



Newsletter 11 March 2018

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

Since our last newsletter, our Clusters met with the NRN-LCEE Strategic Advisory Group to review work to date and set targets for the final year. The NRN-LCEE also hosted the third and final Sêr Cymru Postgraduate Conference, which brought together students from all 3 National Research Networks.

Several NRN-LCEE funded workshops and public events have recently taken place and other events are being organised for the coming months. You will find further information and links to register your attendance below.

NRN-LCEE funding remains available within the [Proposal Writing Fellowship Scheme](#). This supports two months' salary for researchers currently without an academic contract to write a research proposal. 10 Fellowships have been awarded to date, resulting in grant applications being submitted with a total value of £4.9M. Funding is also available for two [Returning Fellowships](#). These support researchers returning after a minimum of six months away from their work for reasons of maternity/ paternity/ adoption/ long-term health/ long-term caring. Find out how our current Returning Fellows have benefitted from the programme [here](#).

Finally, I would like to highlight a series of videos we recently released. They show the work being achieved within the network and can be found [on our YouTube Channel](#).

Prof. David Thomas (d.thomas@bangor.ac.uk)

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

Introducing our Clusters: Multi-Land

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

The [Multi-Land](#) Research Cluster examines how trees and hedgerows in the landscape affect animal behaviour, improve ecosystem services and alter nutrient cycling and soil biogeochemistry. Led by Dr. Andy Smith at Bangor University with partners at Aberystwyth University and the Centre for Ecology & Hydrology at Bangor, the Cluster uses a combination of realistic, life-size models of sheep, GPS tracking of real sheep, local weather and vegetation data to assess the impacts of different tree species and hedgerows on agricultural productivity, hydrology and climate regulation. Below, the Cluster's Fellow at Bangor University tells more about her experience and research.

Introducing our Fellows: Dr Hilary Ford



Dr Hilary Ford is a Sêr Cymru Fellow in the Multi-Land Research Cluster at Bangor University. Her main role is to investigate how interactions between trees and grazing livestock influence the provision of 'ecosystem services' (benefits provided by nature) in upland agricultural landscapes. This work focuses on the benefits of small tree features such as hedgerows to both farmers and the wider public. [Click here to read more about her research...](#)

News – Resilcoast takes steps towards global research and management impact

The NRN-LCEE [RESILCOAST](#) Cluster has established the world's first global network on saltmarsh research, 'SaltmarshNET', which was launched at an inaugural 3-day workshop, held in December 2017 on the Llyn Peninsula in Wales. The workshop was funded through the NRN-LCEE Research Development Fund and attended by 35 delegates from 11 countries. It included top experts from physical, socio-economic and ecological research disciplines, national and international environmental management bodies (WCMC, UN-environment, National England, and NRW). [You can read more about the workshop here...](#)



Meeting delegates at the workshop location at Nant Gwrtheyrn, Llyn Peninsula, North Wales. Photo: Jordi Pagès.

Funding Opportunities:

[NRN-LCEE Proposal](#)

[Writing Fellowships](#)

4 Fellowships remaining

[NRN-LCEE Returning](#)

[Fellowships](#)

2 Fellowships remaining

Upcoming Events:

Public Lecture:

[Evolution of the body snatchers: the secret lives of parasites](#)

Prof. Robert Poulin

4 April

Cardiff University

Public Lecture:

[Assessing coastal environmental risk and damage to infrastructure](#)

Prof. Malcolm Spaulding

25 April

Bangor University

RDF Workshop:

[Priorities for UK upland land-use: Developing a modelling framework to facilitate decision-making by policy-makers](#)

8-9 May

Birmingham

News - Placing our Research in a wider context - NRN-LCEE Cluster meeting 2018

Representatives from all eight NRN-LCEE Research Clusters met with the Network's Strategic Advisory Group and representatives of the Executive Board in Cardiff in January. They reported on their progress and shared their plans up to the end of 2018. In preparation for the meeting, the NRN-LCEE Research Clusters were asked to consider the following four questions, and shape their presentation around the response:

1. What have been the major game-changing events in the last couple of years that have shaped the research agenda in your area?
2. What have been the major sciences advances in the last couple of years that have shaped the research agenda in your area?
3. Taking these events and advances together, what are the most important research questions in your area that are also relevant for policy makers and other stakeholders, and which your research could address?
4. To what extent are these questions already being addressed?

The meeting was encouraging and the NRN-LCEE is looking to publish the Clusters' responses to the questions in a publication – watch this space.



News – 3rd Sêr Cymru Postgraduate Conference

The third Sêr Cymru Postgraduate Conference attracted 35 PhD students from the three Sêr Cymru National Research Networks to PONTIO Arts Centre on 27 March. The day started with insightful and thought-provoking presentations by Jenny Ames, Director of Jenny Ames Consulting Ltd. and Adrian Hines, Head of Applied Science at the UK Met Office. Following these inspirational talks, the day continued with an interactive workshop to initiate ideas to help the students decide what follows the PhD. [Read more...](#)



Our Clusters:



[AquaWales](#)



[Cleaner Cows](#)



[Climate-smart Grass](#)



[Geo Carb Cymru](#)



[Multi-Land](#)



[Plants & Architecture](#)



[Quotient](#)



[Resilcoast](#)

News – Hidden Worlds Exhibit

[Quotient](#) Fellow Dr Matt Lewis managed a NRN-LCEE stand at the Bangor University Science Festival 'Hidden Worlds' on 10 March. With 1,325 visitors the event was the largest Hidden Worlds Exhibition in the 8 year history of the festival. It attracted audiences of all ages for hands-on science experiments and displays. At the NRN-LCEE stand, young visitors could make renewable electricity from waves and batteries using potatoes. There was a lot to learn and discover about renewable energy at the stand.



News – More successful EU MCSA Fellowships as a result of NRN-LCEE RDF-funded workshops

The NRN-LCEE has supported 3 workshops to help prospective Fellows and their supervisors to write applications for EU Marie-Curie Skłodowska Actions (MCSA) Fellowships. [Read more...](#)

NRN-LCEE Research Development Fund (RDF) Events

Rewilding in a changing Europe. On 10 January, Bangor University hosted a one day conference on 'Rewilding in a Changing Europe' supported through the NRN-LCEE Research Development Fund. 60 academics and practitioners from across Europe came together to set a research agenda to evaluate the opportunities and threats that rewilding poses. [Read more...](#)

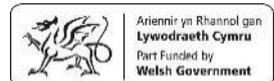
The NRN-LCEE Research Development funded workshop '**Enhancing the resilience of businesses in Wales: Achieving water and energy savings**' took place in Newtown on 26 January. The event was organised by Bangor University in collaboration with Aberystwyth and Cardiff Universities and aimed to discuss energy and water: Its value to Wales and what the future holds for these resources. [Read more...](#)

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 activity](#)



LOW CARBON, ENERGY & ENVIRONMENT
RESEARCH NETWORK WALES. RHIFYDDIATH YMCHWIL
CARBON ISÏL, YNNI A'R AMGYLCHEDD CYMRU



Cyngor Dyllidwr Arddeg
Uwch Lyfrau
Higher Education Funding
Council for Wales

hefcw



[NRN-LCEE Videos](#)

Horizon Scanning Workshop for the identification of the most important challenges for aquaculture in the UK. 40 Experts from Universities and industry met in Cardiff on 26-27 February to discuss opportunities and challenges for aquaculture in Wales. Presentations covered topics such as sustainability, feed formulation, genetics and environmental DNA, disease resistance and fish health. Several presentations also provided insights into the current scientific frontiers and an overview of the sector from different industries and governments' perspectives. A publication summarising the conclusions of the meeting is currently being prepared.

An overview of all RDF awards is available at: www.nrn-lcee.ac.uk/rdf-funded

Public Lecture Series



On 31 January, over 400 people attended a public lecture at Bangor University by TV presenter, keen diver and marine wildlife enthusiast Miranda Krestovnikoff. In her talk, Miranda took the audience on a journey around some of her favourite spots along the UK coast, including several in Wales. [Read more...](#)

All NRN-LCEE lectures are free to attend and open to the public.

For an overview of confirmed future speakers in the series please visit:

www.nrn-lcee.ac.uk/future-lectures

Research Highlights – Publications

NRN-LCEE research has been published in the following selected recent publications:

Guillou, N., **Neill, S.P., Robins, P.E.** (2018). Characterising the tidal stream power resource around France using a high-resolution harmonic database. *Renewable Energy* 123: 706-718.

DOI: <https://doi.org/10.1016/j.renene.2017.12.033>

Bonnaillie-Noël, V., Dalla Riva, M., Dambrine, M., **Musolino, P.** (2018). A Dirichlet problem for the Laplace operator in a domain with a small hole close to the boundary. *Journal des Mathématiques Pures et Appliquées*. DOI: <https://doi.org/10.1016/j.matpur.2018.01.004>

Lanza de Cristoforis, M., **Musolino, P.** (2017). Two-parameter anisotropic homogenization for a Dirichlet problem for the Poisson equation in an unbounded periodically perforated domain. A functional analytic approach. *Mathematische Nachrichten*.

DOI: <https://doi.org/10.1002/mana.201600414>

Williams, J.D.O., Gent, C.M.A., Fellgett, M.W., **Gamboa, D.** (2017). Impact of *in situ* stress and fault reactivation on seal integrity in the East Irish Sea Basin, UK. *Marine and Petroleum Geology*.

DOI: <https://doi.org/10.1016/j.marpetgeo.2017.11.030>

Lanza de Cristoforis, M., **Musolino, P.** (2017). Analytic dependence of a periodic analog of a fundamental solution upon the periodicity parameters. *Annali di Matematica Pura ed Applicata*, pp. 1-28. DOI: <https://doi.org/10.1007/s10231-017-0715-7>

Pagès, J.F., Smith, T.M., Tomas, F., Sanmartí, N., Boada, J., De Bari, H., Pérez, M., Romero, J., Arthur, R., Alcoverro, T. (2017). Contrasting effects of ocean warming on different components of plant-herbivore interactions. *Marine Pollution Bulletin*. DOI: <https://doi.org/10.1016/j.marpolbul.2017.10.036>

Pawluk, R.J., **Uren Webster, T.M.**, **Cable, J.**, **Garcia de Leaniz, C.**, **Consuegra, S.** (2017). Immune-related transcriptional responses to parasitic infection in a naturally inbred fish: roles of genotype and individual variation. *Genome Biology and Evolution* 10: 319-327. DOI: <https://doi.org/10.1093/gbe/evx274>

Abdalla, M., Hastings, A., **Chadwick, D.R.**, **Jones, D.L.**, Evans, C.D., Jones, M.B., Rees, R.M., Smith, P. (2018). Critical review of the impacts of grazing intensity on soil organic carbon storage and other soil quality indicators in extensively managed grasslands. *Agriculture, Ecosystems & Environment* 253: 62-81. DOI: <https://doi.org/10.1016/j.agee.2017.10.023>

Find all publications resulting from NRN-LCEE research at: <http://www.nrn-lcee.ac.uk/publications>

Cluster Highlights – Conference attendance

The NRN-LCEE encourages its Fellows and PhD students to present at conferences. Recently, 1 Fellow and 1 PhD student were awarded a bursary to present their work at international conferences. [Click here to read more about their experience...](#)

New Funding Opportunities

[NRN-LCEE Returning Fellowships](#)

Individual Returning Fellowships of up to £10,000 each for researchers returning after a minimum of 6 months away from their work for reasons of maternity/ paternity/ adoption/ long-term health/ long-term caring in the period 1 January 2017 – 31 May 2018.

Funding can be used for travel & subsistence costs to establish new collaborations for research and for attending research conferences/workshops.

[NRN-LCEE Proposal Writing Fellowships](#)

Short-term Fellowships to support researchers currently without an academic/research contract to prepare a research proposal to RCUK, Leverhulme Trust, Royal Society or EU funding sources.

Funding can be used for up to two months' salary (1 fte) of the Proposal-Writing Fellow, up to a maximum of £8,500 (including all on-costs). In addition, up to £1,000 can be used for travel and subsistence to facilitate meetings between potential project partners.

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