



## Newsletter 4 April 2016

### Newsletter 4

#### Welcome

Welcome to the fourth newsletter of the Sêr Cymru National Research Network for Low Carbon, Energy and Environment (NRN-LCEE).

We present a brief synopsis of one of our Research Clusters, RESILCOAST, and one of the Research Fellows, Dr Jordi Pagès, who is working in the RESILCOAST team. The overview is part of a series that will feature in future newsletters.

Since January, two events funded through our Research Development Fund (RDF) have been held, one at Swansea University and one in Cardiff, and you can read about these below. I am also pleased to announce that we have increased the maximum funding available for RDF applications to £10,000 per bid, and that from now on applications can be made through a continuous call, rather than to specific deadlines.

We have appointed four more Fellows through our Returning Fellowship Scheme, and brief details of their proposed work are included here. This initiative has provided these scientists with new opportunities to develop their research activities, in a way that is not easily achieved with current funding frameworks.

Other noteworthy activities since the last newsletter include another well-attended public lecture, and a second visit to Brussels for two of our Clusters. During this visit they were able to meet with MEPs, representatives from the Commission and policy groups. Details of these events are included here.

We have some notable events coming up, including a one-day workshop on 'Resilience' on 18 May in Cardiff. This workshop is organised in partnership with the Royal Society of Biology and includes a wide range of UK and international speakers. Links to further information on this and other upcoming events are listed below.

I hope you enjoy reading this newsletter and through it learn more about our research and activities.

A handwritten signature in black ink, appearing to read 'David Thomas'.

Prof. David Thomas ([d.thomas@bangor.ac.uk](mailto:d.thomas@bangor.ac.uk))

Director of the Sêr Cymru National Research Network for Low Carbon, Energy and Environment

## Introducing our Clusters:

(Reports on other NRN-LCEE Clusters will be included in future newsletters)

### RESILCOAST

[RESILCOAST](#) research addresses the role of salt marshes in delivering natural benefits, such as coastal protection and flood management, and investigates their resilience over time under different environmental and management conditions. The Cluster is a collaboration between Bangor, Cardiff and Swansea Universities, the Centre for Ecology and Hydrology at Bangor, Plymouth Marine Laboratory, Natural Resources Wales and the Royal Netherlands Institute for Sea Research. Led by [Dr Martin Skov](#) from the School of Ocean Sciences at Bangor University, the Cluster brings together ecologists, hydrologists, social scientists and geo-morphologists, and joins these through research into the processes of natural resilience: how natural resilience depends on the state of the environment; how the value of natural benefits varies with disturbance and climate change; and the implications of such variations for shoreline management and planning, the Welsh economy, and habitat provision for protected species such as birds. Below, Dr Jordi Pagès, Sêr Cymru Fellow in the School of Ocean Sciences at Bangor University, describes his research in more detail.

## Introducing our Fellows:

(Reports on other NRN-LCEE Fellows will be included in future newsletters)

### Dr Jordi Pagès, RESILCOAST

Dr. Jordi Pagès is a Sêr Cymru Fellow and a member of the [RESILCOAST](#) team, where his main role is to investigate the drivers of resilience in coastal salt marshes. Marshes provide us with valuable services, of which flood protection is a key example. They also provide an important habitat for a wide variety of plant and animal species, including commercially important fish species. Because of climate change and other environmental pressures, it is important to know whether salt marshes will persist into the future and, more generally, how ecosystem resilience influences social and political resilience to global change. To tackle these challenges Jordi collaborates with other ecologists, oceanographers, geomorphologists and social scientists, as well as end-users from government and the private sector. [Read more about his experience...](#)

## News

### NRN-LCEE Researchers visit the European Commission in Brussels

Researchers from the NRN-LCEE Climate-Smart Grass and Multi-Land Research Clusters visited Brussels in April, to learn about current and future European Union initiatives on sustainable agriculture, food and forestry, innovation and future technologies for plant and animal breeding. [Read More...](#)

---

### Research Development Fund

Two recipients of a Research Development Fund award have held events in January and February:

- In January, academics, third sector scientists and app developers from Cardiff and Bangor Universities, CEH Bangor and CEH Wallingford, the River Trust and Natural Apptitude, met at Cardiff University to discuss the use of mobile phone apps for improving our understanding of water quality, with particular reference to the Welsh environment. The day was a mixture of informal presentations about ongoing research, and discussions on ideas for future funding and common themes for designing and using apps for water quality monitoring.
- In February there was a symposium on '[Building New Bridges for Low Carbon Energy](#)' hosted by the Energy Safety Research Institute (ESRI) at the Bay Campus, Swansea University. This event brought together 60 experts including chemists, biologists, materials scientists, engineers and key stakeholders from across the UK and overseas, to address challenges associated with the development and implementation of materials, technologies and processes for CO<sub>2</sub> capture and utilisation, and advanced biofuels production. [Read more....](#)

## Upcoming Events:

[Public Lecture](#),  
[Dr. Mark Wilkinson](#),  
[University of Edinburgh](#)  
*'Carbon Capture and Storage: Climate-Friendly Fossil Fuel?'*  
**20 April, Cardiff University**

[Exploring Resilience Workshop](#)  
**18 May, SSE Swalec, Cardiff**

[RDF-funded workshop](#)  
*'Tidal lagoon research'*  
**17-18 May, Bangor University**

[Public Lecture](#),  
[Prof. Rosie Hails](#),  
[Centre for Ecology & Hydrology](#)  
**1 June, Cardiff University**

[RDF-funded workshop](#)  
*'Sensors for Improving Sustainable Land Use in Wales'*  
**29 June, Bangor University**

[Low Carbon Cymru](#)  
**6 July, Principality Stadium, Cardiff**

**Funding Opportunities:**  
[NRN-LCEE Research Development Fund](#)

Open call until March 2017

To attract a wider pool of applicants and stimulate developments with greater impact on the Welsh research community, we have increased the maximum funding available through the RDF to £10,000 per application. Applications for RDF funding can be submitted at any time until 31 March 2017 (unless notified otherwise on the NRN-LCEE website). For more information [visit our website...](#)

In addition, from 15 April up to £5,000 of RDF funding can be requested for a meeting, or a series of meetings, to develop EU or RCUK proposals. It must be clearly demonstrated in the RDF-proposal that the ideas are already at an advanced stage of development (i.e. the ultimate proposal is likely to be submitted), and that there is a clearly identifiable EU/RCUK funding opportunity that the proposal will be submitted to.

N.B. For this RDF funding, the normal requirement of having three Welsh HEIs or NRN-LCEE partner organisations in the application is reduced to two organisations. For more information [visit our website...](#)

### Returning Fellowships

Four more Returning Fellows have been appointed through our Returning Fellowship Scheme, designed to facilitate researchers returning to their work from a period of leave for reasons of maternity/ paternity/ adoption/ health/ caring. They are:

- [Dr Emma Hayhurst](#), The University of South Wales, for her work on dispersal prevention of antibiotic resistance genes by sludge fertiliser, through different methods of anaerobic digestion.
- [Dr Katrien van Landeghem](#), Bangor University, for her work on modelling shipwreck erosion as an analogy for environmental impacts on marine renewables.
- [Dr Claire Risley](#), Aberystwyth University, for her work on the impact of climate change on the spread of infectious diseases in UK mammal species.
- [Dr Sindia Sosdian](#), Cardiff University, for her work evaluating the impacts of palm oil expansion on coral reefs.

One of our first Returning Fellows, Dr Jessica Adams from Aberystwyth University, travelled to Japan where she presented her work at the Tokyo University for Marine Sciences and Technology, and at the Japanese Society of Phycology annual meeting. She also met with phycology researchers at various other institutes. [Read more about her trip...](#)

Details on the projects of all six of our Returning Fellows are available on [our website](#).

### Public Lecture Series

On 12 January Prof Tiina Roose from The University of Southampton gave a lecture in Bangor, hosted by the Centre for Ecology and Hydrology. She talked about 'What maths can tell us about plant growth and soil fertility' and demonstrated how highly advanced 3D imaging techniques and models can be used to understand plant root structures. She explained how measurements in single roots can be used to explain what is happening at the scale of root systems, fields and even entire ecosystems in a visually outstanding lecture.

Our next lecture will be hosted by the Geoenvironmental Research Centre at Cardiff University, on 20 April: Dr Mark Wilkinson, from the University of Edinburgh, will give a lecture titled '[Carbon Capture and Storage: Climate-Friendly Fossil Fuel?](#)'. He will give an overview on Carbon Capture and Storage (CCS) and its applications in Wales and the rest of the UK. In light of the recent Climate Summit in Paris (COP21), he will explain the significance of CCS for future energy demand and climate change, address the feasibility of CCS on an industrial scale, and discuss potential conflicts with other subsurface technologies, such as geothermal energy.

On 1 June, Prof Rosie Hails, Director for Biodiversity & Ecosystem Science at the Centre for Ecology & Hydrology in Wallingford, will give a public lecture at Cardiff University, this time hosted by the newly established [Water Research Institute](#).

All lectures are free to attend and open to the general public.

As for previous events, these lectures will be recorded and will be available on [our website](#) and [YouTube channel](#) afterwards.

### Our Clusters:



[AquaWales](#)



[Cleaner Cows](#)



[Climate-smart Grass](#)



[Geo Carb Cymru](#)



[Multi-Land](#)



[Plants & Architecture](#)



[Quotient](#)



[Resilcoast](#)

## Cluster Research Highlights

Delivering on one of the main aims of the Sêr Cymru programme, NRN-LCEE Clusters have been attracting EU and RCUK research funding to Wales. Since our last newsletter, AQUAWALES researchers at Swansea University have led a successful H2020 bid on reduction of river fragmentation in Europe, by developing innovative solutions and efficient methods of restoring stream connectivity through adaptive barrier management. Funding from the NRN-LCEE was instrumental in securing this H2020 grant in two ways: 1. It made it possible to develop some of the tools for measuring connectivity that will be used in the project, and 2. It facilitated networking with key players in academia, NGOs, government and industry.

QUOTIENT researchers at Swansea, Cardiff and South Wales led a successful RCUK bid on tidal energy research.

Three new research papers have also been published by Cluster members. You can find these outputs listed on [our website](#).

## Our Thematic Research Areas:

1. [Sustainable intensification](#)
2. [Low carbon energy pathways](#)
3. [Developing the bio economy – social, economic and technological modelling](#)
4. [Impacts and mitigation of climate change and human activities](#)



EXPLORING RESILIENCE  
18 May 2016, SSE Swalec, Cardiff



Would you like to stay informed of our activities? [Please sign up to our newsletter](#).