

CV

Christopher A. Harris

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Summary

My research objective is to understand how adaptive patterns of neural and behavioural activity are generated, selected and maintained. I am particularly interested in how dopamine modulates goal-oriented activity in complex neural circuits. During my doctoral studies at the University of Sussex I have developed a new multi-electrode technique for interfacing with an intact invertebrate brain (Harris et al., 2010, *J. Neurosci. Methods*). This required extensive problem-solving, both experimentally and in MATLAB, as well as the incorporation of a large body of existing electrophysiological methods and models. I am currently using the new technique to study dopamine-mediated adaptation of the brain's feeding circuit to the availability of food (Harris et al., accepted for review in *Current Biology*). I expect to submit my PhD thesis in the first half of 2012 and am now looking for a postdoctoral research position.

Education

Jul 2008 – Present	PhD Neuroscience (expected in 2012) University of Sussex, UK
Sep 2006 – Sep 2007	MSc Cellular and Molecular Neuroscience University of Sussex, UK
Sep 2003 – Jun 2006	BSc Psychology and Philosophy University of Warwick, UK

Employment

Nov 2008 – Present	Associate Tutor University of Sussex, UK
Sep 2007 – Jun 2008	Research Assistant University of Sussex, UK
Jun 2006 – Sep 2006	Laboratory Technician on the Human Protein Atlas Program Royal Institute of Technology (KTH), Sweden
Jun 2005 – Jul 2005	Psychiatric Clinic Caretaker Danderyd's Hospital, Sweden

Grants and awards

- 2010 Roche Continents Workshop Bursary
- 2009 International Neuromodulation Society Travel Grant
- 2008 Biotechnology and Biological Sciences Research Council PhD Studentship Award

Referees

Michael O'Shea
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Publications List

Published journal articles

Harris C.A., Passaro P.A., Kemenes I., Kemenes G., O'Shea M. (2010) Sensory driven multi-neuronal activity and associative learning monitored in an intact CNS on a multielectrode array. *Journal of Neuroscience Methods* 186:171-178.

Journal articles under review

Harris C.A., Buckley C.B., Nowotny T., Passaro P.A., Seth A.K., Kemenes G., O'Shea M. (submitted) Future behavior is predicted by activity in a reward-sensing multi-neuronal network. Accepted for review in *Current Biology*.

Conference abstracts and presentations

Harris C.A., Buckley C.B., Nowotny T., Kemenes G., O'Shea M. (2011) Reward and dopamine enhance network correlation and motor output in an intact brain on a multielectrode array. 41st Annual Meeting of the Society for Neuroscience.

Skinner J.C., **Harris C.A.**, Prance R.J., Husbands P., O'Shea M. (2010) Extracellular recordings of neurological signals using capacitively coupled ultra high impedance electric potential sensors. Oxford University Institute of Physics 2010 conference.

Harris C.A., Passaro P.A., Kemenes I., Kemenes G., O'Shea M. (2010) A Multielectrode Array Analysis of the Snail Brain. *Proceedings of the 7th International Meeting on Substrate-Integrated Microelectrode Arrays*, part 9:312-313.

Harris C.A., Kilarski L.L. (2009) A Novel, Web-Based Approach To Public Participation in Neuromodulation Research. 9th World Conference of the International Neuromodulation Society.

Passaro P.A., **Harris C.A.**, Seth A.K., O'Shea M. and Husbands P. (2008). Spike sorting and functional connectivity analysis using self-organizing maps and Granger causality. *Neuroinformatics* 2008.

Harris C.A., Passaro P.A., Husbands P., O'Shea M. (2008) Novel techniques for multi-electrode array recording of the *Lymnaea stagnalis* CNS during fictive feeding and appetitive conditioning. 38th Annual Meeting of the Society for Neuroscience.

Passaro P.A., **Harris C.A.**, Seth A.K., O'Shea M., Husbands P. (2008) Functional connectivity, behavioural state, and plasticity analysis of multi-unit electrophysiology data from semi-intact snail brains using self-organizing maps and Granger causality. 38th Annual Meeting of the Society for Neuroscience.

Passaro P.A., **Harris C.A.**, Marra V., Kemenes G., Husbands P., O'Shea M. (2007) A multi electrode array analysis of the *Lymnaea stagnalis* feeding system. 37th Annual Meeting of the Society for Neuroscience.