Brendan Chambers

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Curriculum Vitae current January 30, 2017

Education

Ph.D. University of Chicago, Department of Neurobiology, Chicago, IL
Computational Neuroscience, July 2016

B.A. Oberlin College, College of Arts and Sciences, Oberlin, OH
Computer Science, with Honors, May 2011

Publications

Chambers B, MacLean JN (2016). Higher-order synaptic interactions coordinate dynamics in recurrent networks. *PLoS computational biology,* 12(8), doi: 10.1371/journal.pcbi.1005078.

Chambers B, MacLean JN (2015). Multineuronal activity patterns identify selective synaptic connections under realistic experimental constraints. *Journal of neurophysiology*, *114*(3), 1837-1849.

Chambers B, Bojanek K, MacLean JN (2017, projected). Structural connectivity impacts computation with propagating activity in naturalistic recurrent networks.

Levy M, Little D, Chambers B, Dechery J, MacLean JN (2017, projected). Ensemble methods for inferring synaptic connectivity from recordings of activity.

Research Experience

Postdoctoral Scholar. University of Chicago, Department of Neurobiology, Chicago, IL (2017 – Present)
Supervised by Stephanie Palmer & Jason MacLean, Palmer Theory Group and MacLean Neurobiology Lab
Propagation of activity from inputs to outputs in diverse network topologies (2017)
Stochastic optimization with Firefly search (2017)

PhD Candidate. University of Chicago, Department of Neurobiology, Chicago, IL (2011 – Present)
Supervised by Jason N MacLean, MacLean Neurobiology Lab
Higher-order synaptic connectivity coordinates temporal inputs (2015 - 2016)
Emergent statistical decoupling in structure vs. emergent traffic (2015)
Mapping synaptic connections from reliable lagged timing (2013 – 2014)
Signal processing and data collection in two-photon Ca^{2+}-imaging recordings (2012 - 2013)

Honors Student. Oberlin College, Department of Computer Science, Oberlin, OH (2010 – 2011)
Supervised by John Donaldson
Segmenting images using a biologically inspired model of attention (2011)
Classifying distorted characters using deep neural networks (2010)

Summer Research Intern. Rockwell Collins, Eden Prairie, MN (2010)
Assessing the feasibility of computer-vision for automatic helicopter landings
Assistant programmer for LIDAR generated heads up display