

Tanya Wen

Address: Center for Cognitive Neuroscience, Duke University, LRSC, Box 90999, Durham, NC 27708

Email: tanya.wen@duke.edu

Telephone: 9194505465

EDUCATION

Postdoctoral Associate (2019 – present)

Center for Cognitive Neuroscience, Duke University, U.S.A

Research topic: Neural mechanisms of cognitive flexibility

PhD in Medical Science (2015 – 2019)

MRC Cognition and Brain Sciences Unit, University of Cambridge, United Kingdom

Research topic: Frontal lobe function and attentional control

- Examined how the multiple demand (MD) network responses to task difficulty when it can be offset by increased cognitive resource allocation, compared to when performance is limited by quality of data input.
- Used MEG/EEG to quantify the time-course and components of selective attention, including representation of stimulus identity, target position, target identity, behavioral status, and the template of the cue/target.
- Examined the roles of the MD network and default mode network (DMN) during performance of task episodes, and identified differential time-courses between networks, as well as characterized regions that coded for the representation of full episodes, individual items, and current position within an episode.
- Used fMRI to localize different subsystems in the DMN with various tasks.

Bachelor of Science, Double Major in Psychology and Life Sciences (2011 – 2015)

National Cheng Kung University, Taiwan

(Rank: 1/56; GPA: Overall 3.97/4.00; Psychology Major: 4.00/4.00; Life Sciences Major: 3.90/4.00)

Extracurricular lab work: Relationship between brain and behavior

- Investigated the neural correlates of the Flashed Face Distortion Effect illusion
- Investigated the neural correlates of the Social Simon Effect
- Used network-based statistics to characterize functional connections related to internet addiction tendency

SCHOLARSHIPS, FELLOWSHIPS, & AWARDS

Duke Interdisciplinary Behavioral Research Center mini-grant (2019-2020). Awarded \$600 to fund a behavioral experiment I designed to be collected at the IBRC.

Medical Research Council PhD Studentship (2018-2019). Full scholarship for a year.

Taiwan Cambridge Scholarship from the Cambridge Commonwealth, European & International Trust (2015 – 2018). Full scholarship; awarded to up to 5 students each year.

Guarantors of Brain Travel Grant (2018 & 2019). Wrote travel grant application. Awarded to assist attendance of the 2018 and 2019 Cognitive Neuroscience Annual Meeting.

Seton Cavendish Fund from Downing College (2018). Wrote travel grant application. Awarded to assist attendance of the 2018 Cognitive Neuroscience Annual Meeting.

Percy Lander Studentship in Preventive Medicine from Downing College (2017 & 2018). Additional PhD funding: £1500/year. Wrote research statement and attended interview.

Phi Tau Phi Scholastic Honor Society of the Republic Of China Membership (2015). Awarded to top 1% of graduating undergraduate students with highest average GPA in each college of the university (the Department of Psychology belongs to the College of Social Sciences).

Ministry of Science and Technology Undergraduate Research Grant (2014-2015; \$47,000 Taiwan Dollars). Awarded based on research proposal: Can Perceptual Expertise with Greebles Aid Visual Processing During Continuous Flash Suppression?

Foundation for the Advancement of Outstanding Scholarship – Outstanding Students Conference Travel Grant (2014; \$62,944 Taiwan Dollars). Awarded to around 20 applicants nationally each year. Awarded to attend the 2014 Vision Science Society Annual Meeting.

National Cheng Kung University Travel Award (2014; \$41,250 Taiwan Dollars, Declined in order to accept another award that provided more travel funds).

President Wei-Nong Wang Memorial Scholarship (2014) Awarded to the top 9 Taiwanese student applicants with the highest average score and class rank in the university.

National Science Council Undergraduate Research Grant (2013-2014; \$47,000 Taiwan Dollars). Awarded based on research proposal: Using Functional Magnetic Resonance Imaging to Explore the Flashed Face Distortion Effect.

Outstanding Student Award (2012-2014) Awarded to 4 students with top 10% academic year GPA in class.

SUMMER/WINTER SCHOOL & WORKSHOPS

CIFAR Winter School on the Neuroscience of Consciousness; Montebello, Quebec, Canada (2018). Selected based on application. Full expenses covered.

FSL course; organized by the Wellcome Centre For Integrative Neuroimaging, University of Oxford (2018).

MEG UK workshop and annual conference, University of Oxford (2017).

York Centre for Vision Research (CVR) Vision Science Summer School (2014). Selected based on application. Full expenses covered.

PUBLICATIONS

Wen, T., Duncan, J., & Mitchell, D.J. (submitted). The functional convergence and heterogeneity of social, episodic, and self-referential thought in the default mode network.

Wen, T., Duncan, J., & Mitchell, D.J. (submitted). Representation of task episodes in human cortical networks.

Wen, T., Duncan, J., & Mitchell, D. J. (2019). The time-course of component processes of selective attention. *NeuroImage*, 199, 396-407.

Wen, T., Mitchell, D. J., & Duncan, J. (2018). Response of the multiple-demand network during simple stimulus discriminations. *NeuroImage*, 177, 79-87.

Wen, T., Liu, D. C., & Hsieh, S. (2018). Connectivity patterns in cognitive control networks predict naturalistic multitasking ability. *Neuropsychologia*, 114, 195-202.

Lee, K. J., Hsieh, S., & **Wen, T.** (2017). Spatial Bayesian hierarchical model with variable selection to fMRI data. *Spatial Statistics*. doi: 10.1016/j.spasta.2017.06.002

Wen, T. & Hsieh, S. (2016). Network-based analysis reveals functional connectivity related to internet addiction tendency. *Front. Hum. Neurosci.* 10:6. doi: 10.3389/fnhum.2016.00006

Wen, T. & Hsieh, S. (2015). Neuroimaging of the joint Simon effect with believed biological and non-biological co-actors. *Front. Hum. Neurosci.* 9:483. doi: 10.3389/fnhum.2015.00483

Wen, T. & Kung, C. C. (2014). Using functional magnetic resonance imaging to explore the flashed face distortion effect. *Journal of Vision*, 14(12), 29. doi:10.1167/14.12.29

INTERNATIONAL CONFERENCE PRESENTATIONS

Wen, T., Duncan, J., & Mitchell, D.J. (2019). The time-course of component processes of selective attention. Poster presentation and Data Blitz oral presentation at *the 26th Cognitive Neuroscience Society Annual Meeting*, San Francisco, California, U.S.A.

Wen, T., Mitchell, D.J., & Duncan, J. (2018). Representation of task episodes in human cortical networks. Poster presented at the *Society for Neuroscience Annual Meeting*, San Diego, California, U.S.A.

Wen, T., Liu, D.C., Hsieh, S. (2018). Connectivity patterns in hierarchical cascade of prefrontal networks predict multitasking ability. Poster presented at *the 25th Cognitive Neuroscience Society Annual Meeting*, Boston, Massachusetts, U.S.A.

Wen, T., Mitchell, D.J., & Duncan, J. (2017). Response of the multiple-demand network during simple perceptual discriminations. Poster presented at *the 40th European Conference on Visual Perception*, Berlin, Germany.

Wen, T. & Kung, C. C. (2014). Using functional magnetic resonance imaging to explore the flashed face distortion effect. Poster presented at *the 2014 Vision Science Society Annual Meeting*, St. Pete Beach, Florida, U.S.A.

TECHNICAL SKILLS

Programming languages: Matlab; JavaScript; HTML; CSS

Statistical analysis software: SPSS; R

Microsoft Office

Stimulus presentation software: Psychtoolbox; E-PRIME

fMRI software/toolboxes: SPM 12; BrainVoyager QX; MarsBaR; NeuroElf; DPARSF; MRICron; MRICroGL

EEG/MEG software/toolboxes: SPM 12; FieldTrip; EEGLAB

Multivariate analyses: LIBSVM toolbox; The Decoding Toolbox; RSA toolbox