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Professional Positions

- Postdoctoral Fellow** 09/2014-present
The University of Texas at Austin, Center for Learning & Memory
Adviser: Ila Fiete
- Postdoctoral Associate** 09/2013-07/2014
New York University, Center for Neural Science
Adviser: Xiao-Jing Wang

Education

- Ph.D. in Applied Mathematics** 05/2013
Yale University
Dissertation title: *Timescales and the large-scale organization of cortical dynamics*
Adviser: Xiao-Jing Wang
- M.Phil. in Applied Mathematics** 2010
Yale University
- B. A. in Physics** 2005
Amherst College
Magna cum laude

Awards & Honors

- Google Research Fellowship at Simons Institute for the Theory of Computing, Berkeley
(upcoming) 2018
- Finalist for Burroughs-Wellcome's Career Award at the Scientific Interface 2016, 2017
- Best Tutorial Award, Janelia Neurotheory Workshop 2016
- Amherst College Fellowship for graduate study 2007, 2008, 2009
- Phi Beta Kappa 2005
- Amherst College Dean of Faculty Grant for summer research 2005
- Howard Hughes Fellowship for summer research 2004
- Basset Prize for Physics 2002

Publications

Chaudhuri R, He B & Wang XJ (2017). Random recurrent networks near criticality capture the broadband power distribution of human ECoG dynamics. *Cerebral Cortex* doi:10.1093/cercor/bhx233

Chaudhuri R & Fiete IR (2016). Computational principles of memory. *Nature Neuroscience* **19**, 394 (Review)

Chaudhuri R, Knoblauch K, Gariel M-A, Kennedy H & Wang XJ (2015). A large-scale circuit mechanism for hierarchical dynamical processing in the primate cortex. *Neuron* **88**, 419

Chaudhuri R, Bernacchia A & Wang XJ (2014). A diversity of localized timescales in network activity. *Elife* **3**, e01239

Churchland AK, Kiani R, **Chaudhuri R**, Wang XJ, Pouget A & Shadlen MN (2011). Variance as a signature of neural computations during decision-making. *Neuron* **69**, 818

Under review

Chaudhuri R & Fiete IR. Associative content-addressable networks with exponentially many robust stable states. *arXiv*:1704.02019

Kriener B*, **Chaudhuri R*** & Fiete IR. On the time-complexity of winner-take-all dynamics in neural networks. *bioRxiv* doi: 10.1101/231753 (* denotes equal contribution)

Selected Presentations and Talks

Chaudhuri R, Gercek B, Pandey B, Fiete I (2017). *Unsupervised latent variable extraction from neural data to characterize processing across states*. Poster at Computational and Systems Neuroscience annual meeting. Salt Lake City, UT.

Architectures for high-capacity neural memory. Faculty Recruitment Seminar, Departments of Neuroscience and Mathematics, UT Austin, Austin TX. March 2016.

Exponential capacity and robust error correction in Hopfield networks with sparse random constraints. Talk at Princeton University, July 2015

Computational and Systems Neuroscience Annual Meeting: Workshop on “How the brain makes prediction: Relevance of time and spontaneous activity”. Snowbird, UT. March, 2015.

Chaudhuri R, Fiete I (2015). *Using expander codes to construct Hopfield networks with exponential capacity*. Poster at Computational and Systems Neuroscience annual meeting. Salt Lake City, UT.

Chaudhuri R, He B, Wang XJ. (2014) *Random recurrent networks near criticality capture the broadband power distribution of human ECoG dynamics*. Poster at Computational and Systems Neuroscience annual meeting. Salt Lake City, UT.

Chaudhuri R, Bernacchia A, Wang XJ. (2013) *A diversity of localized timescales in network activity*. Poster at Society for Neuroscience annual meeting. San Diego, CA.

Chaudhuri R, Bernacchia A, Wang XJ. (2013) *A diversity of timescales in network activity*. Poster at Computational and Systems Neuroscience annual meeting. Salt Lake City, UT.

The timescales of large-scale brain circuit dynamics. Talk at National Institutes of Health, Bethesda, MD. July 2012.

The timescales of large-scale brain circuit dynamics. Talk at Sloan-Swartz Centers Annual Meeting, San Diego, CA. June 2012.

Teaching Experience

Certificate of College Teaching Preparation, Yale University	2013
Teaching assistant for <i>Linear Algebra with Applications</i>	2009
Teaching assistant for <i>Ordinary and Partial Differential Equations</i>	2009
Teaching assistant for <i>Optimization I</i>	2008