

Distinguished Visitor Report – Michael Milford

I was hosted by Professor Barbara Webb during my stay in Edinburgh but also had the opportunity to visit, present and interact with researchers from Heriot Watt and St Andrews during my visit. I gave the following official research presentations (each approximately 30 minutes to 1 hour in duration):

- **Edinburgh University:** Invited speaker at the workshop *Spatial computation: from neural circuits to robot navigation*. Host Professor Matthew Nolan
- **St Andrews University:** Research presentation to the School of Computer Science and Schools of Psychology and Biology: Host Dr Michael Weir
- **Heriot-Watt University:** Research presentation to the *School of Engineering & Physical Sciences*: Host Professor Yvan Petillot
- **Edinburgh University:** Research presentation to the *Institute of Perception, Action and Behaviour*: Host Professor Barbara Webb.



Clockwise from top left: workshop dinner discussion, interactive demos at Edinburgh University presentation, presenting at St Andrews University, visiting the underwater robotics laboratory at Heriot Watt University, a leading international neuroscientist performing navigation tasks on a live demonstration the Spatial Computation workshop, and gathering UV camera data with researchers from Edinburgh University.

During my time at each of these institutions I had the opportunity to interact extensively with a large number (in total more than fifty) researchers from undergraduate level to professors, and made a number of research leads. Specific concrete outcomes already achieved include submitting a collaborative paper involving researchers from Edinburgh University – this paper was accepted for presentation at a workshop at the *2015 IEEE International Conference on Robotics and Automation*, the premiere large international

robotics conference. A range of dataset acquisition activities were undertaken. We are also following up a number of other promising research collaborations ranging across computer science, underwater robot navigation and biological navigation. These outcomes will lead to further collaborative paper submissions and hopefully future collaborative funding applications.

Accepted paper: Michael Milford, Hanme Kim, Michael Mangan, Tom Stone, Stefan Leutenegger, Barbara Webb, "Place Recognition with Event-based Cameras and a Neural Implementation of SeqSLAM", in *Workshop on Innovative Sensing for Robotics* at *IEEE International Conference on Robotics and Automation*, 2015.

Link to talk slides:

https://dl.dropboxusercontent.com/u/5622008/SICSA/edinburgh_2015_long.pdf

Link to accepted workshop paper:

<https://dl.dropboxusercontent.com/u/5622008/SICSA/Place%20Recognition%20with%20Event-based%20Cameras%20and%20a%20Neural%20Implementation%20of%20SeqSLAM.pdf>