

Dr. Jamie Alexander O'Reilly

Lecturer

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PROFILE

I was born in Zaanstad, Netherlands, in 1988 to a Scottish Mother and an Irish Father. We moved to Aberdeenshire, Scotland, when I was almost one year old, where I was raised with my two brothers. As a child I was bright and creative, and did well in school. At the age of fifteen I entered college, studying for a diploma in electronics before entering university. After graduating from an integrated Master's (Bachelor and Master combined) in Electronic and Electrical Engineering I entered a program of postgraduate study and research. The goal of this program was to develop interdisciplinary researchers working at the interface between life-science and the physical sciences. Choosing to focus on neuroscience, I applied my engineering capabilities to develop *in-vivo* electrophysiology experiments to investigate auditory sensory-memory in mouse models related to schizophrenia. I also gained experience performing human electroencephalography (EEG) experiments and data analysis. During this time, I was involved in an entrepreneurial start-up venture which, although didn't surmount to much, was a useful learning experience concerning business practices. After finalizing and submitting my thesis in July 2017 I moved to Thailand to live with my fiancé and took up work as a mathematics teacher. While here I have written up two manuscripts for publication, which I hope to submit very soon. As of August 2018, I have joined the College of Biomedical Engineering, Rangsit University, as a Lecturer in Electronics and Digital Circuits.

SKILLS *Electronics, Engineering, Electrophysiology, Matlab, Python, Teaching, Writing*

EDUCATION

Doctor of Engineering (EngD) for Research in Biomedical Engineering at University of Strathclyde, Department of Biomedical Engineering (*Oct '11 - Jul '17*). Thesis title: "Characterising mismatch negativity biomarker signatures in preclinical models relevant to schizophrenia". Advisors: Prof. Judith Pratt and Prof. Bernard Conway. Funding: UK EPSRC Centre for Doctoral Training in Medical Devices and Healthcare Technologies

The first year of this course was equivalent to a Master's in Medical Devices, covering a broad range of biomedical engineering topics including biomedical electronics, instrumentation, signal processing and analysis, and fundamental medical science. My research project in the neuro-physiology discipline was conducted with a high degree of autonomy and generated fascinating results. Thesis was submitted in January, viva was held in June, then following minor corrections my thesis was accepted in July 2017.

Master of Engineering (MEng) in Electronic and Electrical Engineering Robert Gordon University, School of Engineering (*Sep '09 - Sep '11*). Dissertation title: "Electroencephalography (EEG) neural signal data acquisition system". Advisor: Dr. Christopher MacLeod

This was an integrated 'fast-track' undergraduate Master's program with an intensive summer semester and industrial internship during the penultimate and final years of study. I majored in electronic and communications engineering and graduated with Distinction.

WORK EXPERIENCE

Lecturer at College of Biomedical Engineering, Rangsit University (*Aug '18 - present*). Subjects taught include electronics and digital circuits.

Mathematics Teacher at Suankularb Rangsit School, Pathumthani, Thailand (*Oct '17 – Aug '18*). Subjects taught include differential and integral calculus, statistics, vector calculus, complex numbers, geometry, combinatorics and probability, sequences and series, lines and planes, and trigonometry.

Business Development Internship at Biogelx, BioCity Scotland, Glasgow, UK (*Feb '17 - May '17*): Optimizing CRM software (salesforce.com), generating and tracking leads, and performing market research in the area of 3D bioprinting and bio-inks.

Electronic Engineering Internship at Nan Gall Energy Systems, Aberdeen, UK (*Jul '11 - Sep '11*): Building and testing electro-mechanical instruments to specifications, conducting a battery-tester design project.

Electrical Engineering Internship at Petrofac, Aberdeen, UK (*May '10 - Sep '10*): Working with the onshore operations and maintenance team supporting an aging North Sea oil platform.

JOURNAL ARTICLES

O'Reilly JA, Conway BA, Pratt JA, 2018 “Auditory-evoked potential study of schizophrenia-related *Map2k7*^{+/-} and ketamine-induced NMDA antagonism models” *Neuropsychopharmacology, in preparation*

O'Reilly JA, Pratt JA, Conway BA, 2018 “Mismatch responses to duration, frequency, and intensity changes in urethane-anaesthetised and conscious mice” *Clinical Neurophysiology, in preparation*

CONFERENCES

Scottish Neuroscience Group (SNG) 12th Annual Meeting 2015: University of St Andrews “Characterising mismatch negativity-like responses in mouse models relevant to schizophrenia”

International Brain Research Organisation (IBRO) 2015 9th World Congress: Rio De Janeiro, Brazil “Mismatch negativity-like responses in awake and anaesthetised models relevant to schizophrenia”

British Neuroscience Association (BNA) 2015 Festival of Neuroscience (ISSN 1345-8301 2015): Edinburgh “Investigating auditory event-related potentials and mismatch negativity-like responses in the schizophrenia-related *Map2k7* gene disruption model”

Scottish Neuroscience Group (SNG) 11th Annual Meeting 2014: Roslin Institute, Edinburgh “Investigating mismatch negativity-like activity in the *MAP2k7* schizophrenia model”

Medical Engineering Centres and Bioengineering 2014 (ISBN 978-0-9930390-0-3): Imperial College London “Investigating mismatch negativity-like activity in the *MAP2k7* schizophrenia model”

Scottish Neuroscience Group (SNG) 10th Annual Meeting 2013: University of Glasgow “Developing Protocols for Mismatch Negativity (MMN) Acquisition in Disease Models and Schizophrenia Patients”

Glasgow Neuroscience Day (GND) 2013: University of Glasgow “EEG referencing and time-frequency analysis of Mismatch Negativity: implications for the early detection of schizophrenia using a multi-feature paradigm and a wireless EEG system”

ACADEMIC AWARDS

Strathclyde Enterprise Pathway 2012/13 co-winner; awarded £3000 to pursue a business idea developing smart technology for urban domestic horticulture.

NESSCO Prize for the most outstanding Electronic and Communications Engineering Student at Robert Gordon University 2010/11

Full Blue for exceptional sporting performance in Boxing at Robert Gordon University 2010/11

Top Engineering Students award at Banff & Buchan College 2008/9