

Hao-Ting Wang, PhD

Postdoctoral Research Fellow

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Sackler Centre of Consciousness Science, University of Sussex, UK

Department of Biological Psychiatry, Brighton and Sussex Medical School, UK

RESEARCH POSITIONS

Research Fellow

Sackler Centre for Consciousness Science, University of Sussex

Sept. 2019 – Present
Brighton, United Kingdom

PI: Prof Hugo Critchley, Prof Sarah Garfinkle

Cognitive processes in psychiatric conditions with neuroimaging and physiology measures

Postdoctoral Research Associate

University of York

Nov. 2018 – Aug. 2019
York, United Kingdom

PI: Prof Jonathan Smallwood

Working on the ERC grant project—Wandering Minds

EDUCATION

PhD in Cognitive Neuroscience and Neuroimaging

University of York

Sept. 2015 – Dec. 2018
York, United Kingdom

Supervisors: Prof Jonathan Smallwood and Prof Elizabeth Jefferies

Thesis: “Towards an Ontology of Ongoing Thought”

Master of Research in Psychology

University of York

Sept. 2013 – Sept. 2014
York, United Kingdom

BSc in Psychology

National Chengchi University

Sept. 2009 – June 2013
Taipei, Taiwan

TECHNICAL EXPERTISE

Overview: Data analysis, functional magnetic resonance imaging, signal processing, neuroinformatics, multivariate analysis.

Technologies

Neuroimaging: FSL, fMRIPrep, Freesurfer, Connectome Workbench, Brain Image Data Structure (BIDS), nipy

Statistics: nilearn, scikit-learn

Experiment design: PsychoPy

Research computing: container (docker, singularity), cluster computing (SGE), version control (git, github), continuous integration

Programming Languages

Proficient: Python2/3, shell. Competent: L^AT_EX, MATLAB. Familiar: R, Ruby.

Open source contribution

NiBable: GIFTI reader. fMRIPrep: Documentation on confound regressors. Brainhack book: content generation.

MENTORING EXPERIENCE

PhD

2019–present Will Strawson

University of Sussex (with Prof. Sarah Garfinkle)

MSc

2019 Bronte McKeown, Will Strawson

University of York (with Prof. Jonathan Smallwood)

2018 Delali Konu, Rebecca Lowndes

University of York (with Dr Charlotte Murphy and Prof. Jonathan Smallwood)

TEACHING EXPERIENCE

OHBM Brainhack

June 2020

BIDS teaching assistant.

University of York

Programming in Neuroimaging

October – March 2016

York, United Kingdom

Teaching assistant.

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

AWARDS

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

TALKS

- 2019 Recent trend in resting-state functional connectivity, University of Sussex, Brighton, UK
- 2019 Data simulation workshop, University of York, York, UK
- 2019 Multivariate mapping of functional brain and behaviour, Child Mind Institute, New York
- 2018 Small steps to reproducible science, University of York, York, UK

PROFESSIONAL DEVELOPMENT

- Jun. 2020 OHBM Brainhack, virtual.
- 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.

RECENT PUBLICATIONS

Peer-Reviewed Journals

- [1] H.-T. Wang, N. S. P. 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,” *Scientific Reports*, vol. 10, no. 1, p. 11904, Jul. 2020, number: 1 Publisher: Nature Publishing Group. [Online]. Available: <https://www.nature.com/articles/s41598-020-67605-2>
- [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: Canonical correlation analysis for neuroscientists,” *NeuroImage*, vol. 216, p. 116745, Aug. 2020. [Online]. Available: <https://linkinghub.elsevier.com/retrieve/pii/S1053811920302329>
- [3] H.-T. Wang, D. Bzdok, D. S. Margulies, R. C. Craddock, M. P. 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, no. 1, pp. 518–527, Aug. 2018. [Online]. Available: <http://linkinghub.elsevier.com/retrieve/pii/S1053811918303847>
- [4] H.-T. Wang, G. L. Poerio, C. E. Murphy, D. Bzdok, E. Jefferies, and J. Smallwood, “Dimensions of Experience: Exploring the Ontology of the Wandering Mind,” *Psychological Science*, vol. 29, no. 1, pp. 56–71, Nov. 2018. [Online]. Available: <http://journals.sagepub.com/doi/10.1177/0956797617728727>
- [5] N. S. P. Ho, D. Baker, T. Karapanagiotidis, P. Seli, H. T. Wang, R. Leech, B. Bernhardt, D. Margulies, E. Jefferies, and J. Smallwood, “Missing the forest because of the trees: slower alternations during binocular rivalry are associated with lower levels of visual detail during ongoing thought,” *Neuroscience of Consciousness*, vol. 2020, no. 1, Jan. 2020, publisher: Oxford Academic. [Online]. Available: <https://academic.oup.com/nc/article/2020/1/niaa020/5917879>
- [6] A. Turnbull, T. Karapanagiotidis, H.-T. Wang, B. C. Bernhardt, R. Leech, D. Margulies, J. Schooler, E. Jefferies, and J. Smallwood, “Reductions in task positive neural systems occur with the passage of time and are associated with changes in ongoing thought,” *Scientific Reports*, vol. 10, no. 1, p. 9912, Dec. 2020. [Online]. Available: <http://www.nature.com/articles/s41598-020-66698-z>

- [7] B. Mckeown, W. H. Strawson, H.-T. Wang, T. Karapanagiotidis, R. Vos de Wael, O. Benkarim, A. Turnbull, D. Margulies, E. Jefferies, C. McCall, B. Bernhardt, and J. Smallwood, "The relationship between individual variation in macroscale functional gradients and distinct aspects of ongoing thought," *NeuroImage*, vol. 220, p. 117072, Oct. 2020. [Online]. Available: <https://linkinghub.elsevier.com/retrieve/pii/S1053811920305589>
- [8] D. Konu, A. Turnbull, T. Karapanagiotidis, H.-T. Wang, L. R. Brown, E. Jefferies, and J. Smallwood, "A role for the ventromedial prefrontal cortex in self-generated episodic social cognition," *NeuroImage*, vol. 218, p. 116977, Sep. 2020. [Online]. Available: <https://linkinghub.elsevier.com/retrieve/pii/S1053811920304638>
- [9] 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, Dec. 2019. [Online]. Available: <http://www.nature.com/articles/s41467-019-11764-y>
- [10] C. Murphy, G. Poerio, M. Sormaz, H.-T. Wang, D. Vatansever, M. Allen, D. S. Margulies, E. Jefferies, and J. Smallwood, "Hello, is that me you are looking for? A re-examination of the role of the DMN in social and self relevant aspects of off-task thought," *PLOS ONE*, vol. 14, no. 11, p. e0216182, Nov. 2019. [Online]. Available: <https://dx.plos.org/10.1371/journal.pone.0216182>
- [11] 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, Feb. 2019. [Online]. Available: <https://linkinghub.elsevier.com/retrieve/pii/S1053811918320792>
- [12] 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, Jan. 2019. [Online]. Available: <http://www.sciencedirect.com/science/article/pii/S1053811918319414>
- [13] M. Sormaz, C. Murphy, H.-t. Wang, M. Hymers, T. Karapanagiotidis, G. Poerio, D. S. Margulies, E. Jefferies, and J. Smallwood, "Default mode network can support the level of detail in experience during active task states," *Proceedings of the National Academy of Sciences*, vol. 115, no. 37, pp. 9318–9323, Sep. 2018. [Online]. Available: <https://www.pnas.org/content/115/37/9318>
- [14] C. Murphy, E. Jefferies, S.-A. Rueschemeyer, M. Sormaz, H.-t. Wang, D. S. 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, no. 2018, pp. 393–401, May 2018. [Online]. Available: <http://linkinghub.elsevier.com/retrieve/pii/S1053811918300181>
- [15] G. L. Poerio, M. Sormaz, H.-T. Wang, D. S. 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. 104, no. 7, pp. 6430–5, Mar. 2017. [Online]. Available: <https://academic.oup.com/scan/article-lookup/doi/10.1093/scan/nsx041>
- [16] D. Vatansever, D. Bzdok, H.-T. Wang, G. Mollo, M. Sormaz, C. E. 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, no. 1, pp. 1–11, 2017. [Online]. Available: <http://www.sciencedirect.com/science/article/pii/S1053811917305384>
- [17] 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, p. e0152272, Apr. 2016. [Online]. Available: <http://dx.plos.org/10.1371/journal.pone.0152272>

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