

Stephen P. Currie, Ph.D, AFHEA

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PUBLICATIONS

Pakan JMP*, Currie SP*, Fischer L* & Rochefort NL (2018). 'The Impact of Visual Cues, Reward, and Motor Feedback on the Representation of Behaviorally Relevant Spatial Locations in Primary Visual Cortex.' *Cell Reports*. doi: 10.1016/j.celrep.2018.08.010.

Currie SP & Sillar KT (2017). 'Developmental changes in spinal neuronal properties, motor network configuration and neuromodulation at free-swimming stages of *Xenopus* frog tadpoles.' *Journal of Neurophysiology*. doi: 10.1152/jn.00219.2017

Luz LL, Currie SP & Daw MI (2017). 'Alterations in the properties of neonatal thalamocortical synapses with time in in vitro slices.' *PLoS ONE*. doi: 10.1371/journal.pone.0171897

Currie SP, Luz LL, Booker SA, Kind PC & Daw MI (2017). 'Reduced Local Input to Fast-Spiking Interneurons of the Developing Somatosensory Cortex in the GABAA γ 2 R43Q Model of Absence Epilepsy.' *Epilepsia*. doi: 10.1111/epi.13693

Pakan JMP, Lowe SC, Dylida E, Keemink SW, Currie SP, Coutts CA, & Rochefort NL (2016). 'Behavioural state modulation of inhibitory neurons in mouse V1 is context-dependent and cell-type specific.' *eLife*. doi: 10.7554/eLife.14985

Croker-Buque A, Currie SP, Luz LL, Duffy KR, Kind PC & Daw MI (2016). 'Altered Thalamocortical Development in the SAP102 Knockout Model of Intellectual Disability.' *Hum. Mol. Genet.* doi: 10.1093/hmg/ddw244

Currie SP, Doherty GH & Sillar KT (2016). 'Deep-brain photoreception links luminance detection to motor output in pro-metamorphic *Xenopus* tadpoles.' *Proceedings of the National Academy of Sciences*. doi: 10.1073/pnas.1515516113

Currie SP*, Combes D*, Scott NW, Simmers J & Sillar KT (2016). 'A behaviourally-related developmental switch in nitric oxide modulation of locomotor rhythmogenesis in larval *Xenopus* tadpoles.' *Journal of Neurophysiology*. doi: 10.1152/jn.00283.2015

POST-DOCTORAL RESEARCH POSITIONS

2016 – present	University of Edinburgh Research fellowship in the lab of Dr Ian Duguid investigating neural representations of movement in primary motor cortex.
2015 – 2016	University of Edinburgh Working under Dr Nathalie Rochefort I implemented a behavioural task in virtual reality while recording the activity of neurons in the visual cortex using <i>in vivo</i> 2-photon calcium imaging. This combination of techniques should allow us to understand how dynamic plasticity of neural networks underpins learning.
2013 – 2015	University of Edinburgh I completed a short post-doctoral position under Dr Michael Daw where I was involved with several projects investigating thalamocortical input to the mouse barrel cortex. Using both single and double patch-clamp recordings I studied how the cellular and synaptic properties of this system were altered in mouse models of neurodevelopmental disorders including epilepsy and intellectual disability.

EDUCATION

2009 – 2014	University of St Andrews Ph.D. "The development and neuromodulation of motor control systems in pro-metamorphic <i>Xenopus laevis</i> frog tadpoles." Supervisor – Prof. Keith T. Sillar
2005 – 2009	University of St Andrews - B.Sc. Neuroscience (Hons) 2:1

TEACHING ACCREDITATION

2016	Associate Fellow of the Higher Education Academy Edinburgh teaching award (Level 1)
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TEACHING EXPERIENCE

2014 – present	University of Edinburgh Lecturing, marking and demonstrating on undergraduate neuroscience modules. Supervision of Honours and Masters level research projects.
2009 – 2014	University of St Andrews Marking and lab demonstrator for undergraduate biology modules.

OUTREACH

2014 – present	Hosted high school students as part of various work experience schemes including Science Insights
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2011-12

Hosted stalls at *science discovery day* during Fife Science Festival. Showcases research to a mainly school-aged audience.

AWARDS

2012

Guarantors of Brain travel grant (£500).

2011

Society of Experimental Biology – Company of Biologists travel grant (£500);
The Physiological Society travel grant (£500).

2010

University of St Andrews – GRADskills innovation grant to fund *Young Physiologists' Symposium* on Neuromodulation (£1500).

MEMBERSHIPS

2014-present

British Neuroscience Association

2012-2014

International Society of Neuroethology

2011-2014

Society of Experimental Biology & The Biochemical Society

2011-12

Society for Neuroscience

2010-12

The Physiological Society

ABSTRACTS / PRESENTATIONS

2015

BNA2015: Festival of Neuroscience:

Currie SP, Crocker-Buque A, Komiyama NH, Grant SG, Kind PC, and Daw MI. Deficits in cortical development in a model of intellectual disability highlight an important role for synapse associated protein-102 (SAP-102).

2012

Invited speaker at 'small circuits' mini-symposium - University of Pennsylvania

10th International Congress of Neuroethology:

Currie SP, Combes D, Clemens S, Simmers JA and Sillar KT. Dynamic interactions between aminergic and nitregeric modulatory systems during locomotor rhythmogenesis in *Xenopus* tadpoles. doi: 10.3389/conf.fnbeh.2012.27.00238

Zhang H, **Currie SP**, Picton L and Sillar KT. Locomotor network performance controls future network output in *Xenopus* frog tadpoles. doi: 10.3389/conf.fnbeh.2012.27.00114

2011

Research seminar to neuroscience faculty and students – Washington and Lee University.

41st meeting of the Society for Neuroscience:

Currie SP, and Sillar KT. Intrinsic deep brain light sensitivity regulates locomotor activity in frog tadpoles. 802.06/MM11.

Sillar KT, Scott NW and **Currie SP**. Nitric oxide regulation of spontaneous locomotor rhythm generation in the isolated nervous system of *Xenopus laevis* tadpoles. 497.05/UU6

8th meeting of the Scottish Neuroscience Group:

Currie SP and Sillar KT. Nitric oxide regulation of spontaneous locomotor rhythm generation in the isolated nervous system of *Xenopus laevis* tadpoles.

2010

Research seminar for neuroscience faculty and graduate students – Michigan State University.