

The [triple] bottom line

The newsletter for Environment students and applicants

FEBRUARY 2013

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WELCOME

The Department was delighted to see its global significance confirmed in the QS World University Subject Rankings where York was ranked in the **top 30 global institutions for Environmental Sciences**. At the heart of our research and teaching is the desire to preserve and enhance the natural, physical environment whilst imparting knowledge for sustainable living, global food security, development and poverty alleviation, resilience to environmental change, conservation science and management of anthropogenic impacts.

We are constantly seeking to broaden the opportunities available to students. This year sees the introduction of new modules including Oceanography and a field trip to Iceland. We are also planning the introduction of integrated masters programmes that will allow our students to progress to advanced study in a range of vocational disciplines.

Professor Colin Brown
Head of Department

BREAKTHROUGH IN REFORM OF EUROPEAN FISHERIES MANAGEMENT



It is widely acknowledged that due to decades of mis-management most European fish stocks are now overfished. Furthermore, the current quota system leads to fishermen having to throw away up to half of their catch as “discards” – a shameful waste of resources that pleases no one.

However, in late December last year, Members of the European Parliament (MEPs) Fisheries Committee voted in favour of sweeping reforms that

will require future quotas to be set at sustainable levels and for the practice of discarding to be phased out. Just prior to this crucial vote, Dr Bryce Beukers-Stewart of the Environment Department, was one of four scientists invited to make the case for reform in a debate in the European Parliament in Brussels. Ultimately the new fisheries rules were favoured by a majority of only 2 votes, demonstrating the real influence that scientists can have on high-level policy.

CLIMATE CHANGE AND TROPICAL PLANTS

A new study by Phil Platts and Rob Marchant, from the KITE research group, suggests that the impacts of climate change on rare tropical plants will vary considerably, both within and between species. While some mountain populations will react to warming by migrating upslope, others

will tend downslope, driven by changes in seasonality and water availability. Similar processes, played out for millennia across East Africa's 'forests in the sky', could help to explain contemporary patterns of biodiversity in one of Earth's most important centres of endemism.

New staff appointments



Dr Ashauer (L) and Prof. Gehrels (R)

We are fortunate to welcome several new staff to the department this year.

Professor Roland Gehrels has been appointed as Chair in Physical Geography. Roland's research concerns sea-level change during the Holocene.

Dr Charlie Burns lectures in Environmental Policy. Charlie has experience as a political researcher for the European Parliament and previously lectured at Leeds University.

Dr Roman Ashauer also joins the Department. Roman has specialist expertise in aquatic ecology and ecotoxicology.

We also welcome **Corrado Topi**, who is convening the MSc degree in Corporate Social Responsibility, and **Sarah West**, a teaching fellow in ecology and field study skills.

New report from SEI

Researchers at the Stockholm Environment Institute (SEI) in York have contributed to a new report on global energy needs. The *Global Energy Assessment (GEA)*, which is published by Cambridge University Press, had its UK launch at Chatham House, London in December 2012. There, Dr Lisa Emberson, Centre Director of SEI York and a lead author of the Assessment, took part in an expert panel meeting that discussed one of the main goals of the GEA: access to clean energy for all by 2030.

Since almost 3 billion people worldwide lack access to basic energy services and are still reliant on solid biomass fuels for cooking, this goal is important for framing the development of our future global energy systems.



NEW ONLINE RESOURCE OF ECOSYSTEM SERVICE MAPPING PROJECTS

Environment Department staff working on the Natural Environment Research Council programme on Biodiversity and Ecosystem Services have launched an online survey to find out more about what is being done to map the ecosystem services on which we all depend, such as clean water provision, nutrient cycling, carbon storage and flood prevention.

With funding from Natural England, the project will develop a searchable online resource to provide, for the first time, a single gateway to the plethora of ecosystem service mapping activities being carried out across England.

Ecosystem service mapping is a rapidly-expanding area, but it poses significant technical and practical challenges. The online resource will bring together information on mapping initiatives throughout England, including which services are being mapped, the spatial scales at which mapping is taking place and how the various mapping projects are being used.

The compilation of this information in a single, searchable site will help decision-makers understand how different ecosystem services are delivered across a landscape and contribute to strategic national and local environmental planning, including the development of Nature Improvement Areas and Local Nature Partnerships.

EAST AFRICAN MANGROVES

Research undertaken by Paramita Punwong as part of her PhD in collaboration with Dr Katherine Selby and Dr Rob Marchant has focussed on reconstructing mangrove environments in Tanzania. Analysis of pollen grains and pieces of charcoal entrained within sediment from the mangroves has allowed the team to build up a picture of how the environment

has changed over the last 8000 years. This is the first study of mangrove dynamics and reconstruction of sea level change that has been undertaken from this region. The findings have important implications for the way these locations may react to future sea level changes and thus the management and longevity of mangrove environments.

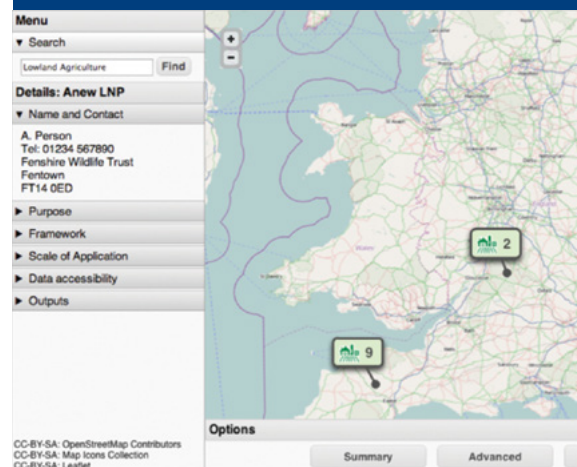
Student wins major international award



Laura Carter, a PhD student in the Environment Department, has won the 2013 Procter and Gamble Fellowship Award of the Society of Environmental Toxicology and Chemistry.

This award, which is worth \$15,000, will allow Laura to build on the work that she has done during her PhD programme which is investigating the potential impacts of pharmaceuticals and personal care products on soil organisms.

Laura will also be assigned a Procter and Gamble 'mentor', who will provide advice on her research and help with developing links with professionals in the business sector.



MARINE RESEARCH IN THE ARCTIC

Dr Claire Hughes recently received funding from the Natural Environment Research Council (NERC) to allow her to investigate the reasons why singlecelled marine algae known as diatoms have an enzyme system which incorporates bromine and iodine from seawater into organic gases.

The study will investigate whether the production of these gases helps coldwater

diatoms, which inhabit ocean waters in the Arctic and Antarctic, to cope with environmental stress or plays a role in controlling their interactions with bacteria.

As part of the project Claire will be taking part in a 4 week research cruise to the Arctic in July (2013) to study the activity of the enzyme system in the natural environment.

VISIT TO ST JAMES'S PALACE FOR ROYAL SOCIETY SCHOLAR



Dr Kate Arnold, Royal Society University Research Fellow in the Environment Department was recently invited by HRH the Duke of York to a reception at St James's Palace to celebrate the Royal Society's flagship scheme for early career researchers.

Prince Andrew presented his impassioned views on higher and secondary education, while

emphatically stating his belief that fundamental scientific research underpins and stimulates growth in our knowledge-based economy.

Following his speech Kate was fortunate enough to speak directly to Prince Andrew about her current research into the impacts of pharmaceutical residues on wildlife.

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