

Dr. Jamie Alexander O'Reilly

Lecturer

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PROFILE

I became a member of faculty at the College of Biomedical Engineering, Rangsit University, in August 2018 (2561). My background is in electrical and electronic engineering, and I have a doctorate in biomedical engineering for research in neurophysiology.

EXPERTISE

Electronics, Electrophysiology, Neuroscience, Signal & Image Processing, Machine Learning

RESEARCH INTERESTS

- Auditory neurophysiology
- Medical signal and image processing
- Automated medical image segmentation

EDUCATION

- Oct. 2011 – Jul. 2017* **Doctor of Engineering in Biomedical Engineering**, University of Strathclyde, Glasgow, UK
- Sept. 2009 – Sept. 2011* **Master of Engineering in Electronic and Electrical Engineering**, Robert Gordon University, Aberdeen, UK
- Aug. 2007 – Sept. 2009* **Higher National Diploma in Electronics**, North East Scotland College, Fraserburgh, UK

WORK EXPERIENCE

- Aug. 2018 – present* **Lecturer**, College of Biomedical Engineering, Rangsit University, Pathum Thani, Thailand
- Oct. 2017 – Aug. 2018* **Mathematics Teacher**, Suankularbwitayalai Rangsit School, Pathum Thani, Thailand
- Feb. 2017 – May. 2017* **Business Development Internship**, Biogelx Ltd., Glasgow, UK
- Jul. 2011 – Sept. 2011* **Electronic Engineering Internship**, Nan Gall Energy Systems, Aberdeen, UK
- May. 2010 – Sept. 2010* **Electrical Engineering Internship**, Petrofac Plc., Aberdeen, UK

JOURNAL ARTICLES

O'Reilly, J. A. & Angsuwatanakul, T. (2019) "More evidence for a long-latency mismatch response in urethane-anaesthetised mice", *Preprint*: <https://doi.org/10.1101/837690>

O'Reilly, J. A. & Conway, B. A. (2019) "Classical and controlled auditory mismatch responses to multiple physical deviances in urethane-anaesthetised and conscious mice", *Preprint*: <https://doi.org/10.1101/831016>

Angsuwatanakul, T., O'Reilly, J., Ounjai, K., Kaewkamnerdpong, B. and Iramina, K. (2020) "Multiscale Entropy as a New Feature for EEG and fNIRS Analysis". *Entropy*, 22(2), p.189.

O'Reilly, J. A. (2019) "Double-epoch subtraction reveals long-latency mismatch response in anesthetized mice", *Journal of Neuroscience Methods*. Vol. 326. <https://doi.org/10.1016/j.jneumeth.2019.108375>

Anupongongarch, P., Kaewgun, T., O'Reilly, J. A., & Khaomek, P. (2019) "Development of a non-invasive blood glucose sensor", *International Journal of Applied Biomedical Engineering*. Vol. 12, pp 13-19.

O'Reilly, J. A. (2019) "Event-related potential arithmetic to analyze offset potentials from conscious mice", *Journal of Neuroscience Methods*. Vol. 318, pp 78-83. <https://doi.org/10.1016/j.jneumeth.2019.01.018>

CONFERENCE PROCEEDINGS

O'Reilly, J. A., Tanpradit, S., Puttasakul, T., Sangworasil, M., Matsuura, T., Chousangsuntorn, K. & Wibulpolprasert, P. (2020). "Automatic segmentation of polycystic kidneys from magnetic resonance images using a three-dimensional fully-convolutional network". In Proceedings of the 5th RSU National and International Research Conference on Science and Technology, Social Sciences, and Humanities 2020: RSUCON 2020.

O'Reilly, J. A., Tanpradit, S., Puttasakul, T., Sangworasil, M., Matsuura, T., Wibulpolprasert, P. & Chousangsuntorn, K. (2019). "Automatic segmentation of polycystic kidneys from magnetic resonance images using decision tree classification and snake algorithm". In Proceedings of the 12th Biomedical Engineering International Conference 2019: BMEiCON 2019.

O'Reilly, J. A., Sangworasil, M., & Matsuura, T. (2019). "Kidney and Kidney Tumor Segmentation using a Logical Ensemble of U-nets with Volumetric Validation". In Submissions to the 2019 Kidney Tumor Segmentation Challenge: KiTS19. University of Minnesota Libraries Publishing. <https://doi.org/10.24926/548719.082>

THESES

O'Reilly, J. A. (2017). "Characterizing mismatch negativity biomarker signatures in preclinical models relevant to schizophrenia". University of Strathclyde Doctoral Thesis.

O'Reilly, J. A. (2011). "Electroencephalography (EEG) neural signal data acquisition system". Robert Gordon University Master's Thesis.

PRESENTATIONS

Life Engineering Symposium, 23-24 August 2019: Asia Hotel, Bangkok “Logical Ensemble for Segmentation of Minority Classes in Medical Images using Deep Learning”

Thai Biomedical Instrumentation (BMI) Association Symposium, 2 August 2019: Twin-Towers Hotel, Bangkok “Machine Learning in Medical Robotics”

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”

RESEARCH FUNDING

Jun. 2019 – May. 2020: Research Institute of Rangsit University (90/2561): "Artificial intelligence system for automatically quantifying kidney and cyst volumes from magnetic resonance images of autosomal-dominant polycystic kidney disease (ADPKD) patients"

Oct. 2011 – Oct. 2015: United Kingdom Engineering and Physical Sciences Research Council (EPSRC) Doctoral Training Centre Studentship.