Ruien Wang 王睿恩

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Education

Queen's University **Kingston, ON, Canada**

Ph.D. in Psychology *Expected 2028*

Department of Psychology

M.S. in Psychology *Sep 2022 – Sep 2024*

Department of Psychology

Advised by Anita Tusche

Queen's Neuroeconomics Laboratory https://anitatusche.com/

University of Macau **Macau SAR, China**

BSS in Psychology *Aug 2018 - June 2022*

Research Interests

- Social cognitive affective neuroscience, emotion, computation modeling, experience sampling
- Main topics: (1) social cognition and functioning; (2) real-world social neuroscience; (3) ongoing thoughts and social affective behavior, (4) individual differences

Research Projects

Social network characteristics and mentalizing

Department of Psychology, QU *02/2025 – today*

Large-scale cortical networks reconfigurations and emotion regulation

Department of Psychology, QU *06/2024 – today*

Developmental changes in children's social inference ability

Department of Psychology, QU *09/2023 – today*

Social cognition in laboratory and real-world contexts

Department of Psychology, QU *09/2022 - today*

Neural computation of personal space and its influence on dynamic social navigation

Center for Cognitive and Brain Sciences, UM *12/2021 -*

The multi-modal representation of negative emotion experience under virtual reality

Center for Cognitive and Brain Sciences, UM *03/2021 – 06/2022*

The effect of oxytocin on modulating self-other distinction
Center for Cognitive and Brain Sciences, UM *08/2020 – 10/2021*

The abnormalities of resting-state EEG microstates in probable REM sleep behavior disorder (Cooperation with West China Hospital)
Center for Cognitive and Brain Sciences, UM *08/2020 – 10/2021*

The abnormal electrophysiological signatures of patients with obstructive sleep apnea syndrome (Cooperation with West China Hospital)
Center for Cognitive and Brain Sciences, UM *10/2020 – 07/2021*

An EEG & Mouse tracking dataset for assessing the brain dynamic of binary choice in the human brain
Center for Cognitive and Brain Sciences, UM *08/2020 – 04/2021*

The neural mechanism of motivated dishonesty
Center for Cognitive and Brain Sciences, UM *09/2020 – 04/2021*

Chinese translation of the book *Computational Modeling of Cognition and Behavior*
Center for Cognitive and Brain Sciences, UM *08/2020 – 09/2021*

Investigating the neural pattern of morphological constraints in reading Chinese compound word: An EEG-fNIRS fusion study
Center for Cognitive and Brain Sciences, UM *11/2019 – 05/2020*

Publications

- Sandhu, T. *, Saju, S.*, **Wang, R.***, Tusche, A. (In Press). Prosociality and the Brain: Understanding When and Why We Help, Share, and Cooperate. Chapter in Neuroeconomics: Core Topics and Current Directions. Eds. Smith, D., Fareri, D. & Lockwood. Springer Nature (* Equal contribution; joint first author)
- **Wang, R.**, Bas, L., Janet, R., Xu, Y., Smallwood, J., Morawetz, C., Tusche, A. (2025). Thought patterns in daily life predict emotion regulation flexibility and well-being. [under review at *Emotion*]
- Hu, K., **Wang, R.,** Zhao, S., Yin, E., & Wu, H. (2024). The association between social rewards and anxiety: Links from neurophysiological analysis in virtual reality and social interaction game. *NeuroImage*, 299, 120846.
- **Wang, R.**, Yu, R., Tian, Y., & Wu, H. (2022). Individual variation in the neurophysiological representation of negative emotions in virtual reality is shaped by sociability. *NeuroImage*, 263, 119596.
- Peng, A#., **Wang, R#.**, Huang, J., Wu, H.*, & Chen, L* (2021). Abnormalities of resting-state electroencephalographic microstate in REM sleep behavior disorder. *Frontiers in Human Neuroscience*, 607. doi: https://doi.org/10.3389/fnhum.2021.728405 (# Equal contribution; joint first author)
- Wang, Y., **Wang, R.**, & Wu, H. (2022). The role of oxytocin in modulating self-other distinction brain: a pharmacological fMRI study. *Cerebral Cortex.* bhac167, https://doi.org/10.1093/cercor/bhac167.
- Chen, K., **Wang, R.**, Huang, J., Gao, F., Yuan, Z., Qi, Y., & Wu, H. (2022). A resource for assessing

dynamic binary choices in the adult brain using EEG and mouse-tracking. *Scientific data,* 9(1), 1-10.

- Gao, F., **Wang, R.**, Armada-da-Silva, P., Wang, M. Y., Lu, H., Leong, C., & Yuan, Z. (2022). How the brain encodes morphological constraints during Chinese word reading: An EEG-fNIRS study. *Cortex*, 154, 184-196.
- Yu, R. M., Ao-Ieong, W. I., **Wang, R.**, Wu, H., & Wu, H. (2023). Social anxiety, mentalizing and social distance preference: A preliminary psychometric evaluation. *PsyArXiv*
- Xu, X. J., Yang, G., Huang, J., **Wang, R.**, & Wu, H. (2023). Unveiling consistency in flexibility: the role of reward and cognitive control in moral decisions. *bioRxiv,* 2023-06.

Manuscripts in preparation

- Large-scale cortical networks reconfigurations predict emotion regulation success and real-world negative thoughts
- Towards Naturalistic Social Neuroscience: Recent Advances, New Tools, and Future Directions
- Constructing optimal interaction distance by combining others' and one's own using medial frontal cortex

Conference Presentations

1. **Wang, R.** From brain gradients to real-world social connections: M Shifts along large-scale gradients in brain organization predict emotion regulation success and real-world negative thoughts. 17th Annual Meeting of the Social & Affective Neuroscience Society (SANS). *April 23 - 26, 2025, Chicago, USA.*
2. **Wang, R.** Thought patterns in daily life predict emotion regulation flexibility and well-being. Poster at the 16th Annual Meeting of the Social & Affective Neuroscience Society (SANS). *April 10-13, 2024, Toronto*, *Canada.*
3. **Wang, R.** Individual variation in neurophysiological representation of negative emotional experiences is shaped by sociability: A naturalistic neuroimaging approach. Poster at the 14th Annual Meeting of the Social & Affective Neuroscience Society (SANS). *May 4-6, 2022, online.*

Invited Talks

1. **Wang, R.** The Interplay of Sociability and Neurophysiological Responses to Negative Emotions in Virtual Environments. Otto Lab, Department of Psychology, McGill University, July 2023
2. **Wang, R.** Exploring the Impact of Sociability on Neurophysiological Responses to Negative Emotions in Virtual Reality. Pain Publication Round, Institute of Psychology, Chinese Academy of Science, Sep 2022.
3. **Wang, R.** Individual variation in the neurophysiological representation of negative emotions in virtual reality is shaped by sociability. Southern University of Science & Technology, University of Macau, Aug 2022.
4. **Wang, R.** Investigating the neural pattern of morphological constraints in reading Chinese compound words using simultaneous EEG-fNIRS recording. Center for the Cognitive Science of Language, Beijing Language and Culture University, Dec 2020.
5. **Wang, R.** Introduction to and **t**utorial on psychophysiological data processing in Python. Center for Cognitive

and Brain Sciences, University of Macau, Sep 2021,

6. **Wang, R.** Workshop on EEG preprocessing pipeline for MATLAB. Center for Cognitive and Brain Sciences, University of Macau, Sep 2021.
7. **Wang, R.** CCBS NeuroTalk: Abnormalities of resting-state electroencephalographic microstate in REM sleep behavior disorder. Center for Cognitive and Brain Sciences, University of Macau, Jun 2021.

Programming & Experimental Skills

- **Programming**: Python, MATLAB, R, Unity (C#)
- **Data acquisition**: EEG, 3T fMRI, fNIRS, Eye-tracking, BIOPAC, Virtual-reality technique
- **Neuromodulation**: TDCS
- **Data Analysis**: EEG, fMRI, Physiological signal (ECG)
- **Language**: Chinese (native), English (proficient)

Mentoring

1. Kiera Kenny (Honor thesis, Queen's University)
2. Veronika Wendler (Directed lab student, Queen's University)
3. Aryanna Rastan (Directed lab student, Queen's University)
4. Zemen Raswork (Directed lab student, Queen's University)
5. Erin Lockett (Directed lab student, Queen's University)
6. Georgia Brunicke (Research Assistant, Queen's University)

Honors & Awards

2024 – 2025 Ontario Graduate Scholarship (CAD 15,000)

08/2024 Graduate Student Award & Teaching Assistantship (About CAD 20,000, by Queens' University)

06/2024 Graduate Research Fellowship (CAD 25,000)

08/2023 Graduate Student Award & Teaching Assistantship (About CAD 38,000, by Queens' University)

08/2022 Graduate Student Award & Teaching Assistantship (About CAD 30,000, by Queens' University)

2018-2022 Dean's Honor list (Faculty of Social Sciences, University of Macau)

Teaching experience

Teaching assistant

1. PSYC 325: Cognitive Neuroscience (NOMINATED FOR TA PRIZE) [Instructor: Dr. Jonnathan Smallwood]

2. PSYC 398: Laboratory in Decision Making (independently lead lab tutorial session) [Instructor: Dr. Anita Tusche]

3. PSYC 221: Brain and Behavior [Instructor: Dr. Jordan Poppenk]

4. PSYC 350: Developmental Social Neuroscience [Instructor: Dr. Michele Morningstar]

5. PSYC 376: Functional Neuroimaging the Human Brain and Mind [Instructor: Dr. Jason Gallivan]

Professional Affiliation

- Social affective neuroscience society (SANS)

Involvement in Student Organizations/Service

1. Association for Graduate Student in Psychology, Cognitive Neuroscience Area Student Representative, Queen's University (09/2022 - today)

Outreach

1. Queens NeuGeneration conference (interactive booth event at an annual conference organized by students to provide a foundational understanding of the field of neuroscience to the Queens community and public). Feb 2024.
2. Head of Paint for the Musical: Jinsha - The Journey, Yu Theater, Queen's University, Sep 2023 – Apr 2024.