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**European Cetacean Society (ECS) 31st Annual Conference, Middelfart, 29 Apr – 4 May
Fjord&Baelt, University of Southern Denmark, Kerteminde 4 – 6 May**

Thanks to the generous support of the Royal Society of Biology, in April and May 2017 I undertook a research trip to Denmark to attend the European Cetacean Society (ECS) annual conference and to visit a nearby marine biology research centre to set up a potential collaboration for my PhD.

The ECS aims to promote and advance the scientific studies and conservation efforts of marine mammals, and to gather and disseminate information about them to members of the Society and the



The venue for the European Cetacean Society's 31st Annual Conference was Hindsgavel Castle, Middelfart, Denmark.

public at large. This year, the conference theme was “Conservation in the Light of Marine Spatial Use”, a topic which was highly relevant to my PhD project which is investigating the impacts of the marine renewable energy developments on grey seal *Halichoerus grypus* movement ecology in tidal environments. This was my first time attending the ECS conference and it was a fantastic experience. The conference had an excellent science programme featuring dozens of talks and posters on a vast range of topics relating to marine mammalogy. There was also a great social programme for attendees.

On the 30th April I presented a speed talk on some of my research: The sex-dependent environmental drivers of grey seal pup dispersal and their predicted spatio-temporal overlap risk with marine energy installations. In this research I use a historic record of mark-recapture data on seal pups in Wales to model post-weaning dispersal in order to understand the spatio-temporal overlap of dispersing pups with local, in-water renewable energy devices, which are perceived to pose a risk to young seals. There were a number of talks about the assessment of marine renewable devices and so this was a brilliant opportunity for me to showcase some of my work to an expert, international audience working in relevant fields, and I was thrilled to have been given the opportunity to present this at such a large, stunning venue. This was also the first time for me presenting a speed talk – so a great learning opportunity and one which I found to be a real challenge! I was given very useful feedback following my talk which has undoubtedly aided my development.



The conference hall where I delivered a presentation of my research on grey seals to an audience of approx. 400 marine mammalogists!

Attending this conference also gave me the opportunity to network with the experts in my discipline and it was a wonderfully humbling experience to meet such prominent individuals in the field of marine mammalogy such as Lars Bejder, Boris Culik, Julie van der Hoop, Ursula Siebert and Hal Whitehead; many of whom I have been citing in my own work for years but not had the chance to meet. I made a concerted effort to approach these and others individually to talk to them about their work and hopefully leave a lasting impression for future occasions. It was equally as brilliant to meet all the students attending the conference and establish some great new friendships and potential collaborations, such as PhD candidate Steffen Mumme from Germany, who has since visited our laboratory in Swansea University on a short research trip.

Following the conference I travelled to towards Copenhagen stopping off at Kerteminde for a couple of nights. Here I had arranged to meet Dr Kirsten Hansen, a researcher at the Marine Biology Research Centre, University of Southern Denmark. Kirsten is a distinguished animal trainer and her current work at the Fjord&Bælt laboratory in Kerteminde involves training grey seals and cormorants for investigations of their auditory abilities in and out of water. Kirstin had kindly agreed that I could visit the facility to watch the seals being trained and to discuss a potential collaboration between



Dr Kirsten Hansen performs a routine check on a trained grey seal bull at Fjord&Bælt marine biology research centre, Kerteminde, Denmark.

Fjord&Bælt and Swansea Laboratory for Animal Movement (SLAM). This collaboration would involve tagging trained seals with sophisticated Daily Diary telemetry tags to collect high-resolution accelerometry and magnetometry data and study their movement and behaviour in a controlled environment, before I deploy tags on wild animals.

Watching Kirstin working with the seals was awe-inspiring and it was clear that this collaboration was something which we were confident could be achieved. Kirstin demonstrated how the seals are trained to swim, move on land and undergo veterinary examination on cue, as well as enjoying a belly

rub! I discussed with Kirstin at length the opportunities to collaborate and since then we have continued to discuss plans over the Summer. I plan to visit the laboratory again this Autumn to commence these collaborative studies which will likely form a chapter in my PhD. If I am lucky this work might even involve Oden, the adorable new addition to the Fjord&Bælt research centre - a young grey seal pup who Kirstin was going to collect as I was sadly departing (I hope to meet him in October).

In summary, this research trip was extremely rewarding and very enjoyable! This was my first visit to Denmark and I had an immense amount of fun cycling around Middelfart on a free bike that the ECS conference provided, going on a porpoise safari aboard the Aarhus University vessel Aurora and exploring Kerteminde and Copenhagen on foot. I was also able to spend a lot of time with my supervisor from Swansea University which has helped to develop our working relationship. The Early Career MRSB Travel Grant provided me with a fantastic opportunity to present my current research and develop my academic skills, network extensively with key researchers and support the development of an exciting new collaboration between two European institutions, which certainly has the potential to flourish into a continuing partnership. I am extremely grateful for this opportunity which would not have been possible without the support of the Royal Society of Biology.

William Kay, August 2017

Further reading:

Grey seal pup dispersal:

- Kay, W. P., Bull, J. C., Stringell, T. B., Börger, L. (2017) Grey Seal (*Halichoerus grypus*) pup dispersal: Implications for marine energy installations. *Conference presentation*. Available at [Slideshare.net](https://www.slideshare.net)
- Kay, W. P., Bull, J. C., Stringell, T. B., Börger, L. (2017) Grey seal (*Halichoerus grypus*) pup dispersal in Wales: Spatio-temporal overlap with a tidal stream turbine. *Conference poster*. Available at [SlideShare.net](https://www.slideshare.net)

Kirstin's research:

- Hansen, K.A., Maxwell, A., Siebert, U., Larsen, O.N. and Wahlberg, M., 2017. Great cormorants (*Phalacrocorax carbo*) can detect auditory cues while diving. *The Science of Nature*, 104(5-6), p.45.
- Kirstin Anderson Hansen on ResearchGate:
https://www.researchgate.net/profile/Kirstin_Anderson_Hansen

Daily Diary Technology:

- Williams, H.J., Holton, M.D., Shepard, E.L., Largey, N., Norman, B., Ryan, P.G., Duriez, O., Scantlebury, M., Quintana, F., Magowan, E.A. and Marks, N.J., 2017. Identification of animal movement patterns using tri-axial magnetometry. *Movement ecology*, 5(1), p.6.
- Shepard, E.L., Wilson, R.P., Quintana, F., Laich, A.G., Liebsch, N., Albareda, D.A., Halsey, L.G., Gleiss, A., Morgan, D.T., Myers, A.E. and Newman, C., 2008. Identification of animal movement patterns using tri-axial accelerometry. *Endangered Species Research*, 10, pp.47-60.
- Wilson, R.P., Shepard, E.L.C. and Liebsch, N., 2008. Prying into the intimate details of animal lives: use of a daily diary on animals. *Endangered Species Research*, 4(1-2), pp.123-137.
- Daily Diary Technology website: <http://wildbytetechologies.com/tags.html>