

SCHOOL OF GEOGRAPHY AND ENVIRONMENTAL SCIENCES

UNDERGRADUATE DEGREES 2022-2023

**MAKE A  
DIFFERENCE**

“Our students have the potential to make a real difference. Our degrees are deeply embedded within the context of a changing world: climate change, rapid urbanization, and the depletion of natural resources by a growing population.

We are internationally recognized for our teaching and research, ranked 3rd in the UK for student satisfaction in Geography & Environmental Science<sup>1</sup> and with a research presence in 31 countries and 3 world oceans. This wealth of expertise offered by our staff, including climate change impacts, sustainable cities, freshwater and marine science, and remote sensing of the environment, contributes directly to our courses.

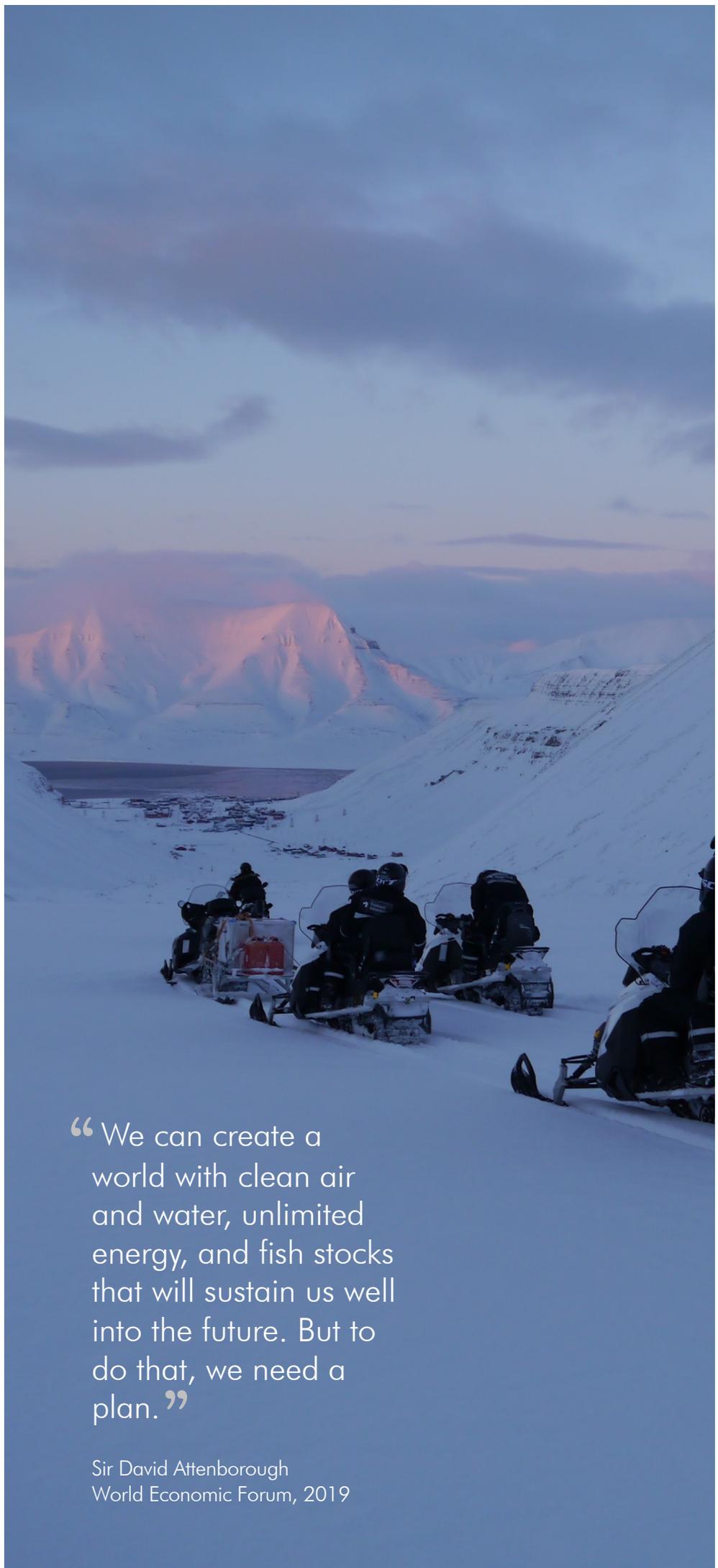


You will benefit from our location on the Causeway Coast, strong industry and government partnerships, and established industrial placements and study abroad opportunities. We will strive to prepare you for the world of tomorrow.”

**Dr Sara Benetti**  
Head of School

[ges@ulster.ac.uk](mailto:ges@ulster.ac.uk)  
[www.ulsteruniges.com](http://www.ulsteruniges.com)

<sup>1</sup>Complete University Guide, 2021



“We can create a world with clean air and water, unlimited energy, and fish stocks that will sustain us well into the future. But to do that, we need a plan.”

Sir David Attenborough  
World Economic Forum, 2019

# ENVIRONMENTAL SCIENCE

## BSc (Hons)

### SCIENCE FOR A CHANGING WORLD

#### UCAS Codes

BSc Environmental Science: F900  
with Industrial Placement: F900  
with Study Abroad: F900  
with Psychology: F8C8  
with Education: F8X3

#### Entry requirements

BCC at A-level.

No specific subjects are required, although a science subject is preferred.



**Dr Joerg Amscheidt**  
Course Director

[ges@ulster.ac.uk](mailto:ges@ulster.ac.uk)

**Taking care of our planet for future generations is one of our most important responsibilities.**

By studying Environmental Science with us, you will gain the knowledge and skills to address issues such as climate change, conserving animal and plant diversity, environmental impacts of development and the management of water and air pollution. If you enjoy science or geography and have an interest in environmental issues, this course is for you.

Multidisciplinary scientific approaches mean our degree in environmental science has diverse ranges of practical applications; from assessing drinking water quality, to studying processes that cause erosion, investigating agricultural pollution sources, to assessing the impact of industrial developments on our flora and fauna.

At this time of unprecedented environmental change on planet Earth, society is having to adapt to processes and hazards that are poorly understood. Now, more than ever, society needs graduates with an interdisciplinary understanding of the complexity and uncertainty of Earth systems, and with the skills to observe, measure, model and manage these systems. Our environmental science degree at Ulster spans the terrestrial, atmospheric and freshwater systems.

**To learn more about environmental science, visit: [www.ulsteruniges.com](http://www.ulsteruniges.com)**

#### Year 1 modules The Fundamentals

Skills Toolbox  
Environmental Systems  
Society & Environment  
The Hydrosphere  
The Biosphere  
The Lithosphere

#### Year 2 modules Processes and Skills

The Atmosphere  
GIS & Remote Sensing  
Sustainable Planning  
Freshwater Systems  
Ecology & Biogeography  
Environmental Field School

#### Year 3 optional Diploma

Industrial Placement  
Study Abroad

#### Final Year modules Applying Knowledge

Environmental Change  
Advanced GIS & Remote Sensing  
Research & Professional Skills  
Water Resource Management  
Environmental Management  
Dissertation

# ENVIRONMENTAL SCIENCE

## BSc (Hons)

### RECENT GRADUATES – WHERE ARE THEY NOW?



#### Colin Armstrong

Freshwater Scientist, DAERA  
Marine protected areas, invasive species,  
marine historic environment



#### Edward Lockhart

GIS Analyst, ABPmer  
Marine renewables, coastal processes,  
metadata production, bathymetry surveys



#### Gail McAleese

Offshore Geophysicist, GDG  
Wind farm assessments, oil industry  
surveys, data cable surveys



#### Rosie McMenamain

Town and Country Planner, DCSDC  
Environmental impact assessments,  
habitat regulation assessments



#### Dellwyn Kane

Ecologist, Kane Ecology Ltd.  
Protected species, bats, badgers, otters,  
newts, protected habitats



#### Pete Rodgers

Hydrogeologist, ERM  
Contaminated soil and groundwater,  
environmental consultancy



#### Lynda Byrne

Mapping and Charting Officer, OSNI  
Spatial data, orthophotography,  
land registry, farmland boundaries

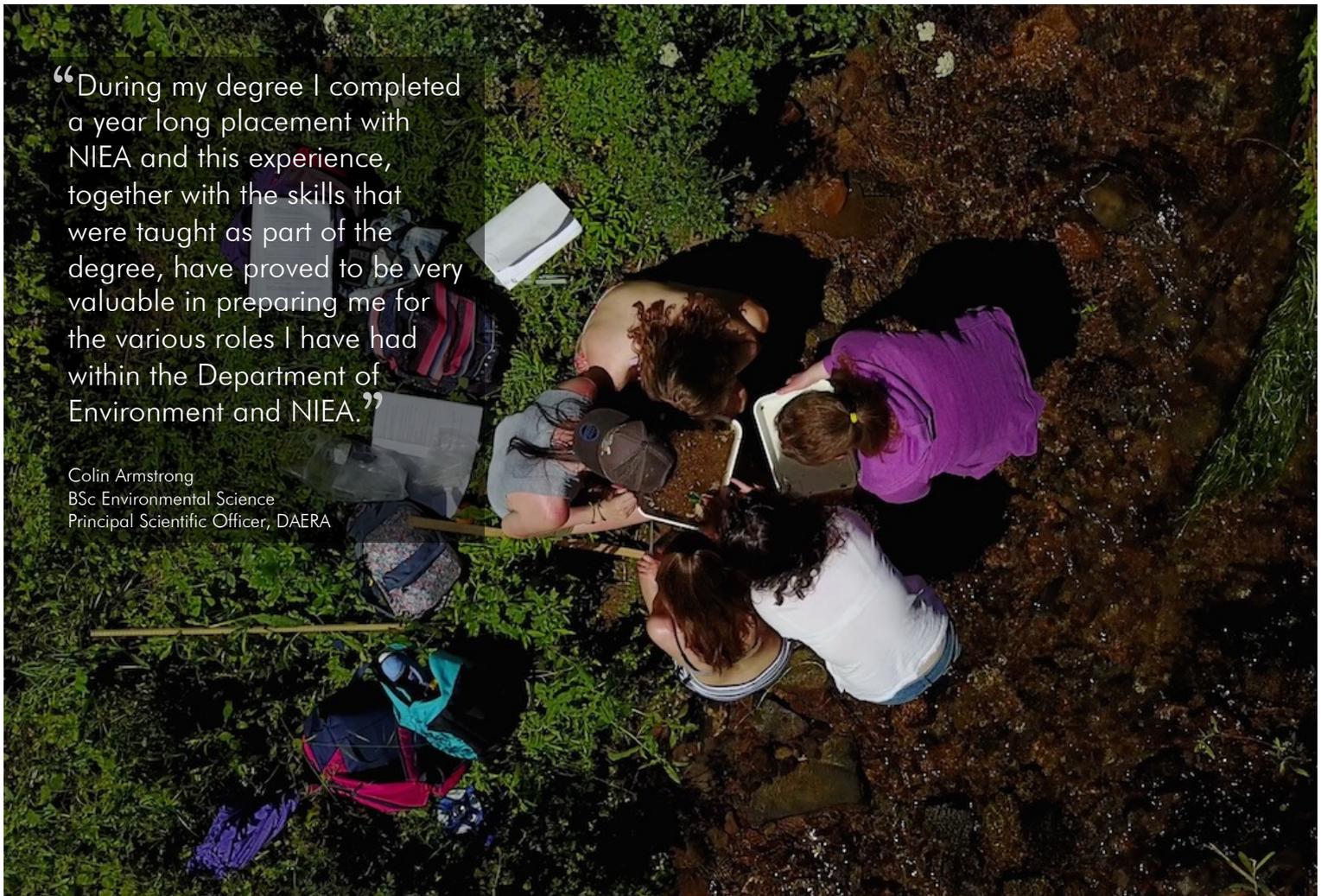


#### Thomas Smyth

Research Scientist  
Mathematical modelling, fluid flow,  
sediment dynamics

“During my degree I completed a year long placement with NIEA and this experience, together with the skills that were taught as part of the degree, have proved to be very valuable in preparing me for the various roles I have had within the Department of Environment and NIEA.”

Colin Armstrong  
BSc Environmental Science  
Principal Scientific Officer, DAERA



# MARINE SCIENCE

## BSc (Hons)

### SCIENCE FOR A CHANGING WORLD

#### UCAS Code

BSc Marine Science: F719

#### Entry requirements

BCC at A-level.

No specific subjects are required, although a science subject is preferred.



**Dr Chris McGonigle**  
Course Director

[ges@ulster.ac.uk](mailto:ges@ulster.ac.uk)

#### Are you passionate about the health of our oceans and life in our seas?

Our degree in marine science is the integrated study of our coasts and oceans. It covers aspects of marine biology and ecology, through marine geology, underwater archaeology and ocean engineering, to the oceans as an economic resource and as a global climate regulator.

At a time of unprecedented environmental change on Earth, society is having to adapt to processes and hazards that are poorly understood, and at the same time feed a growing population. Now, more than ever, society needs graduates with an understanding of the complexity and uncertainty of marine systems, and with the skills and competencies to observe, measure, model and manage them.

We achieve this in our degree through the integration of theoretical, practical and field-based approaches. Our Coleraine campus is ideally located on the Causeway Coast, one of the world's most spectacular natural laboratories.

The Blue Economy (activities related to the ocean) is growing each year, and in 2018 was worth €566 billion while generating an estimated 3.5 million jobs across Europe. Our graduates find employment all over the world in the public and private sectors, in areas as diverse as offshore renewables, coastal engineering, fisheries science, marine mammal science, scientific diving, coastal zone management and marine conservation.

To learn more about marine science, visit: [www.ulsteruniges.com](http://www.ulsteruniges.com)

#### Year 1 modules The Fundamentals

Skills Toolbox  
Marine Systems  
Society & Environment  
The Hydrosphere  
The Biosphere  
The Lithosphere

#### Year 3 optional Diploma

Industrial Placement  
Study Abroad

#### Year 2 modules Processes and Skills

The Atmosphere  
GIS & Remote Sensing  
Sustainable Planning  
Coastal & Marine Processes  
Marine Ecology: Processes & Systems  
Marine Field School

#### Final Year modules Applying Knowledge

Environmental Change  
Advanced GIS & Remote Sensing  
Research & Professional Skills  
Modelling Marine Species & Habitats  
Applied Oceanography  
Dissertation

# MARINE SCIENCE

## BSc (Hons)

### RECENT GRADUATES – WHERE ARE THEY NOW?



#### **Charles Ford**

Sustainable Aquaculture Industry  
Sustainable aquaculture, fisheries, seafood,  
fish farms, global seafood supply



#### **Sarah Bond**

Analyst, ARUP  
Marine mammal science, integrated solutions  
to ocean data collection



#### **Rebecca McCready**

Coastal Processes Scientist, Canterbury Council  
Flood and coastal erosion risk management,  
stakeholder engagement



#### **Niall McGinty**

Fisheries Scientist, University of Iceland  
Species distribution modelling, commercially  
important fish, marine ecology



#### **Craig Dyer**

Senior Hydrographic Surveyor, Fugro Ltd.  
Civil Hydrography Programme, UKHO, MCA  
offshore sonar surveys



#### **Connor McCarron**

Coastal Engineer, HR Wallingford  
Marine geophysics, sedimentology, numerical  
modelling, oceanography



#### **Aaron Kirkpatrick**

Marine Mammal Scientist, Baylor University  
Marine mammals, adaptation, climate  
Change, physiological adaptations



#### **Fionnuala Kerr**

Environmental Engineer, ABCO Marine  
Marine engineering, renewable energy,  
subsea cables

“I spent my placement year at the Atlantic Whale Foundation, based in Tenerife. During this placement, I was given some amazing opportunities including regular boat trips to carry out surveys on the resident and migratory cetacean populations as well as underwater video recording of Pilot Whales, a truly unforgettable experience!”

Rebecca McCready  
BSc Marine Science  
Coastal Scientist, Canterbury Council



# GEOGRAPHY

## BSc (Hons)

### PHYSICAL & HUMAN

#### UCAS Codes

BSc Geography: F800  
with Industrial Placement: F800  
with Study Abroad: F800  
with Psychology: F8CV  
with Education: F8XH

#### Entry requirements

BCC at A-level.

No specific subjects are required, although geography is preferred.



**Dr Suzanne Beech**  
Course Director

[ges@ulster.ac.uk](mailto:ges@ulster.ac.uk)

**Taking care of our planet for future generations is one of our most important responsibilities.**

Geography is the study of the Earth as the home of people. It concerns the disposition and interaction of people, resources and natural events, and places emphasis on cultural and social perspectives. It also explores the nature, scale and processes affecting physical features on the surface of the Earth, and the human element in global events.

Our Geography degree provides a multi-disciplinary foundation in these areas and provides access to a wide range of careers. At Ulster, you have access to a range of human and physical geography modules, so you can tailor your degree according to your preference.

A degree in geography opens many new doors in terms of your career choices. Geographers specialise in understanding and trying to improve society's problems. In our degree programme you will develop a range of quantitative and qualitative research skills, and address a range of human and physical geography issues; such as climate change, coastal erosion, conflict, development, and poverty.

Our graduates are employed across a wide range of fields. Many have forged careers in environmental agencies, GIS, education, consultancy, town and country planning, and public administration.

**To learn more about geography, visit: [www.ulsteruniges.com](http://www.ulsteruniges.com)**

#### **Year 1 modules** **The Fundamentals**

Skills Toolbox  
Environmental Systems  
Society & Environment  
Key Concepts in Geography  
The Biosphere  
The Lithosphere

#### **Year 2 modules** **Processes and Skills**

The Atmosphere  
GIS & Remote Sensing  
Sustainable Planning  
Development, Environment & Society  
Geography Field School  
Freshwater Systems (optional)  
Coastal Processes (optional)

#### **Year 3 optional** **Diploma**

Industrial Placement  
Study Abroad

#### **Final Year modules** **Applying Knowledge**

Dissertation  
Conflict Geographies  
Research & Professional Skills  
Environmental Change (optional)  
Adv GIS & Remote Sensing (optional)  
Water Resource Management (optional)  
Environmental Management (optional)

# GEOGRAPHY

## BSc (Hons)

### RECENT GRADUATES – WHERE ARE THEY NOW?



**Paul Fearon**

Geospatial Specialist, NZ Government  
GIS solutions, water resources, surveying,  
energy solutions



**Hannah Orr**

Mapping and Charting Officer, OSNI  
GIS, data analysis, planning, business  
development, land folio searches



**Scotty McFarland**

Geography Teacher  
Education, empowering young people,  
All things geography



**Khadum Hasson**

Financial Crime Analyst, PwC  
Financial crime analysis, business analysis,  
GIS, geospatial data



**Matthew Strahan**

3D Laser Scanning Specialist  
Laser scanning, built heritage, 3D models,  
AutoCAD, industrial heritage



**Ryan Johnston**

GIS Data Engineer  
GIS analysis, transport industry, SMEs,  
multinationals, stakeholder engagement



**Patricia Doran**

InterTrade Ireland  
Outreach, logistics, promoting cross-border  
trade and development



**Martine Cameron**

GI Specialist, Department for Communities  
GIS, administration and management  
of spatial database infrastructure

“The degree at Ulster instilled in me an understanding of many different systems and processes, from GIS to geology, and an understanding of how a place can be shaped by culture and the people using it. It changed the way I think.”

Matthew Strahan  
BSc Geography  
Heritage Scientist

Royal  
Geographical  
Society  
with IBG

Accredited  
Programme

# FIELDWORK

## AT HOME AND OVERSEAS

There is a strong emphasis on field training in all our degree programmes. The field provides a natural laboratory where you can learn. From residential trips at home and overseas (Portugal, Spain, Cyprus), to day trips surveying and sampling, the field is where you put theory into practice.

We are located on the spectacular Causeway Coast, minutes away from natural laboratories including the open sea, estuaries, rivers, lakes, woodlands and uplands.

Fieldwork is widely recognised as being key to developing employable skills.

To learn more about fieldwork, visit: [www.ulsteruniges.com/fieldwork](http://www.ulsteruniges.com/fieldwork)



# YEAR 3 OPTIONS

## INDUSTRIAL PLACEMENT OPTION



**Dr Wes Forsythe**  
DPP Coordinator

The optional Diploma in Professional Practice (DPP) is a work-based learning experience that takes place between the second and final years of your degree programme. You work in an organization (company, local or central government or voluntary organization) under the supervision of an Industrial Supervisor, supported by our DPP Coordinator. In addition to the DPP qualification, you gain substantial experience of work in a professional area, which adds to your CV.

The formal preparation for placement during the first semester of your second year is the 20 credit module Skills for Sustainable Planning, including support in preparing a CV, and strategies for finding a placement. The placement lasts between 25 and 48 weeks.

“Placement gave me the opportunity to taste the real world and make contacts with organizations and individuals already working in environmental management or conservation. I really did feel part of the team and was treated as such. I developed communication and presentation skills through the many presentations I delivered. You have nothing to lose and everything to gain from a placement.”

Chris Madden, DPP student

## STUDY ABROAD OPTION



**Dr Sara McDowell**  
DIAS Coordinator

Reasons to study abroad include:

- Strengthen your existing skills and develop new ones. A new educational setting will require you to build upon your learning processes, and a new routine will push you to adapt and develop new skills to cope with the change.
- Add value to your degree. Studying at a university abroad will mean you are able to take classes not offered at Ulster. Doing so will give you the opportunity to extend and diversify your learning experience.
- Experience new cultures. Outside of lectures, the world is your oyster! The opportunity to travel and explore will give you a wealth of experience that you can bring home.
- Enhance your employability. The world is now a global stage, so what better way to get noticed? Having demonstrable experience of living and learning in another culture is often prized by employers, especially international companies.
- Improve your language skills. What better way to learn a language but to live it? Even if you aren't taught in your host language, your day-to-day interactions will help you swiftly build up knowledge and vocabulary.

Schemes include: ISEP and Study USA for placements in the United States and Turing for Europe, Australia and South America.

To learn more about study abroad options, visit: [www.ulster.ac.uk/goglobal](http://www.ulster.ac.uk/goglobal)

“Reflecting on my year abroad in Alicante, I genuinely had the time of my life and made friends for life. It helped me mature and taught me a lot about different ways of life and cultures.”

Matthew Mulligan, DIAS student

# LABORATORY EXPERIENCE

## EMPLOYABLE SKILLS

Develop your problem-solving, team-working and critical-thinking skills, and gain exposure to dissections, reactions, materials and equipment in campus and field-based laboratory settings.

Develop your lab skills for careers in areas as diverse as fisheries stock assessment, pollution monitoring, water-quality assessment, soil testing, agricultural monitoring, applied oceanography and ecotoxicology.



# GIS AND REMOTE SENSING

## OUR SPATIAL WORLD

The use of geospatial technology is changing the way we look at planet Earth. It is revolutionizing everything we do; from enhancing humanitarian efforts such as disease control and urban planning, to providing innovative approaches for environmental monitoring.

The global GIS market will be worth €14.5 billion by 2023. With that expansion comes greater demand for graduates skilled in remote sensing and GIS.

At Ulster you will focus on applying geospatial information and remote sensing to topics in terrestrial ecology, ocean science, human and physical geography, geology, engineering, heritage and hydrology.

### Typical applications

Quantifying crop conditions with Normalized Difference Vegetation Index (NDVI). The global food supply is being monitored with satellite imagery and the NDVI. Near-infrared radiation is being used to detect healthy vegetation in agriculture.

Glaciers hold the largest freshwater reservoir on Earth. NASA's GRACE satellite showed that the Alaskan glaciers were losing mass at about 20.6 gigatonnes per year. Rapid ice melting has profound effects on sea level.

Satellites monitor sea surface temperature and ocean colour because they are indicative of specific fish species. Algal blooms can also be mapped which are harmful to aquaculture. This improves overall long-term sustainability.

Global forest supplies are being monitored because they not only provide valuable raw materials but they also absorb roughly one-third of carbon dioxide emissions. AVHRR, MODIS and SPOT quantitatively measure the loss and gain of our global forests.

Oil spills have profound effects on marine life and the surrounding environment. Not only can satellites determine the extent of the oil spills, but they can also identify the direction and rate of oil movement.

There is a clear connection between epidemiology and geography. Some diseases are best-suited for climate, land use, and air. Remote sensing data and prediction models are used to understand epidemiological processes.

To learn more about geospatial technology and data, visit: [www.ulsteruniges.com/ug-gis-remote-sensing](http://www.ulsteruniges.com/ug-gis-remote-sensing)

