



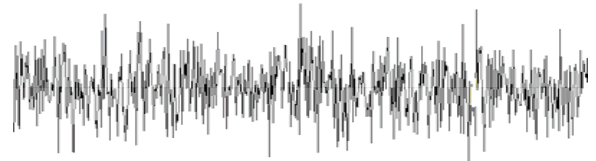
## Autumn 2014: A spotlight on Internship projects

The MREKE programme has arranged and funded a set of knowledge exchange activities which have brought together partnerships of academics and business and policy organisations. These short placements have proven a helpful way to use excellent environmental science in tackling particular sector needs. In this issue we'll take a closer look at the latest set of these activities:

### Partnership progress

Understanding movements of water is essential for tidal energy development. Several areas of industry interest have been explored through recent internship projects: **Reshma Rao** joined up with **Siemens MCT** to investigate the probability of occurrence of combined extreme oceanic events impacting on tidal energy device design. **Rob Hiley** spent six months at **Marine Scotland Science** working on representing tidal turbines in FVCOM models, and simulating the of extraction of tidal stream energy by a turbine within a 3D FVCOM model, and **Juvenal Dufaur** of the Environmental Research Institute, Thurso has been investigating "kolk boils" in turbulent phenomena which appear with differing intensities depending upon the location and state of the tide – and mapping turbulent hazards in the Pentland Firth and Orkney Waters that may pose a potential risk for tidal energy development.

Internship projects have crossed national borders too. **Raeanne Miller** of SAMS carried out work entitled 'Finding the gaps: a UK-based assessment of the Perth Wave Energy Project' which facilitated inward investment to the UK, helping **Carnegie Wave Power Ltd** of western Australia to better understand the UK-Aus consenting processes and carry out pre-emptive research and monitoring using their existing Australian project. **Jiska DeGroot** of Plymouth University worked with the Italian office of **40SouthEnergy Srl** interviewing stakeholders on the Isles of Scilly to better understanding public attitudes to a planned project there, and produce guidance for engagement - to aid the consenting process.



### Sound in the sea

A lot of work has taken place in recent years to better understand the implications of underwater noise for life in our seas. Adding to this body of evidence is one of this years internship projects - **Illaria Spiga** from Newcastle University has been working on a predictive tool to forecast the effects of noise on fish with a number of partners HR Wallingford, Exeter University, and Sustainable Marine Energy Ltd.

Sound can also be used as an investigative tool. **Merin Broudic** from Swansea University has been working with **TEL Ltd.** on marine mammal behavioural monitoring using acoustic technology at Delta Stream Demonstration site, and **Irene Voellmy** has carried out an investigation into potential modifications of a passive acoustic monitoring system that could benefit researchers of marine mammals.



### Confidence in collision models

**Elizabeth Masden** of the Environmental Research Institute, Thurso has been carrying out a review of avian collision risk models as part of work to develop such a model to incorporate variability and uncertainty. This is important given the increasing number of offshore wind farms. Interviews with a range of UK stakeholders indicated that very few of the models need changing dramatically.

You can see a powerpoint presentation providing more detail about this work on the web at [tinyurl.com/ku7ekhe](http://tinyurl.com/ku7ekhe) (under 'Outputs and Outcomes' > Presentations).



## Cumulative Impact Assessment

Workshops funded by the programme resulted in the development last year of a set of Cumulative Impact Assessment guidelines, which are available from the website below. Following this, there are plans to review how Cumulative Impact Assessment is done in Environmental Impact Assessments – by means of a short course on the analytical framework developed.

## Grand finale at Ocean Business

We'll be hosting a special session at **Ocean Business** in Southampton next spring on **Thursday the 16th April** - please put this in your diary and we will be in touch with more details soon.

The event will include outputs of four years of work to increase certainty about the environmental interactions of marine renewable energy technologies, as well as introducing plans for the future of this area,

This event represents a chance to hear more about some fascinating innovative research from the projects of the NERC-Defra MRE programme, to reflect on progress during this time, and to have your say on how this research and the associated KE programme has impacted upon the renewables landscape.

There will be opportunity to network with researchers and project partners from across the country - and beyond(!) Watch this space..



You can now find outputs from programme activities on the main NERC website. Navigate to **www.nerc.ac.uk > innovation > infrastructure > marine renewable energy**, or follow our quicklink: <http://tinyurl.com/ku7ekhe>.

The horizon scanning service we provide for news and events is now embedded in the site for the Centre Offshore Renewable Energy Research [www.corer.org](http://www.corer.org)

If you are interested in building information from the KE programme into your own site, please contact [mrekep@nerc.ac.uk](mailto:mrekep@nerc.ac.uk) with details.



## Upcoming events

You might just bump into us at:

- The International Conference on Ocean Energy in Halifax, Nova Scotia from 4th-6th November..
- Innovate 2014 in London on 5-6th November
- RenewableUK 11-13th November in Manchester

Please look out for further opportunities and updates via the **@MREKEP** twitter feed.

NERC's Marine Renewable Energy Knowledge Exchange programme is working toward a sustainable future for the Marine Renewable Energy Sector through partnerships and coordination of activities.

The programme is hosted at the National Oceanography Centre.

