Xi He Xie

Contact Information

Brain Networks Laboratory (Raj Lab)
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Research Interests Computational Neuroscience, Connectomics, Neurodegenerative Diseases, Data-Driven Methods, Machine Learning, Bayesian Inference, Network theoretics.

Research

Dept. of Radiology, University of California San Francisco, CA.

Visiting Graduate Researcher, May 2018 – Present

- Mentors: Dr. Ashish Raj and Dr. Srikantan Nagarajan

Dept. of Neuroscience & Brain and Mind Research Institute, Weill Cornell Graduate School of Medical Sciences, Cornell University, New York, NY.

Ph.D Candidate, June 2015 – Present

- Doctoral Mentor: Dr. Ashish Raj

Dept. of Biomedical engineering, Grove School of Engineering at CCNY (CUNY), New York, NY.

Undergraduate Researcher, June 2011 – June 2013

- Mentors: Dr. Jacek Dmochowski, Dr. Lucas Parra, and Dr. Marom Bikson

Education

Dept. of Neuroscience, Weill Cornell Graduate School of Medical Sciences, New York, NY.

Ph.D Candidate, Computational Neuroscience, June 2015 - Present.

- Dissertation: *Emergence of neuronal dynamics from brain structure in resting-state human brain imaging*
- Advisor: Dr. Ashish Raj

Dept. of Biomedical Engineering, The City College of New York (CUNY), New York, NY.

B.S. in Biomedical Engineering, May 2013.

- Final Project: *Pressure-regulated tourniquet for intravenous interventions*
- Research Project: *Clinician accessible tools for GUI computational models of transcranial electrical stimulation: BONSAI and SPHERES*
- Advisor: Dr. Jacek Dmochowski, Dr. Lucas Parra, and Dr. Marom Bikson

Student mentoring

(joint mentoring with Dr. A. Raj)

1. Areez Malik (2019 - Present, High School Volunteer)
2. Xiao Gao (2018, MS student in Biomedical Imaging)

Publications

In preparation (to be submitted in 2020)

- X. Xie, C. Cai, P. Damasceno, S. Nagarajan, and A. Raj, *Emergence of canonical functional networks from complex Laplacian of structural connectome.*

Preprints (manuscripts currently under review)

- A. Raj, C. Cai, X. Xie, E. Palacios, J. Owen, P. Mukherjee, and S. Nagarajan, *Spectral graph theory of brain oscillations*, under review. link
- X. Xie, A. Kuceyeski, S. A. Shah, N. D. Schiff, S. Nagarajan, and A. Raj *Parameter Identifiability and Non-Uniqueness in connectome based neural mass models*, under review. link

Peer Reviewed Journals

- D. Q. Truong, M. Huber, X. Xie, A. Datta, A. Rahman, L. C. Parra, J. Dmochowski, M. Bikson, *Clinician accessible tools for GUI computational models of transcranial electrical stimulation: BONSAI and SPHERES*, Brain Stimulation (2014), pp. 1-16. link

Selected Conferences: Talks/Posters

- *Progressive in Neuroscience Seminar*, Weill Cornell Graduate School, New York, NY (2020).
- *UCSF Radiology China Basin Colloqium*, UCSF, San Francisco, CA (2019).
- *Society for Neuroscience*, Annual Meeting, San Diego, CA (2018).
- *Neurohackademy*, University of Washington, Seattle, WA (2018).
- *Mathematical Physics and Harmonic Analysis Seminar*, CUNY Graduate Center, New York, NY (2016).
- *Brainhack Los Angeles*, Los Angeles, CA (2016).

Scholarships, Travel Grants, and Awards

2018	Travel grant, invitation to participate in Neurohackademy, a 2-week conference focusing on reproducibility, open source sharing, and software practices in neuroimaging, including a poster presentation and a final presentation of hackathon project.
2016	Travel grant, invitation to participate in Brainhack L.A. as a junior investigator and present on neural mass modeling of human electroencephalography data.
2013	Lionel Malamed Award for Acadedic Achievement of a student athlete, from The City College of New York.
2013	Tau Beta Pi, Engineering Honor Society
2009	4-Year Undergradaute Tuition Scholarship, from The City University of New York to pursue a degree in biomedical engineering at The City College of New York.

Industry Experience

GE Healthcare, NJ. Junior Engineer, September 2014 - May 2015

Fuji Medical Systems, CT. Quality Assurance Engineer, July 2013 - June 2014

Relevant Skills

Languages:	English, Mandarin Chinese
Coding:	MATLAB, Python, Bash, Git, HTML, SQL, Java
Technical:	FreeSurfer, FSL, Dipy, Mrtrix3, Docker, Solidworks, Bluebeam, Latex