

# Yuchao Wang

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## Education

- 2021-2024 **MGH Institute of Health Professions**, Doctor of Physical Therapy student, 3.95/4.0.  
2016-2019 **Haverford College**, B.A. in Cognitive Science (*summa cum laude*), 3.98/4.0.  
Bachelor's Thesis: Neural Correlates of Aesthetic Engagement with Literature  
Cross-registered at Swarthmore College & University of Pennsylvania

## Work Experience

- 2021/9- Present **Graduate Research Assistant**, MGH INSTITUTE OF HEALTH PROFESSIONS.  
Brain Recovery Lab  
Advisor: Teresa Jacobson Kimberley, Ph.D., PT  
◦ Investigating the neurophysiology of focal dystonia and stroke using TMS and rsfMRI.  
◦ Characterizing TMS coil differences with E-field modeling.
- 2020/2- 2021/4 **Research Specialist**, UNIVERSITY OF PENNSYLVANIA.  
Laboratory for Cognition and Neural Stimulation  
Advisors: H. Branch Coslett, M.D., Roy Hamilton, M.D.  
◦ Managed clinical trials for stroke and Alzheimer's disease patients and administered TMS treatments.  
◦ Examined motor and semantic systems with clinical implications in several research projects.
- 2019/5- **Research Student (Thesis)**, UNIVERSITY OF PENNSYLVANIA.  
2019/12 Penn Center for Neuroaesthetics  
Advisors: Anjan Chatterjee, M.D., Franziska Hartung, Ph.D.  
◦ Investigated Dutch literary stories to explore the neural systems supporting aesthetic feelings.  
◦ Designed surveys and built pipelines in R and MatLab to analyze behavioral and 3T fMRI data.
- 2018/5- **Research Assistant**, HAVERFORD COLLEGE.  
2018/8 Biophysics Lab  
Advisor: Suzanne Amador Kane, Ph.D.  
◦ Analyzed how peacock feathers may serve as camouflage against predators and a signal for other peafowl.  
◦ Performed reflectance spectroscopy, multispectral imaging, and granularity analysis.
- 2017/5- **Summer Intern**, HAVERFORD COLLEGE.  
2017/8 Quaker & Special Collections  
◦ Transcribed and encoded documents (120,000+ words) related to Quaker missionaries' visit to Seneca Nations in 1798 into TEI format for a research database.

## Publications

- Hartung, F.\*, **Wang, Y.\***, Mak, M., Willems, R., Chatterjee, A. (2021). Aesthetic appraisals of literary style and emotional intensity in narrative engagement are neurally dissociable. *Communications Biology*.  
Paper | Data&Code \*co-first author
  - Kane, S. A., **Wang, Y.**, Fang, R., Lu, Y., Dakin, R. (2019). How conspicuous are peacock eyespots and other colorful feathers in the eyes of mammalian predators? *PLOS ONE*.  
Paper | Media coverage: Discovery Canada, Haverford College
- UNDER REVIEW
- Coslett, H.B., Medina, J., Klot, D., **Wang, Y.**, Burkey, A. Can they touch? A Novel Mental Motor Imagery Task for the Assessment of Back Pain
- OTHER
- **Wang, Y.** (2018) Starting From the Title: Translating a Captured Ruler and His Captivating *Ci*. DoubleSpeak Magazine, University of Pennsylvania
  - **Wang, Y.** (2017) Self-Formation: A Philosophical Perspective on the Reconciliation Process at Peace Museums in Japan and China. Center for Policy Research and International Studies, Universiti Sains Malaysia

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## Conference Presentations

- 2023/7 **Wang, Y.**, Kelkar, A., Harvey, D.Y., Medaglia, J.D., Hamilton, R., Coslett, H.B. Motor recovery following rTMS for post-stroke aphasia: A case study with tractography. Annual Meeting of the Organization of Human Brain Mapping, Montréal, Canada.
- 2023/6 **Wang, Y.**, Hu, D., Addison, R.N., Huynh, B., Liu, H., Kimberley, T.J. Potential functional changes in superior temporal gyrus in task-specific focal dystonia based on individualized parcellations. 6th International Dystonia Symposium, Dublin, Ireland.
- 2023/2 **Wang, Y.**, Wartman, W., Vora, I., Miles, A., Huynh, B., Makaroff, S.N., Kimberley, T.J. Effect of head positioning on TMS intensity: E-field modeling and validation. 5th International Brain Stimulation Conference, Lisbon, Portugal. *Oral presentation*
- 2023/1 **Wang, Y.**, Liu, H., Kimberley, T.J. Individualized parcellation of resting-state fMRI reveals potential brain network changes in focal dystonia. MGH IHP Research and Scholarship Day, Boston, MA, USA.
- 2022/8 **Wang, Y.**, Daneshzand, M., Vora, I., Huynh, B., Ackley, K., Nummenmaa, A., Kimberley, T.J. Coil matters for rTMS dosing: A pilot study using E-field modeling. 2nd Brain and Human Body Modeling Conference, Boston, MA, USA. *Oral Presentation*
- 2020/10 **Wang, Y.**, Harvey, D.Y., Vnenchak, L., Cason, S., Sacchetti, D., Hamilton, R., Coslett, H.B. Combined rTMS and constraint induced language therapy reveals interactions between language and motor systems: A case study. Annual Meeting of the Society for the Neurobiology of Language, Online.
- 2020/5 **Wang, Y.**, Hartung, F., Marloes, M., Willems, R., Chatterjee, A. Neural Correlates of Aesthetic Engagement with Literature. Annual Meeting of the Cognitive Neuroscience Society, Online. *Oral Presentation (4.6%) | Video*
- 2020/1 Kane, S. A., **Wang, Y.**, Fang, R., Lu, Y., Dakin, R. How conspicuous are peacock eyespots and other colorful feathers in the eyes of mammalian predators? Annual Meeting of the Society for Integrative and Comparative Biology, Austin, TX, USA.
- 2019/9 Kane, S. A., **Wang, Y.**, Fang, R., Lu, Y., Dakin, R. Are Colorful Feathers Sexy yet Dangerous? Start Talking Science, Philadelphia, PA, USA.
- 2019/9 **Wang, Y.**, Hartung, F., Chatterjee, A. To Each Their Own? Empirical Evidence for Emotional Arousal and Literariness during Literature Engagement. 15th Annual Undergraduate Science Research Symposium, Haverford, PA, USA.
- 2018/9 Kane, S. A., **Wang, Y.**, Fang, R., Lu, Y., Dakin, R. Peacock Feathers: A Survival Risk or Camouflage? 14th Annual Undergraduate Science Research Symposium, Haverford, PA, USA.
- 2017/8 **Wang, Y.** Self-Formation: A Philosophical Perspective on the Reconciliation Process at Peace Museums in Japan and China. Asia-Pacific Peace Research Association Conference, Penang, Malaysia.
- 2017/4 Yang, S., **Wang, Y.** The Diaries of John Rabe Witnessing the Nanjing Massacre. 9th International Conference of Museums for Peace, Belfast, Northern Ireland.

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## Awards

- 2023 Innovative Spirit Award, MGH INSTITUTE OF HEALTH PROFESSIONS
- 2021-2023 MGH Institute Scholarship (\$74,000), MGH INSTITUTE OF HEALTH PROFESSIONS
- 2020 Summa cum laude, HAVERFORD COLLEGE
- 2019 Phi Beta Kappa, HAVERFORD COLLEGE
- 2019 KINSC Summer Scholar (\$3,700), HAVERFORD COLLEGE
- 2018 SAMSI Undergraduate Workshop on Precision Medicine (~\$1,000), STATISTICAL AND APPLIED MATHEMATICAL SCIENCES INSTITUTE

- 2017 CPGC Conference Fund (\$1,611), HAVERFORD COLLEGE
- 2012-2015 SM1 Scholarship (4-year tuition and living expenses), MINISTRY OF EDUCATION, SINGAPORE

## Professional Activities

- 2022 **Organizer**, "How to PT" Sharing Series, MGH INSTITUTE OF HEALTH PROFESSIONS.
- Current and **Member**.
- past
- o American Physical Therapy Association
  - o Society for the Neurobiology of Language
  - o Cognitive Neuroscience Society
  - o Society for Integrative and Comparative Biology
- 2019 **Student Representative**, Search Committee for Athletic Center Director, HAVERFORD COLLEGE.
- 2018-2019 **Co-President**, Pre-Health Society, HAVERFORD COLLEGE.

## Clinical Training

- 2023/2- **MedStar National Rehabilitation Hospital**, WASHINGTON, D.C.
- 2023/4 Outpatient Center for Orthopedic Rehabilitation  
Clinical Instructor: Alice Kong, PT, DPT
- o 10-week internship evaluating and treating patients with a wide range of orthopedic conditions, including post-op and concussion.
- 2022/6- **Spaulding Rehabilitation Hospital**, CHARLESTOWN, MA.
- 2022/8 Inpatient Stroke/Neurology  
Clinical Instructor: Jordan Mandell, PT, DPT
- o 10-week internship working with medically complex patients on units including stroke, SCI, TBI, and med/surg.

## Teaching

- 2022/9- **Review Session Leader**, MGH INSTITUTE OF HEALTH PROFESSIONS.
- 2023/2
- o Leading weekly review sessions for first-year DPT students.
- 2019/1- **Peer Tutor**, HAVERFORD COLLEGE.
- 2019/12
- o Tutored linguistics (semantics, syntax), Chinese (all levels), physics (Newtonian mechanics, electromagnetism, special relativity) and mathematics (linear algebra) on an ad hoc basis.

## Skills

Technical TMS, rs/fMRI (SPM, Freesurfer), DWI (DSI Studio), EEG, Qualtrics, REDCap, ImageJ, Git,  $\text{\LaTeX}$

Language R, MatLab, Python, BASH | English, Chinese, Latin(basic)