



Institute of Technology

Ciência sem Fronteiras / Science Without Borders

Postgraduate Project Template

Institution:	Institute of Technology Sligo
Title of Postgraduate Opportunity: (include level of study)	Enhanced delivery of ecosystem services through Agri-environment management of farmland (Masters by Research / PhD)
PI Name & Contact Details:	Dr. James Moran moran.james@itsligo.ie
Department/School:	School of Science
Research Centre /Group:	Applied Ecology Group
Research Centre/Group website:	http://itsligo.ie/research-innovation/research-welcome/research-groups/applied-ecology/
Brief Summary of PI research / research group /centre activity	
<p>This research will be carried out at the Department of Environmental Science within the School of Science, which has a long track record in environment education, training and research. The group focuses on interdisciplinary research applied ecology in areas such as agri-environmental management, ecosystem restoration and sustainable management of Natura 2000 and other protected areas. Current research projects include investigation of high nature value farming in north-west of Ireland, peatland restoration and C sequestration on cutaway peatlands and development of locally targeted High Nature Value Farmland programmes. Current collaborators on these projects include Bord na Mona, Teagasc, National University of Ireland Galway, European Forum on Nature Conservation and Pastoralism, Heritage Council. Dr. James Moran was the knowledge transfer and ecological research specialist in the 5 year Burren Life programme - a programme whose success in engaging and empowering local communities was internationally recognised and whose innovations have now been taken on by the State in the expanded Burren Farming for Conservation Programme. As part of their science into practice work, the group is currently involved in working groups developing proposals for Ireland's Rural Development Programme 2014-2020 as part of the current round of CAP reform. Main research interests include of the applied ecology group led by Dr. James Moran include agro-ecology; high nature value farmland; grazing ecology; wetland ecosystems; development of agri-environment schemes; biodiversity and ecosystem services; protected areas management.</p>	
Brief Description of Masters or PhD Project	
<p>Ecosystem services are services provided to society by the earth and are all the outputs from the earth's ecosystems. The can be divided into provisioning, regulatory, support and cultural services.</p>	

Regulating services which include climate and air quality regulation, carbon sequestration and storage, moderation of extreme floods, waste water treatment, erosion prevention, pollination, biological control regulating pests and diseases. Support services are those which underpin all other services providing habitats for species and maintain genetic diversity providing a gene pool for development of crops and livestock. The provisioning of ecosystem services is supported by various agriculture and land management policies in both Brazil and Ireland e.g. EU Common Agriculture Policy (Ireland), various Payment for Ecosystem Services (PES) schemes initiated in early 2000s (Brazil) (Source: OECD). Agri-environmental management of farmland has been a feature of EU agriculture since the reforms of the Common Agriculture Policy in the 1990s. Today it has the potential to be a key management tool for the delivery of ecosystem services in agricultural ecosystems. The objective of this project is to compare and contrast the delivery and effectiveness of ecosystem services through various agri-environment initiatives in Ireland and Brazil.

Key Attributes of Project for Brazilian Postgraduate Students

The applied ecology group at IT Sligo has a growing reputation in the area of natural resource management, capable of distilling down the complex ecosystem interactions in order to devise practical measures to improve the delivery of ecosystem services. They have a number of key collaborators both nationally and internationally giving prospective students the opportunity to network and foster collaborations with scientists, NGOs and practitioners across Europe.

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

As above.

Please indicate graduate disciplines which are eligible for application:

Student should have a Bachelor of Science honours degree (2.2 or higher) in either environmental science, agricultural science, ecology or a related discipline.

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	