

JING ZHANG

• 6237 Adobe Cir S Irvine, CA 92617 • jing.zhang@uci.edu

Education

University of California, Irvine

PhD in Cognitive Neuroscience

Irvine, CA

2018 - present

Furman University

B.S. in Psychology; Minor in Gender Studies

Greenville, SC

2012 – 2016

Skills

- Programming Languages: Matlab, Python, R Studio, and SPSS
- Brain Imaging Skills: fMRI data collection and processing, related software packages including SPM, CONN, and FSL. EEG/PSG techniques and signal processing, sleep stage scoring, related software packages including BrainVision Analyzer, and EEGLAB. Simultaneous EEG/fMRI methods.
- Statistics: General linear models, time-series analysis, probabilistic classification, basic Machine-learning algorithms, and data visualization
- Languages: Chinese, English
- Other: E-Prime, operant conditioning, rodent handling, and rodent surgery.

Honors and Awards

- DTEI Summer Fellowship 2021
- Sleep Research Society Trainee Merit Based Award 2021
- Associate Dean Fellowship -- Winter 2021 2021
- UCI MIND WAM Women's Initiative Pilot Grant (PI: Sara Mednick) 2020
- Furman University Academic Award for Excellence - Burt's Scholar in Psychology 2016
- Furman University Academic Award for Excellence in Gender Studies 2016
- Furman Advantage Fellowship 2015
- NIH INBRE Undergraduate Research Fellowship 2014

Research Experiences

Sleep and Cognition Lab, Department of Cognitive Sciences, University of California, Irvine

Graduate Student PI: Sara Mednick

09/2018 to present

- Collect and analyze behavioral, physiological, EEG, fMRI, and simultaneous EEG-fMRI data
- Develop questionnaires via online survey platform; code and test cognitive tasks in Matlab and Python
- Train undergraduate research assistants in literature review, EEG step-up, and data analysis

Seminowicz Pain Imaging Lab, Department of Neural and Pain Sciences, University of Maryland

Clinical Study Coordinator PI: David Seminowicz

07/2016 -07/2018

- Set up equipment for simultaneous EEG-fMRI system, carried out the pilot study successfully
- Performed data collection via interview, MRI, EEG, psychophysical testing, and questionnaires
- Checked validity and accuracy of data ensuring compliance with quality control requirements
- Processed and analyzed neuroimaging and behavioral data, presented results conferences
- Coordinated the study team, including facility reservation, subject sampling and staff scheduling
- Established and maintained database files and reports on progress of programs, studies, and projects

Sleep Lab, Department of Psychology, Furman University

Research Assistant PI: Erin Wamsley

05/2015-07/2016

- Conducted a collaborative research project to investigate EEG signatures of memory reactivation and consolidation
- Designed and conducted an independent research project on neural correlates of dreaming
- Composed fellowship application, recruited and ran participants, applied low-density EEG electrodes and high-density EEG cap, administered questionnaires and behavioral tasks, scored sleep stages based on EEG

Behavioral Neuroscience Lab, Department of Psychology, Furman University

Research Assistant PI: Onarae Rice

01/2014 - 01/2015

- Designed and conducted a research project exploring the effect of repeated exposure to toluene in adolescence rats on the possibility of intravenous cocaine abuse in adulthood
- Performed jugular catheterization surgeries on rats, wrote a program using MED-PC to run the self-administration chambers, maintained and operated self-administration chambers, collected and analyzed data, documented and presented research process in conference

Teaching and Mentoring

UROP Research Discovery Program, University of California, Irvine

02/2022 – present

Mentor

- Guide and support four undergraduate student mentees in participating in research at UCI.
- Lead workshops, group meetings and individual meetings to help mentees get involved in research, connect with faculty, and develop professional skills.

Graduate InterConnect Program, University of California, Irvine

03/2021 – present

Peer Mentor

- Provide mentorship and assistance for new international graduate students with their transition to the campus and the local communities.
- Meet with mentees to discuss professional development pathways and resources specific to their Ph.D. or Master's track.

Furman Connect Program, Furman University

03/2021 – present

Alumni Mentor

- Share expertise and experience with current Furman students through informational interviews, resume and cover letter reviews, and networking
- Panelist in workshops on professional development for undergraduate students

Department of Cognitive Sciences, University of California, Irvine

Teaching Assistant

09/2018 – present

- Brain Disorders (Spring 2020, Spring 2021) – facilitated online discussions; answered students' questions via online discussion board and emails
- Clinical Psychology (Winter 2020) – facilitated in-class discussions, developed grading rubrics and graded papers and short essays.
- Experimental Psychology (Fall 2019, Fall 2020)– led weekly lab sections for a group of 25 undergraduate students; helped students develop research ideas, conduct experiments, analyze data using statistical program JASP and write research reports; graded weekly lab reports; held office hours and individual meetings.
- Introduction to Psychology (Fall 2018, Winter 2018, Summer, 2019) – led weekly discussion sections for a group of 50 undergraduate students; prepared presentations and in-class activities aimed to understand concepts and terms related to class; held office hours and review sections to prepare students for exams.

Certification

- Mentoring Excellence Certificate 05/2021
- The CIRTl Associate level certificate 12/2020
- Certificate in Teaching Excellence 12/2020

- Certificate in Course Design Excellence

12/2020

Community Outreach

The CNLM Ambassador Program, Irvine CA

12/2021 - present

Volunteer

- Design, execute and evaluate meaningful activities focused on science communication on campus and in the community

The Loh Down on Science, Irvine, CA

Writer

09/2020 – 03/2022

- Write and edit scripts for the Loh Down on Science, a radio show focused on science communication.

CareChoices- Hospice and Palliative Care, Irvine, CA

Volunteer

12/2019 – 12/2020

- Provided companionship to hospice patient once or twice a week in homes or assisted living facilities.

Publications

Chen, P. †, **Zhang, J.**†, Thayer, J., Mednick, S.C. (in revision). Understanding the roles of central and autonomic activity during sleep in the improvement of working memory and episodic memory

McDevitt, E. A. †, **Zhang, J.**†, MacKenzie, K. J., Fiser, J., Mednick, S.C. (accepted). The effect of interference, offline sleep, and wake on spatial statistical learning. *Neurobiology of Learning and Memory*.

Zhang, J., Whitehurst, L., M., Mednick, S.C. (2022). The role of sleep for episodic memory consolidation: stabilizing or rescuing? *Neurobiology of Learning and Memory*. <https://doi.org/10.1016/j.nlm.2022.107621>

Alzueta, E., de Zambotti, M., Javitz, H., ...**Zhang, J.**, Shuster, A., Mednick, S.C., Baker, F. (2022). Tracking sleep, temperature, heart rate, and daily symptoms across the menstrual cycle with the Oura ring in healthy women. *International Journal of Women's Health*. <https://doi.org/10.2147/IJWH.S341917>

Simon, K. C., Whitehurst, L. N., **Zhang, J.**, & Mednick, S. C. (2021). Zolpidem maintains memories for negative emotions across a night of sleep. *Affective Science*. <https://doi.org/10.1007/s42761-021-00079-1>

Furman AJ., Prokhorenko M., Keaser ML., **Zhang, J.**, Chen, S., Mazaheri, A., Seminowicz, DA. (2020). Sensorimotor peak alpha frequency is a reliable biomarker of prolonged pain sensitivity. *Cerebral Cortex*. doi: 10.1093/cercor/bhaa124

Zhang, J. †, Yetton, B. †, Whitehurst, L., Naji, M., Mednick, S.C. (2020). The effect of Zolpidem on memory consolidation and sleep features over a night of sleep. *SLEEP*. doi: 10.1093/sleep/zsaa084

Seminowicz, DA. Burrowes, S., Kearson, A., **Zhang, J.**, Krimmel, S., Samawi, L., Furman, A., Keaser, M., Gould, N., Magyari, T., White, L., Goloubeva, O., Goyal, M., Peterlin, L., Haythornthwaite, J., (2020). Enhanced mindfulness-based stress reduction (MBSR+) in episodic migraine: a randomized clinical trial with MRI outcomes. *PAIN*. doi:10.1097/j.pain.0000000000001860

Zhang, J., Wamsley, E.J. (2019). EEG predictors of dreaming outside of REM sleep. *Psychophysiology*. <https://doi.org/10.1111/psyp.13368>

Posters and Talks

Zhang, J., Simon, K. ., Mednick, S.C. (2022). Menstrual cycle-related changes in sleep-dependent emotional memory consolidation. Talk and poster presented at SLEEP 2022. Charlotte, NC.

Chen, P., **Zhang, J.**, Tambini, A., Mednick, S.C. (2022). How do slow oscillation and vagal activity support working memory? A Simultaneous EEG/fMRI Study. Poster presented at SLEEP 2022. Charlotte, NC.

Zhang, J. & Mednick, S.C. (2021). A look at sex differences on sleep's impact on working memory improvement. Poster presented at SLEEP Virtual Conference.

Shuster, A., **Zhang, J.** ... Mednick, S.C. (2021). Sleep and mood across the menstrual cycle in young women. Poster presented at SLEEP Virtual Conference.

- Zhang, J. & Mednick, S. (2020).** The Effect of Zolpidem on Sleep-dependent Declarative Memory Consolidation. Poster presented at SLEEP Virtual Conference.
- Simon, K., Whitehurst, L., **Zhang, J.**, Mednick, S.C. (2020). The Effect of Zolpidem on Sleep-dependent Emotional Memory Consolidation. Poster presented at SLEEP Virtual Conference.
- Zhang, J.**, Yetton, B., Whitehurst, L., Naji, M., Mednick, S.C. (2019). The Effect of Zolpidem on memory consolidation and sleep features over a night of sleep. Poster presented at World Sleep Annual Meeting, Vancouver, Canada.
- Zhang, J.**, Kearson, A., Burrowes, S..., Seminowicz, D.A. (2018). Effects of sleep quality, pain catastrophizing, anxiety and depression on pain-related activation for migraine patients and healthy controls. Poster presented at Society for Neuroscience Annual Meeting, San Diego, CA.
- Furman, A.J., Krimmel, S., **Zhang, J.**, Keaser, R., Gullapalli, R., Seminowicz, D.A. (2018). The relationship of Sensorimotor Peak Alpha Frequency to regions across the brain is modulated by pain. Poster presented at Society for Neuroscience Annual Meeting, San Diego, CA.
- Black, J., **Zhang, J.**, Seminowicz, D., & Quiton, R. (2017). Painful thermal stimulation to the face and arm produces different patterns of brain activity in migraine patients and controls. Poster presented at American Pain Society Annual Meeting, Pittsburgh, PA.
- Zhang, J.**, Wamsley E.J. (2017). Electrophysiological markers of successful dream recall. Poster presented at SLEEP, Boston, MA. <https://doi.org/10.1093/sleepj/zsx050.228>
- Summer, T., **Zhang, J.**, Humiston, G., Piepert, A., & Wamsley, E. (2015). The effect of cognitive load on memory consolidation during a short period of waking rest. Poster presented at Society for Neuroscience Annual Conference, Chicago, IL.
- Zhang, J.**, Laurenzo, W., Hayden, J., & Rice, O., (2015). Will repeated exposure to toluene in adolescent rats increase the possibility of intravenous cocaine abuse in adulthood? Poster presented at Furman Engaged and Furman-Davison Summer Psychology Research Conference, Greenville, SC.