmaceuticals	
Sustainable Agricultural Production	
Green Chemistry	
Oil, Gas and Coal	
Renewable Energy	
Minerals	
Biotechnology	
Nanotechnology and New Materials	
Climate Change	
Biodiversity and Bioprospection	

Marine Sciences	
Productive Inclusion and Social Technologies	
Housing and Sanitation	✓