### **Entry Qualifications:**

Applicants should hold a Bachelor's degree with honours (GPA 2.48 or higher) and 180 ECTS credit points (or an officially equivalent accepted academic degree) in an appropriate life sciences discipline, such as biology, agriculture or environmental science (including zoology, ecology, geology, biochemistry, geography).

If the first degree course was not completed in English, applicants must provide a certificate giving evidence of their proficiency in English. The following are accepted: 600 points (paper-based) and 100 (internet-based) in the TOEFL (Test of English as a Foreign Language) or 6.5 points in the IELTS Academic Test (International English Language Testing System). The required results in other approved English competency tests may be viewed on the UCD website (http://www.ucd.ie/international/study-at-ucd-global/ucdenglishlanguagerequirements/).



#### How to apply?

The application and enrolment for the course takes place at UCD. Persons responsible for this degree course at School of Biology and Environmental Science at UCD and first contact persons for the application procedure are:

Dr Florence Renou-Wilson

School of Biology and Environmental Science College of Science University College Dublin Belfield, Dublin 4 Ireland

Phone: +353 87 2836078 E-Mail: GlobalChange@ucd.ie

Applying online:

To apply online go to www.ucd.ie/apply, create a user account, select "Postgraduate Programmes" and select "MSc Global Change: Ecosystem Science and Policy"

http://globalchange.ucd.ie

https://sisweb.ucd.ie/usis/!W HU MENU.P PUBLISH?p tag=PROG&MAJR=F038

Tuition fees: http://www.ucd.ie/registry/adminservices/fees Facebook: https://www.facebook.com/GlobalChangeMasters



The University College Dublin, the largest university in Ireland, has around 23,000 students. It ranks under the top 2% of the world's universities and emphasises on research and innovation. It is a purpose-built, modern parkland campus close to Dublin city centre. The UCD College of Science is dedicated to the creation, delivery and communication of new knowledge and innovation across the spectrum of science. With staff of 705 and a student population of 5,500 including 1,800 postgraduate students, the College is a vibrant community dedicated to excellence in all our pursuits.



The University ranks as one of the nation's top universities in life sciences and cultural studies and has adopted an ambitious programme for its future development: "Translating Science". With around 28,500 students, 11 faculties and 8 scientific centres, the university has truly developed an international profile and is prepared to meet any challenges that the future may bring. JLU Faculty of Biology and Chemistry is a vibrant faculty with 2,500 students and 37 professors and their academic staff representing all major subjects of natural and life sciences research.

# Participate in research...

Further Contact & Information Programme Co-ordinator (UCD):

Dr Florence Renou-Wilson Phone: +353 87 2836078 E-Mail: Florence.renou@ucd.ie

Head of Degree Programme (JLU):

Prof. Dr. Christoph Müller Institut für Pflanzenökologie, IFZ Justus-Liebig-University Giessen Heinrich-Buff-Ring 26, 35392 Giessen

Phone: +49 641 99-35301 (Secr.)

E-Mail: Christoph.Mueller@bot2.bio.uni-giessen.de

Programme Co-ordinator (JLU):

Regina Gaitsch, Heinrich-Buff-Ring 17, 35392 Giessen, Phone: +49 641 99 34003 E-Mail:Studienkoordination@dekanat.fb08.uni-giessen.de

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# Training in scientific methods...

# Why is this course for me?

Global change (referring to planetary-scale changes of the planet's natural cycles, which are affected by climate change as well as changes in anthropogenic influences) is occurring in complex socio-ecological systems. Understanding the intricate, medium to long-term changes in our land, air and water requires advanced knowledge in measurements, modelling and prediction. Devising effective environmental policy to address global change implies not only sound scientific information but also interdisciplinary dialogue and effective communication of the scientific knowledge.

This international joint Masters course is the response to these challenges and will suit skilled motivated science graduates wishing to develop a scientific career in ecosystem research as well as those aiming to contribute to evidence-based environmental policy. Graduates will receive a joint degree from University College Dublin (UCD) and Justus-Liebig-University Giessen (JLU), two well established universities combining their complementary and multidisciplinary research profiles and cutting-edge expertise.

You will be involved in active research groups in both countries, contributing to their on-going ecosystem studies in order to experience the process of creating scientific knowledge in ecosystem science. In addition to acquiring skills in measuring, analysing and understanding what is behind scientific data you will have the opportunity to develop your analytical, presentation and communication skills to enable you to participate in the policy making process.

## What will I study?

The 16 month long 120 credit points course starts in September at the UCD in Ireland. The first semester is comprised of lectures, seminars, small group work and is followed by a 6-week work placement (January to February). The second semester continues in March at JLU in Germany. The third semester is comprised of the individual research project which can be undertaken in working groups, either at UCD or JLU. On completion of the research project students will produce a minor thesis in the form of a scientific paper.



You will gain experimental and theoretical knowledge in the following topics:

- → Global change (soil, air, water): introduction & advanced techniques,
- → Plant-soil-atmosphere interactions,
- → Science and policy,
- → Core skills for research,
- → Ecosystem and Model development,
- → Policy consultancy,
- → Economics and environmental management,
- → Biodiversity informatics,
- → Palaeoclimatology.

In addition you will be able to choose an optional module each semester to extend your knowledge in an area of your choice.



#### **Programme outcomes**

On successful completion of the study programme, the Faculty of Biology and Chemistry at JLU and the School of Biology and Environmental Science at UCD shall award the joint academic degree Master of Science (M.Sc.) and the graduate will be equipped with three generic skill sets namely:

- (1) Global Change Science,
- (2) Policy & Communication and
- (3) Data Management, Analysis & Reporting.

#### **Career opportunities**

Recent global developments in fields such as climatology and climate change, population distribution, land use, biological systems and ecosystems, resource development and exploitation by industry and society, create new and increased responsibilities in the complex interaction of society and environment. Not just in the research field but also in organisations that are directly or indirectly involved in these areas, such as academic institutions, state or local authorities, national or international organisations, industrial companies and consultancies, the new multidisciplinary skills that you develop in this Masters programme, will be your best asset.

Graduates of the course can become involved in professions, ranging from public relations to consulting work in politics and business, work in media, or analytical studies of system relationships, research and development in the environment. The skills you acquire, particularly through the completion of the minor thesis provide a strong foundation for PhD research.

