

James McIntosh

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Education

- 2012-2016 **PhD in Biomedical Engineering, Imperial College London**
Thesis title: Probing movement decision processes with transcranial current stimulation techniques,
Prof. Carsten Mehring and Prof. Etienne Burdet, Bernstein Center, Freiburg University, and Department of Biomedical Engineering, Imperial College London.
- 2011-2012 **MSc Biomedical Engineering with Neurotechnology (Distinction),**
Department of Biomedical Engineering, Imperial College London.
- 2006-2011 **MEng Electronic Engineering (First: Honors),**
Department of Engineering, The University of Warwick.

Student Research Projects and Internships

- 2011 (Summer) Classification of field asymmetric ion mobility spectrometry data for detection of bowel disease,
Prof. Julian Gardener, School of Engineering, The University of Warwick.
- 2009-2010 Probing the nature of intermittently stuck bits in dynamic RAM cells,
Andrew Chugg, Radiation effects and electromagnetic compatibility, MBDA Systems.
- 2008 (Summer) Rocket Instrumentation - Design of second year electronic engineering project,
Dr. Angus Bryant, School of Engineering, The University of Warwick.

Master Theses

- 2011-2012 Inter-task generalisation in kinematic parameter decoding from electrocorticographic signals,
Dr. Carsten Mehring, Biomedical Engineering, Imperial College London.
- 2010-2011 European Student Moon Orbiter (ESMO) Electrical Power System (now WUSAT),
Dr. William Crofts, Director of Warwick Satellite Programme, School of Engineering, The University of Warwick.

Teaching Experience

Tutoring

- 2014 **Building a Brain-Machine Interface, (Level: Bachelor),** University of Freiburg, Germany.
- 2014, 2015 **NWG-Course: Analysis and Models in Neurophysiology, (Level: PhD),** University of Freiburg, Germany.
- 2013 **Statistics and Data Analysis, (Level: Masters),** Imperial College London.
- 2013 **Brain Machine Interface Neural Decoding, (Level: Masters),** Imperial College London.

Co-Supervision

- 2015 **Master Thesis**, *Benedikt Fischer*, Probing the mechanisms of movement initiation with noninvasive brain stimulation.
- 2014 **Bachelor Thesis**, *Marius Goerner*, Modulating the brain: Impacts on reaction time.
- 2013 **Master Thesis**, *Andy Proctor*, Cues in structure learning.
- 2013 **Master Thesis**, *Yanis Aumont*, Learning new motor skills: Structure motor learning.

Awards

- EPSRC Prize
studentship For the study of a PhD under the supervision of Dr. Carsten Mehring at Imperial College London.
- Bagrit
studentship By the Sir Leon Bagrit Memorial Trust to study an MSc in Biomedical Engineering at Imperial College London.

Programming Languages

- MATLAB Advanced
- Python Moderate
- Other LabVIEW, C++ and embedded C

Languages

- English First language
- Italian Basic

Publications, conference abstracts and patents

Publications

M Chugg, A, J Ward, J McIntosh, N Flynn, H Duncan, P, S Barber, T, and C Poivey. Improved fine-scale laser mapping of component see sensitivity. *IEEE Transactions on Nuclear Science*, 59(4):1007–1014, 2012.

M Chugg, A, J McIntosh, J Burnell, A, H Duncan, P, and J Ward. Probing the nature of intermittently stuck bits in dynamic ram cells. *IEEE Transactions on Nuclear Science*, 57(6):3190–3198, 2010.

Conference abstracts

S Fara, J McIntosh, H Choi, and C Mehring. Boosting occipital alpha power by transcranial alternating current stimulation at the second harmonic. In *Neuroscience 2016, San Diego*, 2016.

J McIntosh, M Goerner, and C Mehring. Investigating interhemispheric transmission with transcranial random noise stimulation. In *Neuroscience 2015, Chicago*, 2015.

J McIntosh, M Goerner, and C Mehring. The influence of transcranial alternating current on the initiation of movement. In *Neuroscience 2014, Washington D.C.*, 2014.

J McIntosh and C Mehring. The influence of transcranial alternating current on the timing of decision making. In *6th International IEEE EMBS Conference on Neural Engineering, San Diego*, 2013.

Patents

M Chugg, A, J Ward, and J McIntosh. Workpiece positioning method and apparatus, 2015. US Patent 9,063,534.