Yile (Wayne) Wang

+1 682-248-6331 | Richardson, TX 75080 | Yile.Wang@utdallas.edu

Personal Website: https://yilewang.github.io

Education

M.S., Applied Cognition and Neuroscience (Current GPA: 3.92/4) 2019 - Present

Track: Computational Modeling (Advisor: Dr. Ana Solodkin)

School of Behavioral and Brain Sciences

The University of Texas at Dallas, Richardson, TX

B.S., Application of Psychology 2014 – 2018

Department of Psychology (Advisor: Dr. Laiquan Zou)

Southern Medical University, Guangzhou, Guangdong, China

Undergraduate Exchange Program in Psychology 2015 – 2016

Department of Psychology

Chung – Shan Medical University, Taichung, Taiwan

Research Interests

Brain Dynamics; Brain Connectivity;

Large-Scale Brain Networks Associated with Cognition & Brain Development

Research Experience

Graduate Research Assistant Nov. 2019 – Present

Brain Circuits Laboratory (PI: Ana Solodkin, Ph.D.), UT Dallas

- **Brain Dynamics Biomarker of Alzheimer's Disease**
  - To characterize different clinical groups (AD, MCI, Normal Agers and Super Agers) according to brain dynamic features including model-based features and model-free features.
  - To differentiate MCI subtypes by using unsupervised machine learning and statistical models (K-means clustering, t-SNE, F-scores, etc.).
- **Dynamical Behavior of Interhemispheric Connections in AD**

- To simulate the Local Field Potential (LFP) signals on the limbic system with Stefanescu-Jirsa 3D model and individualized anatomical connectivity (from DTI) within TheVirtualBrain (TVB) framework.
- To investigate difference of the homogeneity of inter-hemispheric synchronization on posterior cingulate cortex (PCG) in patients with Alzheimer's diseases and Mild Cognitive Impairment.

- **Computational Methods Application**
  - To deploy TheVirtualBrain and UKBioBank preprocessing pipelines in High Performance Computer system of UT Dallas.
  - To develop a pipeline to visualize and detect the Hopf bifurcation point, which describes the transition from asynchronous state to full oscillations between brain areas, using global equation of TVB, Stefanescu-Jirsa 3D model and individualized structural connectivity.

Undergraduate Research Assistant Oct. 2016 – May. 2019

Lab of Chemical Sense and Mental Health (PI: Laiquan Zou, Ph.D. and Jiubo Zhao, Ph.D.), SMU

- **The Neural Mechanisms of Social Pain (Independent Project)**
  - Conducted literature review and published a paper as the first author on *Progress in Biochemistry and Biophysics* journal (In Chinese).
- **Chemosensory Scale Development**
  - Developed a new tool called The **Chemosensory Pleasure Scale** for measuring individual's hedonic capacity as the project leader.
  - Translated the original the **Food Neophobia Scale** from English into Chinese version and conducted test of validation and reliability in Chinese college sample.
- **Correlation between Olfactory Processing and Cognitive Functions on Clinical Groups.**
  - Prepared questionnaires, programed experiment tasks, collected and analyzed behavioral data.
  - Managed and maintained the lab database with Microsoft Excel and VBA.

Undergraduate Research Intern July. 2017 – Nov. 2017

Key Laboratory of Affective and Social Cognitive Science (PI: Fang Cui, Ph.D.), Shenzhen U

- **How Social Context Influences Pain Processing: An ERP Study.**

- Acquired and analyzed EEG data using EEGLAB and BP Analyzer.

- **Empathy and Decision Making: How Much Would You Pay to Waive Electric Shock for Your Partner?**
  - Acquired and preprocessed fMRI data using fMRI – SPM.

Undergraduate Research Volunteer Oct. 2015 - May. 2016

Laboratory for Psychophysiology (PI: Ying-Jui Ho, Ph.D.)
Department of Psychology, Chung Shan Medical University

- **Animal Study on Parkinson's Disease**
  - Studied how to use Ceftriaxone and Erythropoietin as treatment on Parkinson's Disease (PD) using MPTP-induced rat models.
  - Made PD rat models and practiced animal brain anatomy and skin suture techniques.

Publication

Peer-reviewed Journal Publications

- Li, Z., Huang, G., Li, Z., Li, S., **Wang, Y.**, Zhao, J., ... & Zou, L. (2020). ***Chemosensory Anhedonia in Patients with Schizophrenia and Individuals with Schizotypy: A Questionnaire Study.*** Frontiers in Psychiatry, 11, 481.
- Zhao, J., Gao, Z.*, Li, Y.*, **Wang, Y.***, Zhang, X., & Zou, L. (2019). ***The food neophobia scale (FNS): Exploration and confirmation of factor structure in a healthy Chinese sample.*** Food Quality and Preference, 79, 103791.
- Zhao, J.*, **Wang, Y.***, Ma, Q., Zhao, J., Zhang, X., & Zou, L. (2019). ***The Chemosensory Pleasure Scale: A New Assessment for Measuring Hedonic Smell and Taste Capacities.*** Chemical Senses, 44(7), 457–464.
- **Wang, YL.** & Zou, LQ. (2018). ***The Neural Mechanisms of Social Pain.*** Progress in Biochemistry and Biophysics, 45(07):714-722. [in Chinese]

Working Papers

- Solodkin, AJ. **Wang, Y...** ***Brain Dynamics in Alzheimer's Disease: A NeuroInformatics Approach.*** (Work in progress)
- **Wang, Y.** *, Du, H. * ***"Measuring People's Minds?": The Achilles' Heel of scale.*** (Work in progress)

*These authors contribute equally.

Honors & Awards

The University of Texas at Dallas Master's Research Fellowship Program: **$1500** July. 2020

Chinese College Students' Innovative Entrepreneurial Training Plan: **$428** Sep. 2018

Teaching Experience

The University of Texas at Dallas

- **Teaching Assistant**, NSC 4V90 - Special Topics in Neuroscience Jan. 2020 - June. 2020
- **Teaching Assistant**, NSC-4366 – NeuroAnatomy Aug. 2020 - Nov. 2020

Center of Compulsory Isolated Drug Rehabilitation for Juveniles, Guangzhou

- **Mental Health Class Instructor** July. 2018 – May. 2019

Programming Skills

Core Skills

Python, MATLAB, R, Bash, *TheVirtualBrain*

Additional Skills

EEGLAB, fMRI-SPM, VBA, Mplus

Relevant Courses

Neuroscience

Neuroanatomy, Neuroimmunology, Neurology, Neurobiology, Physiology, System Neuroscience

Psychology

Abnormal Psychology, Biological Psychology, Social Psychology, Cognitive Psychology, Experimental Psychology

Statistics & Programming

Computational Modeling, Topics in Multivariate Data Analysis using R, Data Production, Medical Statistics, Advanced Research Methods, Advanced Research Methods in Psychology & Neuroscience, MATLAB, Calculus (Online), Linear Algebra (Online), NeuroMatch Academy (Online), Advanced *Event-Related Potential* Bootcamp.

Relevant Class Projects

The University of Texas at Dallas July. 2018 – present

- **ACN 7320** Topics in Multivariate Data Analysis using R

  Multivariate Statistical Analysis on Cognitive Tasks Data Set (R bookdown).

- **ACN 5314** Computational Modeling

  Using Shallow Neural Network for Dynamic and Static Gesture States Prediction—Based on EMG Signals.

- **EEPS 6302** Methods of Data Collection & Production

  A Web Scraping and Trending Analyzing Study on Bibliometric Information Collected from Nature Neuroscience.

Southern Medical University 2014 – 2018

- **PSY 2017-18** Profession Practice

  A Correlation Study Between Sensitivity of Social Exclusion and Risk-Taking Behavior.

- **PSY 2014-15** Social Psychology

  Social Media Fasting linked to Depression and Anxiety: An Intervention Study.