

MENGXIA GAO

Cognitive neuroscience / Prediction / Machine learning / Computational modeling

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ACADEMIC APPOINTMENTS

Postdoctoral Fellow, The University of Hong Kong, Hong Kong 12/2021 –
Department of Psychology
• **Supervisor:** Prof. Tatia Mei-Chun Lee

EDUCATION

Ph.D., The University of Hong Kong, Hong Kong 09/2017 – 08/2021
Cognitive neuroscience, Department of Psychology
• **Supervisor:** Prof. Tatia Mei-Chun Lee
• **Research interests:** machine learning, brain imaging prediction, cognitive function, aging

M.E., South China Normal University, Guangzhou 09/2014 – 06/2017
Developmental and Educational Psychology, School of Psychology
• **Supervisors:** Prof. Ming Liu, Prof. Ruiwang Huang
• **Research interests:** visual mental imagery, resting-state fMRI, task-fMRI

B.S., South China Normal University, Guangzhou 09/2010 – 06/2014
Applied Psychology, School of Psychology
• **Supervisor:** Prof. Xifu Zheng
• **Research interests:** fear emotion, conditioned fear acquisition

RESEARCH SUPPORT

2021 – 2024 Awardee, Hong Kong Research Grants Council Postdoctoral Fellowship
Scheme 2021/22 (Ref. PDFS2122-7H04)

RESEARCH EXPERIENCE

Research Assistant, The Chinese University of Hong Kong, Hong Kong 12/2016 – 06/2017

Department of Psychology

- **Supervisor:** Prof. Chun-Yu Tse
- **Research interests:** visual mismatch negativity, EEG

PEER-REVIEWED PUBLICATIONS

- [1] **Gao M**, Wong CH, Huang H, Shao R, Huang R, Chan CC, Lee TM. (2020). Connectome-based models can predict processing speed in older adults. *NeuroImage*, 223, 117290
- [2] **Gao M**, Shao R, Huang C-M, Liu H-L, Chen Y-L, Lee S-H, Lin C, Lee TM. (2020). The relationship between loneliness and working-memory-related frontoparietal network connectivity in people with major depressive disorder. *Behavioural brain research*, 393, 112776
- [3] Bielczyk NZ, Ando A, Badhwar A, Caldinelli C, **Gao M**, Haugg A, Hernandez LM, Ito KL, Kessler D, ..., Lurie D. (2020). Effective self-management for early career researchers in the natural and life sciences. *Neuron*, 106(2), 212-217
- [4] Shao R, Liu H-L, Huang C-M, Chen Y-L, **Gao M**, Lee S-H, Lin C, Lee TM. (2019). Loneliness and depression dissociated on parietal-centered networks in cognitive and resting states. *Psychological Medicine*, 1-11
- [5] Zhang D, Gao Z, Liang B, Li J, Cai Y, Wang Z, **Gao M**, Jiao B, Huang R, Liu M. (2019). Eyes Closed Elevates Brain Intrinsic Activity of Sensory Dominance Networks: A Classifier Discrimination Analysis. *Brain connectivity*, 9(2), 221-230
- [6] Cai Y, Zhang D, Liang B, Wang Z, Li J, Gao Z, **Gao M**, Chang S, Jiao B, Huang R. (2018). Relation of visual creative imagery manipulation to resting-state brain oscillations. *Brain imaging and behavior*, 12(1), 258-273
- [7] **Gao M**, Zhang D, Wang Z, Liang B, Cai Y, Gao Z, Li J, Chang S, Jiao B, Huang R. (2017). Mental rotation task specifically modulates functional connectivity strength of intrinsic brain activity in low frequency domains: a maximum uncertainty linear discriminant analysis. *Behavioural brain research*, 320, 233-243
- [8] Gao Z, Zhang D, Liang A, Liang B, Wang Z, Cai Y, Li J, **Gao M**, Liu X, Chang S. (2017). Exploring the associations between intrinsic brain connectivity and creative ability using functional connectivity strength and connectome analysis. *Brain connectivity*, 7(9), 590-601
- [9] Jiao B, Zhang D, Liang A, Liang B, Wang Z, Li J, Cai Y, **Gao M**, Gao Z, Chang S. (2017). Association between resting-state brain network topological organization and creative

ability: Evidence from a multiple linear regression model. *Biological psychology*, 129, 165-177

- [10] Li J, Zhang D, Liang A, Liang B, Wang Z, Cai Y, **Gao M**, Gao Z, Chang S, Jiao B. (2017). High transition frequencies of dynamic functional connectivity states in the creative brain. *Scientific reports*, 7, 46072
- [11] Sun H, Sun H, **Gao M**, Li X, Guo Z, Zhang Z, Fan X, Zhang C. (2016). Simulation investigation of dual-wavelength tuning of light emitting diodes with single QW structure. *Optical and Quantum Electronics*, 48(3), 177

CONFERENCE (selected; first author only)

- 2021 **Gao M**, Lee TM. Multimodal brain data improve prediction of processing speed in older adults. Annual Meeting of the Organization for Human Brain Mapping, Online Virtual Meeting (Poster)
- 2020 **Gao M**, Lee TM. Connectome-based models can predict processing speed in older adults. 20th Annual Research Postgraduate Conference, Faculty of Social Sciences, The University of Hong Kong, Hong Kong, China (Oral Presentation)
- 2020 **Gao M**, Wong CH, Lee TM. Connectome-based predictions of processing speed in aging population. Annual Meeting of the Organization for Human Brain Mapping, Online Virtual Meeting (Poster)
- 2019 **Gao M**, Shao R, Lee TM. The dorsal cingulum white-matter integrity predicts both loneliness and resilience in older adults. Annual Meeting of the Organization for Human Brain Mapping, Rome, Italy (Poster)
- 2017 **Gao M**, Lee TM. The relationship between resting-state brain network topological organization and executive functioning in older adults. Third Annual Departmental Research Postgraduate Symposium, Department of Psychology, The University of Hong Kong, Hong Kong, China (Poster)
- 2017 **Gao M**, Lee TM. Interaction between sensorimotor and dorsal attention network is positively associated with processing speed in healthy aging people. Sixth Biennial Conference on Resting State and Brain Connectivity, Montreal, Canada (Abstract accepted)
- 2016 **Gao M**, Huang R, Liu M. Mental rotation task modulates degree centrality of rest brain network using MLDA method. Annual Meeting of the Organization for Human Brain Mapping, Geneva, Switzerland (Abstract accepted)
- 2015 **Gao M**, Huang R, Liu M. Mental rotation increases efficiency of brain networks: an fMRI study. Annual Meeting of the Organization for Human Brain Mapping, Honolulu, HI, USA (Abstract accepted)

AD HOC MANUSCRIPT REVIEW

Brain Connectivity

Neurobiology of Aging

Neuropsychopharmacology

TEACHING

01/2019 – 05/2019 Teaching Assistant, PSYC2051, Perception
09/2018 – 12/2018 Teaching Assistant, PSYC2022, Biological Psychology
01/2018 – 05/2018 Teaching Assistant, PSYC2022, Biological Psychology

AWARDS AND SCHOLARSHIPS

2017 – 2021 Postgraduate Scholarship
2018 HKU Interdisciplinary Research Competition Finalist Team
2014 – 2017 Graduate Academic Scholarship
2013 Second-class Scholarship for Outstanding Students
2011 – 2014 Outstanding Student Leader Awards
2011 Excellent Volunteer of the Guangzhou 2010 Asian Paralympic Games

LEADERSHIP

2019 – 2020 Chair of the [Organization for Human Brain Mapping](#) (OHBM), [Student and Postdoc Special Interest Group](#)
2019 – 2020 Committee member of the OHBM China Chapter
2018 – 2019 Chair-Elect of the Organization for Human Brain Mapping (OHBM), Student and Postdoc Special Interest Group
2018 – 2020 Team leader of the HKU Graduate House Children Social Service Program
2012 – 2013 Team leader of the Guangzhou New Oriental Summer Camp
2011 – 2012 Vice-Minister of Human Resources in South China Normal University Associations

SKILLS

Operating Systems: Linux, Mac OS, Windows
Technical Skills: Brain functional and structural imaging analyses, machine learning analyses
Programming: MATLAB (proficient), R (intermediate), Python (intermediate)
Languages: Mandarin (proficient), English (proficient), Cantonese (fluent)