Hao-Ting Wang, PhD

Research Fellow

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RESEARCH POSITIONS

Research Fellow — Sept. 2019 – Present
Sackler Centre for Consciousness Science, Brighton and Sussex Medical School — *Brighton, United Kingdom*

PI: Prof Hugo Critchley, Prof Sarah Garfinkle
Cognitive processes in psychiatric conditions with neuroimaging and introceptive measures

Postdoctoral Research Associate — Nov. 2018 – Aug. 2019
University of York — *York, United Kingdom*

PI: Prof Jonathan Smallwood
Working on the ERC grant project—Wandering Minds

Research Administrator — Oct. 2015 – Oct. 2018
University of York — *York, United Kingdom*

PI: Prof Jonathan Smallwood and Prof Elizabeth Jefferies
Experiment design, project management, neuroimaging analysis pipeline development

EDUCATION

PhD in Cognitive Neuroscience and Neuroimaging — Sept. 2015 – Dec. 2018
University of York — *York, United Kingdom*

Supervisors: Prof Jonathan Smallwood and Prof Elizabeth Jefferies
Thesis: *"Towards an Ontology of Ongoing Thought"*

Master of Research in Psychology — Sept. 2013 – Sept. 2014
University of York — *York, United Kingdom*

BSc in Psychology — Sept. 2009 – June 2013
National Chengchi University — *Taipei, Taiwan*

PUBLICATIONS

Preprints

[1] H.-T. **Wang**, N. S. Ping Ho, D. Bzdok, B. C. Bernhardt, D. S. Margulies, E. Jefferies, and J. Smallwood, "Neurocognitive patterns dissociating semantic processing from executive control are linked to more detailed off-task mental time travel," *bioRxiv:765073*, 2019.

[2] H.-T. **Wang**, J. Smallwood, J. Mourao-Miranda, C. H. Xia, T. D. Satterthwaite, D. S. Bassett, and D. Bzdok, "Finding the needle in a high-dimensional haystack: A tutorial on canonical correlation analysis," *arXiv:1812.02598*, 2018.

Peer-Reviewed Journals

[1] A. Turnbull, H. T. **Wang**, C. Murphy, N. S. P. Ho, X. Wang, M. Sormaz, T. Karapanagiotidis, R. M. Leech, B. Bernhardt, D. S. Margulies, D. Vatansever, E. Jefferies, and J. Smallwood, "Left dorsolateral prefrontal cortex supports context-dependent prioritisation of off-task thought," *Nature Communications*, vol. 10, no. 1, 2019.

[2] K. Krieger-Redwood, H.-T. **Wang**, G. Poerio, L. M. Martinon, L. M. Riby, J. Smallwood, and E. Jefferies, "Reduced semantic control in older adults is linked to intrinsic DMN connectivity," *Neuropsychologia*, vol. 132, p. 107133, 2019.

[3] L. M. Martinon, L. M. Riby, G. Poerio, H.-T. **Wang**, E. Jefferies, and J. Smallwood, "Patterns of on-task thought in older age are associated with changes in functional connectivity between temporal and prefrontal regions," *Brain and Cognition*, vol. 132, pp. 118–128, Jun. 2019.

[4] C. Murphy, H.-T. **Wang**, D. Konu, R. Lowndes, D. S. Margulies, E. Jefferies, and J. Smallwood, "Modes of operation: A topographic neural gradient supporting stimulus dependent and independent cognition," *NeuroImage*, vol. 186, pp. 487–496, 2019.

[5] A. Turnbull, H.-T. **Wang**, J. W. Schooler, E. Jefferies, D. S. Margulies, and J. Smallwood, "The ebb and flow of attention: Between-subject variation in intrinsic connectivity and cognition associated with the dynamics of ongoing experience," *NeuroImage*, vol. 185, pp. 286–299, 2019.

[6] M. Sormaz, C. Murphy, H.-T. **Wang**, M. Hymers, T. Karapanagiotidis, G. Poerio, D. Margulies, E. Jefferies, and J. Smallwood, "The default mode network can support the level of detail in experience during active task states," *Proceedings of the National Academy of Sciences*, 8 2018.

[7] H.-T. **Wang**, D. Bzdok, D. Margulies, C. Craddock, M. Milham, E. Jefferies, and J. Smallwood, "Patterns of thought: population variation in the associations between large-scale network organisation and self-reported experiences at rest," *Neuroimage*, vol. 176, pp. 518–527, 8 2018.

[8] C. Murphy, E. Jefferies, S.-A. Rueschemeyer, M. Sormaz, H.-T. **Wang**, D. Margulies, and J. Smallwood, "Distant from input: Evidence of regions within the default mode network supporting perceptually-decoupled and conceptually-guided cognition," *NeuroImage*, vol. 171, pp. 393–401, 5 2018.

[9] M. Villena-Gonzalez, H.-T. **Wang**, M. Sormaz, G. Mollo, D. Margulies, E. Jefferies, and J. Smallwood, "Individual variation in the propensity for prospective thought is associated with functional integration between visual and retrosplenial cortex," *Cortex*, vol. 99, pp. 224 – 234, 2 2018.

[10] H.-T. **Wang**, G. L. Poerio, C. Murphy, D. Bzdok, E. Jefferies, and J. Smallwood, "Dimensions of Experience: Exploring the Heterogeneity of the Wandering Mind," *Psychological Science*, vol. 29, no. 1, pp. 56–71, 1 2018.

[11] D. Vatansever, D. Bzdok, H.-T. **Wang**, G. Mollo, M. Sormaz, C. Murphy, T. Karapanagiotidis, J. Smallwood, and E. Jefferies, "Varieties of semantic cognition revealed through simultaneous decomposition of intrinsic brain connectivity and behaviour," *NeuroImage*, vol. 158, pp. 1–11, 9 2017.

[12] G. L. Poerio, M. Sormaz, H.-T. **Wang**, D. Margulies, E. Jefferies, and J. Smallwood, "The role of the default mode network in component processes underlying the wandering mind," *Social Cognitive and Affective Neuroscience*, vol. 12, no. 7, 7 2017.

[13] J. Sanders, H.-T. **Wang**, J. Schooler, and J. Smallwood, "Can I get me out of my head? Exploring strategies for controlling the self-referential aspects of the mind-wandering state during reading," *The Quarterly Journal of Experimental Psychology*, pp. 1–27, 6 2016.

[14] J. Smallwood, T. Karapanagiotidis, F. Ruby, B. Medea, I. de Caso, M. Konishi, H.-T. **Wang**, G. Hallam, D. S. Margulies, and E. Jefferies, "Representing representation: Integration between the temporal lobe and the posterior cingulate influences the content and form of spontaneous thought," *PLOS ONE*, vol. 11, no. 4, pp. 1–19, 4 2016.

PRESENTATIONS

Conference Posters

[1] H.-T. Wang, N. S. Ping Ho, D. Bzdok, B. C. Bernhardt, D. S. Margulies, E. Jefferies, and J. Smallwood, "Neurocognitive patterns dissociating semantic processing from executive control are linked to more detailed off-task mental time travel." Seattle, USA: Neurohackademy, 8 2019.

[2] ——, "Neurocognitive patterns dissociating semantic processing from executive control are linked to more detailed off-task mental time travel." Rome, Italy: OHBM, 6 2019.

[3] H.-T. Wang, E. Jefferies, and J. Smallwood, "Inhibition of prior mental content contributes to content representation of on-going thoughts." Montreal, Canada: RSBC, 9 2018.

[4] H.-T. Wang, D. Bzdok, D. Margulies, C. Craddock, M. Milham, E. Jefferies, and J. Smallwood, "Decomposing self-reports of experience at rest with brain connectivity reveals links to intelligence." Singapore: OHBM, 6 2018.

[5] H.-T. Wang, G. L. Poerio, C. Murphy, D. Bzdok, E. Jefferies, and J. Smallwood, "Dimensions of experience: Exploring the heterogeneity of the wandering mind." Amsterdam, Netherlands: ICON, 8 2017.

[6] H.-T. Wang, D. Bzdok, C. Murphy, D. Vatansever, G. L. Poerio, J. Smallwood, and E. Jefferies, "Component processes and the wandering mind: Links between spontaneous thought contents, task performance and resting state brain connectivity." Vienna, Austria: RSBC, 9 2016.

Talks

2019	Data simulation workshop, Univerisity of York, York, UK
2019	Multivariate mapping of functional brain and behaviour, Child Mind Institute, New York
2018	Small steps to reproducible science, Univerisity of York, York, UK

SOFTWARE AND PROGRAMMING SKILLS

Brain Imaging	FSL, Freesurfer, Connectome Workbench, C-PAC, CONN, nipype
Programming Language	Python, Bash, R, MATLAB
Research Computing	High performance clusters (SGE), version control (git), AWS
Operating Systems	Linux, Windows
Experiment Design	PsychoPy

AWARDS

2017	Travel Award	Guarantors of Brain	£600
2016	Travel Award	Brainhack Vienna	$500
2014	Department Summer Bursary Award	University of York	£1000

MENTORING EXPERIENCE

2019	Bronte McKeown	University of York	Master student
2019	Will Strawson	University of York	Master student
2018	Delali Konu	University of York	Master student, authored one paper
2018	Rebecca Lowndes	University of York	Master student, authored one paper

TEACHING EXPERIENCE

University of York October – March 2016
Programming in Neuroimaging *York, United Kingdom*

Teaching assistant.
Basic Python, data visualization, PsychoPy, data analysis and shell scripting.

PROFESSIONAL SERVICE

Leadership Positions
Mar. 2017 Organizing committee, Brainhack York, York, UK.

Ad-hoc Peer Review
NeuroImage, Advances in Methods and Practices in Psychological Science, Brain Imaging and Behavior, Neuroinformatics

Membership
Open Science Interest Group, University of York
Early Career Researcher, University of York
Organization of Human Brain Mapping

PROFESSIONAL DEVELOPMENT

Aug. 2019	Neurohackademy, Seattle, USA.
Dec. 2017	Large-scale trends in cortical organization, Leipzig, Germany.
June 2017	Machine Learning Summer School, Tübingen, Germany.
Sep. 2016	Brainhack Vienna, Vienna, Austria.
Feb. 2016	Brainhack@Paris, Paris, France.

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