Environment Department

- MSc by Research in Environment
- MPhil/PhD in Environmental Economics and Environmental Management
- MPhil/PhD in Environmental Science
- MPhil/PhD in Environmental Geography
INTRODUCTION
The Environment Department was founded in 1992 to integrate ecological and environmental sciences with environmental economics. It is now established as one of the UK’s leading centres for interdisciplinary teaching and research on key environmental issues. Our teaching is led by research, and research students have the opportunity through their dissertation work to contribute to research taking place in the department. In our research and teaching we consider environmental, economic and social implications of the problems studied. These include topics such as air, soil and water pollution, global warming and past climate change, and forest, fishery and wildlife management. In teaching we collaborate closely with the university’s departments of Biology, Economics, and Management. In research we have collaborative ties with a range of University departments, including Biology and Chemistry, as well as the Stockholm Environment Institute at York, which is now part of the Environment Department, and the Food and Environment Research Agency (FERA), which is situated just outside York. In 2016 the Environment Department was re-located to a state-of-the-art £12.5M building at the heart of the University campus. The Department has a very friendly atmosphere and an active research “buzz” with a strong international flavour due to the large number of overseas students. Every week during term time we host a lunchtime research seminar from either an invited guest or resident speaker. Seminar topics cover a wide range of subjects in environmental economics, ecology, environmental science and management. Research clusters organise discussion sessions in which research students are encouraged to participate. More information about the Department is available on the departmental web page.

Student Representatives
The postgraduates elect two student representatives to sit on the Department’s Board of Studies and the Departmental Research Committee. This forum meets once a term to discuss teaching in general and any issues that students wish their representatives to raise. Course representatives also meet with the Chair of the Graduate Board of Studies, which provides a more informal forum for discussion of issues related to PhD programmes. Student representatives or students in general are also encouraged to discuss items of concern as they arise with supervisors, MSc/Diploma Co-ordinators, the (Graduate) Board of Studies Chair, the Head of Department, or any appropriate member of staff. Your representatives for 2015-16 are Sarah Knight and Eric Marr.

Term dates 2015-2016
Autumn Term: Monday 28 September 2015 - Friday 4 December 2015
Spring Term: Monday 4 January 2016 - Friday 11 March 2016
Summer Term: Monday 11 April 2016 - Friday 17 June 2016
Contact details

| Departmental Administrator: Kathryn Addison | Environment Department, University of York, Heslington, York, YO10 5DD, UK |
| Administrative support for Graduate Business: Maroula Hill | Tel: +44 (0)1904 434068 |
| | Fax: +44 (0)1904 432998 |

Website: http://www.york.ac.uk/environment

York Graduate Research School: https://www.york.ac.uk/research/graduate-school/

MSc by Research/MPhil/PhD Admissions Officer and Chair of the Graduate Board of Studies: Prof. Roland Gehrels

Head of Department: Prof. Mark Hodson

Technical services: David Hay
- Rebecca Sutton (ES)
- Debbie Sharpe (ES)
- Dr Maria Gehrels (EG)

Industrial liaisons (e.g. placements): Dr Nancy Baines

Research support: Dr Annabel Jenkins

FACILITIES IN THE ENVIRONMENT DEPARTMENT

Computers: TBC

Laboratories: A large teaching laboratory is particularly geared towards environmental work with a focus on the environmental chemistry of water, soil, and air. An instrumental analytical chemistry laboratory is used for environmental analysis of soils, water, and air samples. Other labs are designed for the storage, preparation and extraction of samples for analysis. There is also a cold store for storage of samples, a dedicated microscope room, as well as several controlled temperature rooms. With agreement students can also access specialised analytical facilities in other University departments and at Food and Environment Research Agency laboratories.

Common Room: Postgraduate students and staff share the ‘Heart Space’ on the first floor, where there is a seating area with table and comfy chairs. All floors in the building have kitchen facilities.

RESEARCH PROGRAMMES (MSc/MPhil/PhD)

The Department adheres to the University Policy on Research Degrees and offers a flexible research degree programme. The MSc by research is a 1-year, stand-alone research degree and can also be taken over two years on a part-time basis. The MPhil is a 2-year programme. A full-time PhD should be completed in three years while the minimum registration for a part-time PhD is 12 consecutive terms. A PhD thesis cannot normally be submitted before either of these times. If necessary, full-time students are allowed a fourth year to complete their thesis.
MSc by Research
This is a one-year degree (if taken full-time) that involves carrying out independent research and writing a Master's thesis under the supervision of a current member of academic staff on a topic to be agreed between the supervisor and the student. Admission to the degree would be an upper second degree (or equivalent) in an environmental science related area. Any member of Environment academic staff may be approached as a supervisor. Students would normally start at the beginning of October to take full advantage of the department’s Research Methods course (compulsory) as well as any other masters-level modules prescribed by the student’s supervisor. The submission date is late September of the following year.

The thesis should demonstrate that the student has read and acquired a good understanding of an environmental science and/or environmental management topic currently considered to be at the forefront of the academic discipline. There should be evidence in the thesis that the student has reviewed and synthesised the literature within the specific area (presented as a seminar after 3 months of study), to be able to give some critical evaluation of the material under study, as well as carrying out the practical research required. The length of the thesis should be 40,000 words. The topic can be field- and/or laboratory-based and/or, if appropriate, a desk-top study.

The thesis is to be examined by one internal examiner (who should not be the supervisor) and one external examiner. An oral examination (viva voce) is required. Where corrections have been recommended these must be made before the degree can be awarded. The pass mark for the MSc by Research is 50%. Exceptional students who attain more than 70% and satisfy the external examiner of their outstanding ability may be awarded an MSc by Research with Distinction. Part-time students can take the MSc by Research over a 2-year period. Their literature review and synthesis presentation will be in the first year and they should aim to submit the thesis towards the end of their 2-year registration period.

PhD
Students who embark on a PhD will normally enrol for a PhD provisionally. Confirmation of that enrolment is then considered within eighteen months for full-time students or within three years for part-timers with a final decision to recommend confirmation made by the end of the second year of study for full-time students or fourth year for part-timers. If PhD enrolment is not approved the student may be recommended to submit for an MPhil degree or MSc by Research.

Requirements for Admission
Students wishing to enter the MSc by Research and MPhil/PhD programme must complete the appropriate application form which can be obtained online. This requests details of qualifications (or those being obtained), and a short research proposal. For admission to an MSc programme by research, candidates shall normally possess at least a second class honours degree or equivalent. PhD applicants must have an upper second class Honours degree (or equivalent) and preferably a relevant Masters degree. The Department can only accept students for an MSc/MPhil/PhD research programme if an appropriate member of staff is available to supervise them. Initial informal enquiries can be made to individual staff directly, or to the Research programmes Admission Officer. See Appendix A for staff research interests.
MPhil/PhD in Environmental Economics and Environmental Management
Interdisciplinary research across economic and ecological sciences is concentrated in four key areas:
- Economics of the environment
- Ecology and environmental management (with emphasis on marine systems, tropical and temperate forest systems, and agro-ecosystems)
- The nature and impacts of environmental pollution
- Sustainable use of terrestrial, marine and freshwater resources
- Economic growth and environmental health outcomes
- Environmental health, migration and socio-economic change

MPhil/PhD in Environmental Science
Research in this programme is focussed on:
- Prediction of water quality from catchment characteristics
- Pollution effects upon soil/plant/water ecosystems
- Evaluation of critical loads and levels of pollutants
- Modelling of atmospheric chemistry processes
- Biogeochemical cycling and sustainability
- Indoor and outdoor exposure to air pollution
- Pathways and impacts of agricultural pollutants

MPhil/PhD in Environmental Geography
Research in this programme is focussed on:
- Sea level change
- Glaciology
- Palaeoecology
- Tropical Biogeography
- Remote Sensing
- Biogeochemical cycling
- Geographical Information System
- Climate change
- International Development
- Human Geography

Supervision
Students can have one or more supervisors. Although the University only requires a single supervisor, it is good practice to have two. Joint supervision normally involves staff from the Environment Department, but can also involve staff from other university departments. Most frequently, joint arrangements have been with Biology, Chemistry, Economics and Related Studies, Politics, or Social Policy and Social Work, but other combinations are possible. Some students (e.g. those connected to doctoral training centres) may have supervisors at other institutions. If the first supervisor has not supervised before it is a University policy to have an additional supervisor who is more experienced.

Students keep minutes of each formal supervisory meeting which are approved by the supervisor, with copies kept by both the student and the department concerned (or saved on the student records system, e:Vision). This record should include the date of the
meeting and a summary of the content of the meeting and of future actions to be performed, including agreed training.

All students enrolled on one of the research degree programmes will be assigned a Thesis Advisory Panel (TAP), which will normally comprise of two members of staff including the student’s supervisor. The TAP meets twice a year and is designed to assist students with ideas, to discuss training needs and to critically assess their progress. It is also responsible for making recommendations for upgrading a student’s registration from the MPhil to the PhD. TAP forms can be found here.

**PhD Confirmation**

Confirmation of the PhD is a formal progression requirement which normally takes place about 18 months into the PhD. Requirements include:

- Evidence that research is under way and that appropriate research training has been completed
- Production of a coherent and realistic plan for the completion and submission of the thesis within the required period
- A substantial piece of written work has been completed (normally to include introductory and methods chapters, a literature review, as well documentation of preliminary results).

The confirmation will be conducted by the TAP. University guidelines on confirmation can be found here.

**Thesis format**

Guidance for the writing of the thesis can be found on the Graduate School pages. The word limit is 80,000. Referencing style is optional, but Harvard is commonly used.

It is also possible to submit a thesis comprising papers in peer-reviewed journals. It is recommended that at least three first-authored papers are included, but depending on content a fourth paper may be required. They must either be submitted for publication, or be submittable. An introductory chapter should summarise the research background and context, aims, objectives and methodology. A synthesizing chapter should summarise results and conclusions of all the work submitted, and explain how it forms a coherent body of work and makes an original contribution to knowledge or understanding. For co-authored works the candidate must provide a written statement, signed by the candidate and by the major contributory co-authors, specifying the candidate’s individual contribution.

**Thesis examination**

All students have an oral examination (viva), which is conducted by at least one external examiner, who is an expert in the particular field of research, together with an examiner from the University of York.

**Publishing**

As an Environment PhD student at the University of York it is expected that you publish your research in international peer-reviewed scientific journals. You should discuss publication with your supervisor(s) early in your PhD. Your supervisor(s) will normally co-author the papers.

The following guidelines for authorship have partially been published as the Protocol of Vancouver. All persons designated as authors on your paper should have participated sufficiently in the work to take responsibility for the content. Authorship credit should be
based only on substantial contributions to 1) conception and design of the research, or analysis and interpretation of data; and to 2) drafting the article or revising it critically for important intellectual content; and on 3) final approval of the version to be published. Conditions 1, 2, and 3 must all be met. Participation solely in the acquisition of funding or the collection of data does not justify authorship. General supervision of the research group is not sufficient for authorship. Group members who do not meet the criteria for authorship but have made a contribution to the research must be listed, with their permission, in the Acknowledgments. The order of authorship should be a joint decision of the co-authors. Normally, the PhD student is the first author. Different disciplines, sub-disciplines, journals etc. have different traditions for the order that authors are listed after the first author. In some cases co-authors are listed alphabetically, sometimes in order of amount of contribution and sometimes with the supervisor or principal investigator as the last. Whichever sequence you decide on, you should discuss the order of authors with your co-authors to avoid any misunderstandings.

Postgraduate Research Conference
All research students who are registered, either wholly or jointly, in the Environment Department have to make a presentation (poster or oral presentation) at the annual departmental Postgraduate Research Conference. First year students present a poster. Second and third year students make an oral presentation. The conference is organised by volunteers from the postgraduate research community and usually takes place in February or March.

Teaching and demonstrating opportunities for research students
The Environment Department provides opportunities for PhD students to gain valuable teaching experience and to earn some extra money. Before the start of the autumn term, the department will advertise Graduate Teaching Assistant (GTA) positions. Candidates should identify suitable jobs and submit a brief statement on how their experience meets with the skills requirements, together with confirmation that they have discussed this and have approval from their supervisor. Jobs will be allocated on a first come first served basis. All GTAs will need to have a contract for their agreed teaching which will be arranged by Kathryn Addison once the arrangements have been confirmed.

The role of the GTA is varied and ranges from accompanying and supporting field trips to helping in lab-based practicals. Some knowledge/experience of the skills in the given module may be required and should be discussed with the module leader on a case-by-case basis. Module details can be found here. University information for postgraduates who teach can be found here. Rates of pay are here.

The University requires all PGRs who wish to pursue paid teaching opportunities to undertake the Introduction to Learning and Teaching one day training course. You should try to take this course before you start teaching, or, if this is not possible, early in the term in which you commence teaching. It is also possible to do a longer, residential course.

Research groups
The Environment Department has organised its research into distinct groupings. Postgraduates are encouraged to join one of the following research groups:

- **Environmental Sciences** - for the chemistry types who do a PhD in Environmental Science. Contact Karen Thorpe
• **Ecology & Conservation** - for the ecological types who do a PhD in Environmental Science. Contact Kathryn Arnold

• **Physical & Environmental Geography** - for the PhDs in Environmental Geography. Contact Richard Payne

• **Environment & Society** - for all social science types, and for PhDs in Environmental Economics and Environmental Management. Contact Karen Parkhill

Some groups meet every week, others less frequently, and from time to time the groups meet to discuss confidential or politically sensitive matters, so not all meetings will always be suitable for postgraduates to attend. However, many meetings will be of interest, for example to discuss research ideas, research papers or because someone gives a presentation or a fieldwork report. The agenda for research group meetings can be diverse and variable, but by ensuring membership you will be kept informed about what is going on. It can also be a forum for you to present or discuss your research and obtain useful feedback. Some research students may feel that your interests fall between two or more groups. In that case just contact all group leaders. Multiple memberships are fine.

**Ancillary research skills training and development**

New research students are required to undertake the central induction delivered by the Researcher Development Team as soon as possible after the start of their programme. Training in ancillary research skills is provided through the Department’s programme of Research Training and Skills Development for Research Students. In accordance with recommendations from the UK Research Councils, all PhD students must complete at least 180 hours of training during the three years of their study, which would normally comprise approximately 60 hours during each year of study. MSc by Research students only do the Becoming an Effective Researcher (BERT) courses. The Department’s Training and Skills programme is part of a broader program of skills training coordinated by the Researcher Development Team based around lectures, workshops, practical sessions and group-based project work, and is designed to enhance students’ expertise in specific techniques applicable to their research, as well as to enable their development of more generic skills in communication and team-working, and to assist with career planning. The Training and Skills programme is designed to be flexible, so that each student, in conjunction with their supervisor and TAP, can develop a programme that will be of greatest benefit to their research and further personal and career development. Postgraduate students keep a log of all training in Skillsforge. This is also where you can book training courses.

**Environment Department Seminars**

A series of research seminars by guest and resident speakers takes place during term times. These are co-ordinated by Dr Kathryn Arnold and cover a wide range of environmental science subjects. Seminars usually last for about an hour (including questions), and normally take place at 13.00 on Tuesday. The seminars are considered an important PhD training element and it is compulsory for PhD students to attend them.

**Research away from Campus**

Students undertaking fieldwork away from the university campus must comply with the Department’s Health and Safety guidelines, including the need to complete risk assessments. Arrangements for undertaking fieldwork abroad will be tailored to the student’s specific requirements but must involve affiliation to a local institution or individual which/who can facilitate contact between the student and their supervisor. For
trips outside the UK you are required to submit a travel log before departure. If you do not submit this log you will not be covered by University travel insurance.

Taught modules available to research students
Research students can enrol for any module offered by the Environment Department and may also take modules in other departments subject to availability. If you want to do this, please discuss with your supervisor and ask them to contact the module leader.

The Graduate School
The York Graduate Research School supports all research students. On their web pages you find important information about training courses and policies, as well as important forms. Please browse their pages and familiarise yourself with the Graduate School and what they can offer.

ACADEMIC MISCONDUCT
The following University policy on the conduct of research is outlined in three documents:

a) Code of practice on research integrity. ‘Research integrity’ refers to high quality and robust practice across the full research process which complies with legal, professional and funder requirements.

b) Code of practice and principles for good ethical governance (rev. July 2014). Research ethics form a subset of research integrity, focusing on the avoidance of harm within the conduct of research. This Code sets out the University’s framework of ethical principles and University requirements for formally reviewing and approving all academic activity which raises ethical considerations, including research. Includes a new ‘Checklist of areas where ethical considerations are likely to arise’.

c) Research misconduct policy and procedure. This sets out clearly what constitutes unacceptable conduct in relation to research.

Students are responsible for ensuring that their work does not contravene the University's rules on academic misconduct that are set out in Regulation 5.7 of The University of York: Ordinances and Regulations.

The University takes a very serious view of any student who attempts to mislead examiners about their work. Forms of academic misconduct include:

- cheating: deliberate failure to comply with the rules governing examinations, e.g. by making arrangements to have unauthorised access to information
- collusion: assisting another individual to gain advantage by unfair means, or receiving such assistance
- fabrication: misleading the examiners by presenting work for assessment in a way which intentionally or recklessly suggests that students have collected factual information which has not in fact been collected, or falsifies factual information
- personation: producing work to be submitted as that not of themselves but of another, or assuming the identity of another individual in order to deceive the examiners, or soliciting another individual to act or appear as themselves, or to produce work on their behalf
- plagiarism: incorporating within students’ work, without appropriate acknowledgment, any material derived from the work (published or unpublished) of another.
Detailed guidance on how to cite references properly and thus avoid "accidental plagiarism" will be given as part of student induction.

Students must also complete the Academic Integrity Tutorial on the university’s Virtual Learning Environment (VLE) as a pre-requisite for satisfactory completion of their programme.

The penalties for any of the above mentioned forms of academic misconduct will vary depending on the seriousness of the offence. Students found guilty of academic misconduct more than once may be asked to leave the University. Detailed guidelines on the formal procedure used to investigate suspected academic misconduct, and to decide penalties are available here.

Plagiarism is becoming an increasingly frequent problem in course work. In many cases, it may be accidental or careless as opposed to malicious. For instance, a student might include some text that they have captured from a web site but forgotten to rewrite into their own words. In reality this cannot be allowed because markers are unable to assess whether the mechanism behind plagiarism was accidental or deliberate. Hence you should not take any risks over this matter and need to be aware that plagiarism is surprisingly easy for staff to identify. If you are at all unsure as to what constitutes plagiarism please speak to an academic member of staff immediately for guidance.

SERVICES AND FACILITIES AT THE UNIVERSITY OF YORK

Computing
Networked PCs with a comprehensive range of software are available throughout the campus. Students can get help and advice from the University’s IT Services.

Library
Orientation tours are available in the first weeks of the academic year to give you an introduction to Library services and facilities. The J.B. Morrell Library has a large stock of books and journals, and provides access to electronic information and electronic journals, mostly via the Web. All major course textbooks are available in the J.B. Morrell University Library.

All the books and journals in the Library are listed in the online Library Catalogue. You can search the catalogue without needing to go to the Library, as it is accessible on the campus network or via the Internet. You do not need to know all the details of a book to be able to find it, though the information on your reading lists is usually complete. You can search for the author, the title or for key words in the title, or even on particular subjects. The Catalogue shows you how many copies of a book are in the Library, or if there are extra copies in the College or Hospital libraries. The location on the shelves is displayed, as well as additional information telling you if any copies have been borrowed, are in Key Texts, are being bound, or have been ordered and not yet received etc. The Library now provides access to over 10,000 journals in an electronic format, via the web.

The Library Catalogue allows you to view your own library record. You will need to log in using your library number and pin, which will be explained to you on your library tour. There are a number of self-service features that this allows you access to, including being able to renew your own books on line.
The Library Enquiry Desk is staffed during office hours, and there is always a senior member of Library staff available on Saturdays and in the evenings. You can e-mail any general questions relating to the library. Guides have been produced on all subjects covered by the Library and on all the services offered. Help yourselves to these when you are in the Library, or visit the Library's web pages.

**Data Protection**
The University collects information about students for administrative, academic, statutory and health and safety reasons. It conforms to the Data Protection Act 1998 in its collection, processing and disclosure of personal data. Your signature on your student registration form gives your agreement to your personal data being used for any purposes connected with your registration with the University, your health and safety or for any other legitimate use of this information. Further information on Data Protection issues can be found via dataprotection@york.ac.uk or [here](https://www.york.ac.uk).

**Research Development Team (RDT)**
The RDT provides courses and workshops for research students and early career researchers, to help them learn and/or develop skills which will be valuable in their future careers. These more general training opportunities complement the more specific discipline-orientated ones offered within the department.

**The University of York Learning and Teaching Award (YLTA)**
This award prepares you for a future academic career. It is a 9 month accredited programme designed to support research students in developing skills in learning and teaching. Environment PhD students can sign up. For more information visit the [YLTA website](https://www.york.ac.uk).

**Careers**
The Careers Service can help you to make the most of your time at York – developing skills, knowledge and experience which will be useful whatever you choose to do after graduation. Some of the services they offer:

- Skills development courses
- Volunteering in local schools and the community
- Student business support and enterprise activities
- Access to part-time work, internship and graduate job opportunities
- Help with choosing and researching career ideas
- Access to careers information on your department, industry sectors, types of work and study opportunities
- Recognition of your achievements through the York Award
- Online Employability Tutorial to help you get the most out of your time at York and plan for your future
- Interactive Careers Service with online database of jobs and opportunities, events and appointment booking

The Careers Service Information room, near Market Square, is well stocked with information about careers in environmental science and management. This includes details about employers, job opportunities, further study and vacation opportunities. Career advisers are available for private consultation during term time and vacations.
In the Environment Department Nancy Baines is the Industrial Liaison Officer. She is a useful contact for future employment opportunities. Once a term our seminar series includes a session entirely devoted to careers.

**The York Award**
The University's York Award is a unique certificate that students can gain by participating in a wide range of extra-curricular activities. The programme offers courses on an extensive range of subjects including: team building, financial management, numeracy, planning a business, project management and communication. Many of these courses are supported by public or private sector organisations. The York award is assessed by portfolio and presentation. More information about the York Award in general is available on the [web site](#).

**Health, safety and welfare**

**Health and safety**
Health and safety in field and laboratory exercises is an important issue. No procedures should be carried out in the field or laboratory without a risk assessment having been carried out and approved. For class exercises, the risk assessment is carried out by the members of staff involved and is explained to students before the exercise begins. For research work, it is the responsibility of the supervisor to ensure that an appropriate risk assessment has been carried out and approved. Since these may involve specific risks, it is also important that students are involved in carrying out the risk assessment and identifying appropriate measures to minimise any risks to themselves.

Any queries about safety matters should be made to the Health and Safety Officer, Dave Hay.

Before starting lab work students should see Rebecca Sutton for a safety briefing.

Important safety information:

- Health and safety pages, the Departments safety handbook, CoSHH and risk assessment forms are on the [departmental web pages](#).
- ‘Information for projects students’ site is also here, and contains lots of useful information for all researchers, especially those engaged in field work of any kind, and/or lab work
- Be aware of the location of:
  - Emergency exits (end of corridors)
  - Assembly point (FP10, the grassy area in front of Wentworth)
- Fire alarm check (weekly – Thursday afternoon ca. 1pm)
- First aiders are:
  - Rebecca Sutton, Senior Research Technician
  - Kathryn Addison, Departmental Administrator
Procedures for notifying accidents or incidents (Via Dave Hay)

Lone working/out-of-hours working – see policy statement in the Safety Handbook. Out-of-hours working in laboratories will require a separate risk assessment. You will need an access code to disengage the security alarm. Always write your name on the white board in the foyer when working out-of-hours.

Security telephone number – 3333 (emergency), 4444 (non-emergency)

**Harassment**
Please raise any complaints about harassment with your supervisor or the Head of Department.

**Welfare Support Service**
The University's Student Support Network is designed to provide students with quick and easy access to a variety of sources of help and advice on all aspects of student life. Personal supervisors in academic departments are responsible for overseeing both academic progress and general welfare. In addition each college has a welfare team which includes the Provost and a College Dean who has special responsibility for student welfare. Every full-time student belongs to a college and has access to all its facilities regardless of whether or not they live on campus.

Central support services available to all students include the Accommodation Office, the Open Door Team, Counselling Service for Students, Disability Services, the Student Support Office, the Equal Opportunities Office, the International Office, the Student Financial Support Unit and the Harassment Advisers (who offer support in cases of harassment). In addition administrative offices such as the Undergraduate and Graduate Offices and the Timetabling and Examinations Offices, provide information and advice. Welfare support is also available through the student-run organisations, particularly the Students' Union and the Graduate Students Association.

**Student Support Services** include the following functions/teams: Student Support Hub, which provides a front of house enquiry and initial appointment booking service for Open Door, Disability Services and Student Financial Support Unit, alongside a range of advice and information services.

The Student Welfare Advisers assist with financial advice to current and prospective students, tenancy matters (including checking student contracts prior to signing), benefits, debt management, council tax, childcare, etc. Information they provide on-line can be found within the Housing and money and Support, welfare and health sections of the student homepage. This includes a range of information and tools on managing personal finances the department may wish to flag to students.

The Special Cases Committee (SCC) deals with Leave of Absences, transfers, appeals and termination of programme. The Chair of Board of Studies generally deals with such matters within the department and represents the department at any SCC hearings. Information for students is under the Academic progress section of the student home page: [http://www.york.ac.uk/students/support/academic/](http://www.york.ac.uk/students/support/academic/)
The International Student Support office, has an overall co-ordinating role for the central support offered to international students, for example through induction/orientation, written and web-based information. International students should also be aware of the University Immigration Advice Service (IAS).

Immigration Advice is governed by statute and only University designated immigration advisers are allowed to provide any immigration related advice. It is vital that any international students going part-time, taking leave of absence or making other exceptional arrangements are referred to the IAS, initially through the web-site, for visa advice at an early stage as breach of visa conditions may lead to deportation.

Open Door Team (ODT) – central service providing support for students with emotional, psychological and mental health difficulties. The ODT offers students an initial appointment usually within three days, and almost always within five days.

Disability Services – provides advice and guidance regarding confirming or assessing disability and meeting the support needs of students and staff with a disability. We have a statutory obligation to make ‘reasonable adjustments’ for staff, students and visitors with a confirmed or apparent disability. You should seek guidance from Disability Services should you need to assess ‘reasonableness’ in a particular case in order to ensure a degree of consistency across the University. Provides on-line or face to face screening for dyslexia and can arrange full psychological assessments.

It is the Department’s responsibility to ensure that there are adequate procedures in place so that the support needs of students with disabilities may be assessed, and that they are not discriminated against during admission or during their studies. There is separate web information for students with disabilities and for staff supporting students with disabilities.

Student Financial Support Unit – is responsible for assessing applications and administering University bursaries (undergraduate bursaries, fee waiver bursaries etc), Hardship Funds (Access to Learning Fund and International Student Hardship Fund), Stafford Loans and Direct Loans (USA students) and central administration of scholarships (excluding those solely for international students). The structure for fees and support for home students, which can be found on the University website.

Leave of Absence
For full guidance see this website. For withdrawals see this website.
Appendix A: ENVIRONMENT DEPARTMENT ACADEMIC STAFF

The following list summarises the careers and research interests of academic staff in the Environment Department.

**Dr Kathryn Arnold:** BSc (East Anglia), PhD (Queensland).
**Senior Lecturer**
Kathryn is an ecologist working mainly on the behavioural and physiological responses of vertebrates to changes in the environment. The main two areas are: 1) the assessment of exposure to and effects of contaminants on wildlife and 2) the ecology of rural and urban birds. Kathryn also maintains an interest in the social behaviour of birds, insects, fish and manta rays. Her work has included projects in Australia, the Maldives, Malaysia and Scotland. Kathryn chairs the Environment Department's Ethical Review Committee and sits on the University's Athena Swan working group which aims to promote the interests of women in science.

**Dr Roman Ashauer:** BSc (Trent, Canada), Dipl. Geookol. (Karlsruhe), PhD (York)
**Senior Lecturer**
Roman's research focuses on the effects of synthetic chemicals in the environment. Questions investigated include: Why do organisms differ in their sensitivity to chemicals? What are the general principles that govern toxicity of different chemicals? How do critical transitions propagate from cells to organisms and ecosystems? Roman is particularly interested in the development of ecotoxicological effect models and tools for risk assessment of chemicals. He is on the steering committee of the SETAC Advisory Group “Mechanistic Effect Models for Ecological Risk Assessment of chemicals” and a member of two editorial advisory boards: “Environmental Sciences Europe” and “Environmental Toxicology and Chemistry”.

**Dr Bryce Beukers Stewart:** BSc (Melbourne), PhD (James Cook).
**Lecturer**
Bryce is a fisheries biologist and ecologist whose work has ranged from temperate estuaries to tropical coral reefs and the deep-sea. The central thread in his research has been to gain an increased understanding of the factors regulating marine populations and communities so as to ensure their sustainable exploitation, primarily by fisheries. His work on deep-sea fishes was among the first to demonstrate their extreme longevity, and on coral reefs he proposed new mechanisms for community regulation of prey fish by predators. More recently his focus has been on how to improve the management of scallop fisheries through the use of predictive recruitment models, marine protected areas and stock enhancement. Bryce has also been especially active in promoting the sale and consumption of sustainable seafood by working with everyone from government ministers to fishermen, restaurants and supermarket chains.

**Dr Charlotte Burns:** BA (York), MA (Newcastle), PhD (Sheffield).
**Senior Lecturer**
Charlie comes from a politics and policy background and is an expert on EU environmental policy and EU decision-making processes. Her work has involved analysing the environmental reputation of the European Parliament, and the way that environmental policy outcomes are shaped by the behaviour of the European Union’s (EU) institutions. She is currently working on the relationship between the politics of austerity in Europe and environmental policy.
**Professor Alistair Boxall:** BSc (Leicester Polytechnic), PhD (Sheffield).
Alistair’s research focuses on the environmental fate, behaviour and effects of emerging environmental contaminants (especially veterinary medicines, pharmaceuticals, nanomaterials and transformation products), and on understanding the risks of these substances to human and environmental health. He is a past member of the UK Government Hazardous Substances Advisory Committee and is director of the EU-Funded CAPACITIE Innovative Doctoral Programme on pollution assessment in cities.

**Professor Colin Brown:** BSc (Leeds), PhD (Newcastle).
**Head of Department**
Colin is an environmental chemist with research interests covering the fate, effects and risk assessment of a range of chemical contaminants in the environment. His current work focuses on pathways for transfer of contaminants between environmental compartments; catchment-level processes and management strategies; development of mathematical models for exposure to contaminants; quantifying toxic effects from complex exposures to chemicals; and enhancement of risk assessment methodologies. Colin’s research group is based alongside that of Alistair Boxall at the Food and Environment Research Agency in York. Colin is a member of the UK Advisory Committee on Pesticides and chairs its Environmental Panel. He is a member of the European Food Safety Authority’s Working Group on Ecotoxicology and of Defra’s Demonstration Test Catchment Research Advisory Group.

**Dr Nic Carslaw:** BSc, MSc, PhD (East Anglia).
**Reader**
Nic is an atmospheric chemist specialising in the development and utilisation of models to gain insight into the chemistry of air pollution, both indoors and out. Her research has involved participating in field campaigns that aimed to study the clean background atmosphere at locations such as Cape Grim, Tasmania, and Mace Head on the west coast of Ireland, as well as the more complex chemistry that occurs in urban areas such as Birmingham and outer London. The models are used to make predictions of various atmospheric constituents that can be compared with field measurements. The models can also be used to yield information about the detailed chemical reactions that occur in the atmosphere, reactions that underpin urban pollution, global warming, acid deposition and stratospheric ozone loss. In the indoor environment, it is possible to use detailed chemical models to predict which pollutants may reach significant concentrations indoors and hence be potentially harmful to human health.

**Professor Malcolm Cresser:** BSc, PhD (London), FRSC, FIBiol.
**Emeritus Professor**
Malcolm is an environmental chemist with particular interests in modelling river water quality for catchment management purposes, biogeochemical cycling of nutrient elements (particularly in the context of long-term soil sustainability and environmental protection), predicting ecotoxicity from soil characteristics, and quantifying effects of atmospheric pollution and soil pollution on the functioning of the soil/plant/water system, especially in UK uplands. His research is highly interdisciplinary, and as a consequence he is a Fellow of both the Royal Society of Chemistry and the Institute of Biology. He has written nine books and more than 300 research papers, serves on the editorial boards of a number of journals, including the Science of the Total Environment and Chemistry and Ecology, and has served on a number of Government and Research Council committees. He has been a
member of the Board of Governors of the Macaulay Land Use Research Institute in Aberdeen.

Dr Joana Cruz: BSc (University of Porto, Portugal), MRes (University of Coimbra, Portugal), PhD (York).

Teaching Fellow
Joana works part-time as a Research Associate and as a Teaching Fellow in the Department. Joana’s interests are broad and range from applied ecology and vertebrate conservation to public health and the surrounding environment, with a keen interest in statistical and spatial modelling and use of camera-trapping as a research tool. She has previously worked on the conservation and habitat restoration for the predator community and their prey in the Mediterranean region, and on impact of intensive forestry on vertebrates, with special focus on amphibians, bats and carnivores. She has collaborated in projects in Portugal, Spain and Brazil. Joana’s current projects research the influence of green space and bird diversity on depression prevalence in urban areas in England; evaluation of wildlife welfare in the UK; and influence of habitat restoration on the European nightjar population in the Humberhead Levels National Nature Reserve.

Dr Lisa Emberson: BSc (Manchester), PhD (Imperial College).

Reader - Joint appointment with Stockholm Environment Institute
Lisa has over 15 years of experience in the field of air pollution focussing on the effects of tropospheric ozone and climate change on agricultural yields, forest productivity and the functioning of terrestrial semi-natural ecosystems. In recent years she has developed research in Asia, Africa and Latin America investigating the effects of a range of air pollutants (SO₂, NOₓ, O₃, SPM and fluorides) on both agro- and forest ecosystems with a view to investigating the subsequent impacts on social and economic systems. In addition to her developing country experience she retains an active research role in Europe, developing methodologies for use within the UNECE LRTAP Convention. This research focuses on investigating the biological, economic and social impacts of ground-level ozone on agriculture, forests and grasslands and has led to the revision of methods to estimate both the deposition and impacts of tropospheric ozone using flux based Critical Levels as a policy tool across Europe.

Professor Roland Gehrels: MSc (VU Amsterdam), PhD (Maine)
Roland is a geologist and a physical geographer specialising in sea-level studies. His research is focused in several key areas: (i) Recent accelerations of sea-level rise; (ii) Rapid sea-level change during interglacials; (iii) Quantitative methods of sea-level reconstruction using microfossils (foraminifera, testate amoebae); and (iv) Patterns of Holocene relative sea-level change. He uses salt-marsh sediments, and the fossils preserved within, to reconstruct sea-level changes over decadal, centennial and millennial timescales. He has worked along the coasts of Britain, eastern North America, Iceland, Norway, Denmark, Portugal, New Zealand, Tasmania and the Falkland Islands. Roland’s work on recent sea-level rise is particularly relevant to societal issues related to future climate change. He is a contributing author for the sea-level chapter of the IPCC Fifth Assessment Report, a former President of the INQUA Commission on Coastal and Marine Processes and a member of the editorial board of Marine Geology, the NERC Peer Review College, the NERC Radiocarbon Facility Steering Committee and the PALSEA (PAGES/INQUA) Steering Committee.
Dr Julie Hawkins: BSc (York), MSc (Liverpool), PhD (York).

Senior Lecturer

Julie’s research focuses on human impacts on marine ecosystems and how to reduce the problems these create. Her recent work explores the impacts of fishing and how marine protected areas can help rectify the failings of other forms of fishery management. This has included work on extinction risk in the sea and how necessary it is to protect areas of the sea from fishing. Her work provided the first proof that protection from fishing can increase catches in surrounding fisheries. Over the years her research on the effects recreational scuba diving on coral reefs has moved from firstly playing a major role in getting the issue recognised, to then seeing it become addressed throughout the tropics. The majority of Julie’s field work has taken place in the Caribbean and Middle East.

Dr Jon Hill: BSc (Edinburgh), MSc (Edinburgh), PhD (Edinburgh).

Lecturer

Jon’s research is focussed on using advanced numerical techniques to investigate a wide range of environmental phenomena. He currently focusses on assessing the tsunami hazard caused by large sediment flows off the continental shelves; evaluating the environmental impacts of marine energy devices; and the physical oceanography of ancient seaways. All this work involves using the latest numerical models coupled with field and observational data from a variety of sources. In the past Jon has worked on a variety of projects including ocean biogeochemistry, geological preservation of coral reef environments, and high performance computing.

Professor Mark Hodson: ALCM, BA (Oxon.), PhD (Edinburgh).

Mark is a low temperature geochemist and mineralogist. He carries out research into biogeochemical cycling in pristine and human-impacted environments. More specifically he studies the release of nutrients and contaminants to soil via the dissolution of soil minerals, the mobility and availability of inorganic contaminants at mine sites and the remediation of such sites using inorganic and organic amendments and earthworm ecology. His work on earthworm ecology initially focussed on the impact of contaminants on earthworms, but has widened to consider the adaptation and evolution of earthworms in other extreme environments, the role of earthworms in the carbon cycle and their response to environmental change. Out in the wider world Mark is on the Editorial board of the journals Environmental Pollution and has been involved in public lectures, radio and television programmes. He has served on various committees involved in the funding of environmental science and currently sits on the Research Excellence Framework (REF) panel that is currently assessing research quality in the UK university Environmental Science sector for the period 2009-2014.

Dr Peter Howley: B.A., M.Econ.Sci. (Galway), PhD (Dublin).

Lecturer

Peter’s areas of expertise are varied and include environmental economics, farm level modelling, agricultural policy analysis and urban and rural development. More generally, Peter has extensive experience with econometric modelling and recent examples of his work include investigating the formation and valuation of preferences for environmental public goods and services, incorporating psychological constructs reflecting diverse farming motivations and values into economic models of farmer decision making and finally quality of life issues surrounding high-density living.
Dr Claire Hughes: BSc (Newcastle), MSc (Dalhousie), PhD (East Anglia).
Lecturer
Claire is a marine biogeochemist specialising in understanding the processes that control the emission of environmentally-significant trace gases from the marine biosphere to the atmosphere. Her work involves measuring trace gas concentrations in seawater during ship- and land-based field campaigns and carrying out laboratory experiments to improve understanding of their sources and sinks. The ultimate aim of this work is to determine the magnitude of the oceanic source of key trace gases so that their impact on processes taking place in the atmosphere such as ozone depletion and secondary aerosol formation can be established. The majority of Claire’s research has been done on the volatile halogens but she has also worked on the alkyl nitrates and dimethyl sulphide (DMS). Her most recent research has focussed on assessing the impact of a climate-induced change in phytoplankton community structure on biogenic bromine emissions from coastal waters of the western Antarctic Peninsula.

Dr Josh Kishner: BA (Harvard), MA (California), PhD (Cornell).
Before joining the Environment Department in 2015, Joshua held appointments at Durham University and Rhodes University in South Africa. He received his PhD from Cornell University in 2009. His research and teaching covers the fields of development geography, international development planning, and urban and environmental planning. His research is organized in three sub-themes. First it investigates international aid, cooperation and investment in energy, including questions of energy access, equity, sustainability, and the uptake of decentralised and renewable energy systems. He was lead researcher in Mozambique for an ESRC-funded project, The Rising Powers, Clean Development and the Low Carbon Transition in Sub-Saharan Africa, from 2013-15. He is particularly interested in the notion of a ‘just transition’ as an organizing principle. Second, he is pursuing research into changing relations between resource extraction, urbanisation and energy pathways in Mozambique. Conceptually this work draws on political ecology, global production networks and geographies of energy transition. Third, he is interested in migration, integration and the politics of difference, particularly in cities of the global south. His PhD research, supported by a Fulbright Hays Doctoral Fellowship, explored the intersections between migration, rapid urbanization and the natural gas boom in eastern Bolivia. In this project, he examined the rise of an elite-led movement for regional autonomy and how this created a social climate of exclusion for recent migrants from poorer regions. He argued that recent migrants experienced a form of uneven integration. He has extended this work to other contexts, having been involved in commissioned research on migration, xenophobia and exclusion in South African cities.

Dr Rob Marchant: BSc, PhD (Hull).
Reader
Rob’s research focuses on unravelling ecosystem dynamics, in particular the interaction on ecosystems of climate change, human interaction and ecosystem function. Rob uses palaeoecological, ecological modelling, archaeological and biogeographical tools to determine the role of past events in shaping the present day composition of ecosystems. Understanding how ecosystems have changed in the past allows us to determine how ecosystem composition will change in the future. Crucial for using such information to manage the impacts of future predicted change is an assessment on the value of tropical ecosystems and how they sustain human livelihoods and well-being – areas central to Rob’s research. Rob works extensively in the tropics, in particular East Africa where areas of high biodiversity interact closely with socio-economic issues concerning past
changes and future management. Rob has active projects in a range of different environments and ecosystems - from the high altitudes of Kilimanjaro to the mangrove forests of Zanzibar

Dr Andrew Marshall: BSc (Cardiff), MRes, PhD (York).
Senior Lecturer
Andy is a conservation biologist specialising in tropical forest systems. Andy's research focuses on measuring ecosystem conservation success through ecological and socio-economic survey, aiming to influence conservation decision-making, through input to management plans and education of the general public. Andy established and directs the Udzungwa Forest Project in Tanzania, which aims to protect tropical forests through ecological monitoring, habitat restoration, community education, and capacity building. The public outreach element of Andy's work is further emphasised in his joint appointment with Flamingo Land, the UK's most visited zoo, where he is Director of Conservation Science and Director of CIRCLE (Collaboration for Integrated Research, Conservation and Learning; www.circle-conservation.org). Andy is also Associate Editor for the journal Tropical Conservation Science and Vice Chair of the Field Program Committee of the British and Irish Association of Zoos and Aquariums.

Dr Colin J. McClean: BSc (Edinburgh), PhD (Durham).
Senior Lecturer
Colin is a geographer specialising in the application of geographical information systems (GIS) to environmental management. Current research interests include: modelling the impacts of climate change on biodiversity; reserve selection algorithms; land use modelling; the uncertainty associated with ecological field data; the integration of spatial data sets in order to overcome uncertainty; digital terrain modelling to extract information on geomorphometry and hydrology, and to provide important base environmental data for a wide variety of economic, ecological and hydrological modelling efforts.

Dr Karen Parkhill: BSc (Central Lancashire), MSc (Nottingham), PhD (Cardiff)
Karen is a human geographer. Her research interests span energy geographies and geographies of risk. She uses qualitative methods to explore how the public engages with/resists notions of low carbon lifestyles and low carbon transitions, including examining how they themselves consume/perceive energy. She is also interested in risk perception and how the public socially construct and engage with environmental and technocratic risks. Such risks include: energy technologies such as civil nuclear power, renewables or coal with carbon capture and storage; climate change, and; geoengineering. The interaction of place, space and context underpins and flows throughout all of these interests. Karen is also chair of the Energy Geographies Research Group (RGS-IBG).

Dr Richard Payne: BSc (Southampton), MRes (Lancaster), PhD (London).
Lecturer
Richard Payne is a broad-ranging Environmental Scientist interested in environmental change and it's management. With a background in palaeoecology his research increasingly bridges both modern ecosystem processes and the palaeoenvironmental record. Much of his work focuses on peatlands which are both the most important terrestrial carbon store by area and a valuable archive of past environmental change. His work uses experimental, observational and palaeoecological approaches to study how peatlands respond to environmental change with a particular focus on climate change and
air pollution by sulphur, nitrogen and ozone. He has worked widely in the UK, Europe, North America and the near east.

**Professor Andrew R.G. Price:** BSc, MSc (Bangor), PhD (Swansea).
**Emeritus Professor**
Andrew is a marine biologist, environmental advisor and international consultant. He has specialist knowledge of the Arabian Gulf, Middle East and wider Indian Ocean. Andrew's current research is on biodiversity, robustness/resilience and environmental disturbance. For his evaluation of coastal damage from the 1991 Gulf War, Andrew received the British Consultant of Year Award. He is currently an honorary professor at York University and visiting professor at Warwick University. In 2003, Andrew was elected Fellow of the Linnean Society. Besides journal articles, his scientific publications include three books on the Gulf/Middle East and several book chapters. His most recent book is *Slow-Tech: Manifesto For An Overwound World* (Atlantic Books, 2009). This shows how robustness helps ensure smooth-running in nature, in what we do and in the things we create. He has discussed robustness on the radio and TV.

**Professor David Raffaelli:** BSc (Leeds), PhD (Wales).
Dave Raffaelli has broad ranging interests in pure and applied ecology, in both aquatic and terrestrial systems. His current work focuses on the dynamics of food webs; marine community ecology; the relationships between catchment land-use, water quality and impacts on coastal receiving systems; the application of manipulative field experiments to large-scale conservation and management issues; biodiversity and ecosystem function; and the influence of species body-size in community dynamics. He is also working on the analysis of discourses surrounding environmental issues and how an understanding of these may assist in policy formation. Dave is Vice President of the British Ecological Society and sits on the editorial boards of several international journals. He has edited and authored several books and serves on a number of UK Research Council and international research committees. He is Director of UKPopNet and is co-Chair of the DIVERSITAS programme BioSUSTAINABILITY.

**Dr David Rippin:** BSc (Birmingham), PhD (Cambridge).
**Senior Lecturer**
David's research interests are focussed on the controls on the dynamics of glaciers and ice-sheets, and in the use of ground-based and airborne radio-echo sounding (RES) techniques in exploring englacial and subglacial environments. He is also increasingly interested in supraglacial environments – specifically the role of supraglacial debris on energy and mass balance (and the use of remote techniques for assessing debris thickness) and the role of surface water on energy balance. David is currently involved in projects working in Arctic Sweden and West Antarctica, and has large amounts of field experience from Antarctica, the Arctic, the European Alps and Iceland.

**Professor Callum Roberts:** BSc, PhD (York).
Callum is a marine conservation biologist whose research aims to provide a scientific underpinning for the management and conservation of the sea. His research covers subjects as disparate as the origins and maintenance of biodiversity on coral reefs, and the effects of fishing and recreational tourism on reef ecosystems. He has helped demonstrate that use of marine reserves, areas closed to fishing, can improve the success of fishery management and boost catches from surrounding areas by acting as a reservoir of
productive fish stocks. His findings attract interest among fishermen, governmental organisations and societies dedicated to conservation. He is a Pew Fellow in Marine Conservation and in 2001 was Hrdy Visiting Professor of Conservation Biology at Harvard University. Callum is a frequent contributor to radio and newspapers on the impacts of fishing on the sea and how to achieve sustainable fisheries. He is author of *The Unnatural History of the Sea*, an account of 1000 years of exploitation and the impacts it has had on ocean ecosystems.

**Dr Katherine Selby:** BSc (Manchester), PhD (Coventry).

**Senior Lecturer**

Katherine is a Quaternary Scientist and Physical Geographer specialising in coastal environments. She is particularly interested in the reconstruction of past sea levels and has worked extensively in the North and West of Scotland, Newfoundland and more recently East Africa. Katherine uses two techniques, diatom and pollen analyses, to establish how sea levels have fluctuated and has also used these in lacustrine environments to establish lake level, pH and trophic status changes. Combined with Katherine's sea level research, she also investigates how the associated changing coastal configuration may have affected cultural development, including settlement patterns and utilisation of marine resources.

**Dr Samarthia Thankappan:** BSc, MSc (Allahabad), PhD (Aberystwyth).

**Senior Lecturer**

Samarthia’s research broadly focuses on three key areas: (i) Sustainability and the agri-food sector, where her research covers a wide range of issues from impact of water use in the food supply chains, climate change adaptation and mitigation to understanding the ways in which current behaviours or changed behaviours may affect the sustainability of consumption and production systems in the future; (ii) Sustainability and the automotive sector, looking at environmental, economic and social costs of enhanced transport systems. Her principal research focus in this area is on exploring the impacts of bio-based material substitution in the automotive sector. (iii) Environment, society & governance, where Samarthia’s research focuses on examining the complexity & impact of climate change policy on businesses in the supply chain and mapping social and ecological knowledge flows in coastal ecosystems.

**Dr Karen Thorpe:** BSc (Brunel), PhD (Brunel).

**Senior Lecturer**

Karen’s research interests are focussed on understanding the mechanisms via which novel environmental contaminants (e.g. endocrine active chemicals, pharmaceuticals and microplastics) impact the reproductive health of fish and the potential implications of any such effects for wild populations. She is also interested in using this information to develop biological tools that can be used in environmental monitoring for endocrine active chemicals. A further goal of Karen's research is the development of test methods using embryonic stages of aquatic vertebrates that could be used as potential replacements for current OECD test methods that are reliant on the use of adult life-stages of fish for identification of endocrine active chemicals.

**Dr Sylvia Toet:** BSc (Delft), BSc/MSc, PhD (Utrecht).

**Lecturer**

As an environmental biogeochemist, Sylvia’s research focuses on how environmental change, including air pollution (tropospheric ozone and nitrogen), climate change (warming, altered precipitation), elevated carbon dioxide and changes in management
practices (e.g. blockage of draining channels) may affect ecosystem functioning. She is particularly interested in greenhouse gas emissions, often exploring novel field, stable isotope and molecular microbial approaches. The ecosystem responses observed in field manipulation studies and detailed process studies, are crucial for improving ecosystem carbon and greenhouse gas budget models simulating different future environmental change scenarios. Her most recent project, studies the effects of elevated tropospheric ozone on methane and carbon dioxide fluxes in peatlands and grasslands, and their underlying plant, soil and microbial processes.

**Corrado Topi:** Laurea (Turin).  
Senior Teaching Fellow  
Corrado comes from a career in private enterprises. He focuses on sustainability, resilience and change in a context of integrated social, economic and environmental systems. He works with corporations and with cities and collaborates with policy makers and corporate decisions makers on real world cases to make corporations, small and medium enterprises (SMEs) and cities sustainable and resilient. His research focuses on two areas: (1) the sustainability and resilience of private enterprises, in particular the social, environmental and economic sustainability and resilience of corporations and SMEs (2) urban sustainability and resilience, in particular economic development paradigms and economic transition pathways at local level (i.e. local community, city, province, region), with a specific focus on cities. In addition, he is involved in several interdisciplinary research projects as consulting economist, in particular on valuation of ecosystem services at local level. He is particularly interested in the Mediterranean basin, in transition countries and lesser developed countries.

**Dr Julia Touza:** BA (Santiago de Compostela), MSc, PhD (York).  
Lecturer  
Julia is an environmental economist whose research explores environmental problems driven by economic factors, and evaluates the strategic behaviour of natural resource users/managers in a temporal-spatial context. She has worked on the dynamic optimisation of natural resource management, relationships between trade and global environmental change driven by invasive species, strategic interactions in environmental cooperation at local and international scales, economic analysis of forest wildfires, stakeholder participation in decision-making, and cost-efficiency of conservation policies. In order to address these issues she works in interdisciplinary teams, using a variety of methodological approaches, including Hamiltonian-based optimisation techniques, econometrics and multivariate analysis (e.g. panel data, count data modelling and choice modelling), and agent based computational economics. She has held visiting research posts at ecoSERVICES Group, Arizona State University (USA), and a Marie Curie Research Fellowship at the Helmholtz Centre of Environmental Research-UFZ (Germany).

**Dr Harry Vallack:** BSc (Exeter), MSc (Stirling), PhD (York).  
Senior Research Associate - Stockholm Environment Institute  
Harry has over 20 years of experience researching various aspects of air pollution at scales ranging from local to global. This has included capacity building within non-OECD countries (including development of suitable manuals/software) for the preparation of air pollutant/GHG emissions inventories, producing emission scenario projections for developing country regions, and developing methodologies for monitoring and assessing nuisance dust. His current research interests concern short-lived climate pollutants...
(SLCPs), global change ecology, soil carbon dynamics and capacity building for emissions inventory preparation in developing countries. Recent projects have included a review of low carbon technologies within key UK energy intensive sectors, networking on sustainable transport in sub-Saharan Africa, and developing an emission scenario and benefit assessment toolkit to support national action planning on SLCPs.

**Dr Dean Waters:** BSc (UEA), PhD (Bristol).  
**Teaching Fellow**  
Dean’s research areas span sensory ecology, bioacoustics, bat ecology and more recently ecosystem services. He has also worked at the interface between biology and engineering. He has a special interest in teaching numerical aspects of ecology including modelling and statistics as well as field ecology.

**Professor Piran White:** BSc (East Anglia), PhD (Bristol).  
Piran’s research is focused in two principal areas: (1) wildlife ecology, conservation and management; and (2) biodiversity, ecosystem function and ecosystem services. Much of this work involves the use of interdisciplinary approaches alongside more traditional ecological research. He has held visiting research posts at New South Wales Agriculture (Orange, Australia), AgResearch (Lincoln, New Zealand) and the University of Waikato (Hamilton, New Zealand). He is Editor of Wildlife Research journal, and was formerly an Associate Editor of Journal of Animal Ecology. He has served on the Peer Review College of both NERC and the ESRC. His work on wildlife disease has included projects in Australia, New Zealand and continental Europe and he leads the University of York’s involvement in the Australian-based Co-operative Research Centre on Invasive Animals. He has carried out research on ecosystem services as part of Defra’s Ecosystem Services project, which has contributed directly to the development of Defra strategy in this area.