

Xin WANG

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Education

- 2018.10–
current **University of Melbourne**, Australia
Melbourne Neuropsychiatry Centre (MNC), Department of Psychiatry
Visiting student
Supervisor: Professor Andrew Zalesky
- 2016–current **The Chinese University of Hong Kong (CUHK)**, Hong Kong SAR, China
Department of Biomedical Engineering
Ph.D. in Electronic Engineering
Supervisor: Professor Raymond Kai-yu Tong
- 2012–2016 **University of Electronic Science and Technology of China (UESTC)**, China
School of Communication and Information Engineering
B.E. in Communication Engineering
Overall GPA: 3.95/4.0; 90.1/100
Ranking: 2/405

Research Interests

- Computational Neuroscience Using neuroimaging techniques to develop computational models to investigate functional brain networks for neurological disorders
- Causal Inference Fusion multi-modalities of neuroimaging data (e.g. fMRI, EEG) and develop causal frameworks to infer dynamic structures and patterns in brain functions

Research Projects

- 2017–current **Using neuroimaging and computational modeling to customize transcranial direct current stimulation protocols for facilitating hand function recovery after stroke**
- Develop computational models of neuromodulation for understanding the tDCS-induced changes in brain activation and brain networks in stroke subjects
 - Simulate the neural dynamics and tDCS effect on lesioned brain.
 - Identify the optimal stimulation target area from neuroimaging and neurophysiological findings to optimize the tDCS delivery target brain region.

- 2016-2017 **Development of a brain computer interface system with neurofeedback to facilitate the activation of the mirror neuron system for stroke rehabilitation**
- Characterize brain reorganization during stroke rehabilitation
 - Analyze multimodal brain imaging datasets to infer changed patterns in brain functions after stroke recovery

Publications

Wang, X, Wong, W, Sun, R, Chu, CW, Tong, KY. Differentiated effects of robot hand training with and without neural guidance on neuroplasticity patterns in chronic stroke. *Front Neurol* 2018. DOI: 10.3389/fneur.2018.00810.

Wang, X, Wong, W, Fang, Y, Chu, CW, Tong, KY. Dynamic Influence of Ongoing Brain Stimulation on Resting State fMRI Connectivity: A Concurrent tDCS-fMRI Study. *Engineering in Medicine and Biology Society (EMBC)*, 2018

Junata, M, Cheng, CC, Man HO, **Wang, X**, Tong, KY. Development and Evaluation of a Kinect-Based Rapid Movement Therapy Training Platform for Balance Rehabilitation. *Engineering in Medicine and Biology Society (EMBC)*, 2018

Course Work

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| 2016-2017 | Foundations of Optimization
Techniques for Data Mining
Introduction to Deep learning | Matrix Analysis and Computations
Linear Systems Theory and Design |
| 2017-2018 | Advanced Stochastic Models
Probabilistic Models and Inference Algorithms for Machine Learning | |

Honors and Awards

- 2018 **Global Scholarship for Research Excellence**, CUHK
- 2017 **Outstanding Tutor Award**, Faculty of Engineering, CUHK
- 2016 **Excellent Graduate of Sichuan Province**, China
- 2013, 2015 **National Scholarship (2%)**, Ministry of Education, China
- 2015 **Ten Outstanding Students**, School of Communication and Information Engineering, UESTC
- 2014 **National Endeavor Scholarship**, Ministry of Education, China

Technical skills

- Neuroscience fMRI, EEG, TMS, tDCS
- Programming Proficient in C/C++, R, Python, Matlab and Linux.
Languages Experience with Html, Java and JavaScript.
- Tools Proficient in AFNI, SPM, FreeSurfer, Brain Connectivity ToolBox, SPSS.
Experience with OpenCV, Halcon and Git.