

Ulises Pereira Obilinović

CONTACT INFORMATION	George Herbert Jones Laboratory 5747 S. Ellis Avenue, Chicago, IL 60637	312-885-8749 ulises@uchicago.edu
EDUCATION	The University of Chicago , Chicago, IL Ph.D., Statistics. Thesis defense date: October 26th, 2018. Thesis Disertation: <i>A theory for unsupervised learning of memories in brain circuits</i> . Advisor: Nicolas Brunel M.S., Statistics, 2015 Universidad de Chile , Santiago, Chile M.S., Physics (<i>with Highest Distinction</i>), 2013 B.Eng., Molecular Biotechnology (<i>with Highest Distinction</i> , ranked 1/8), 2013 B.S., Physics (<i>with Distinction</i> , ranked 1/6), 2012	
HONORS AND AWARDS	Young Leader Prize . Diario Financiero (Chilean newspaper). 2017. Doctoral Fulbright Fellowship . Fulbright commission. 2012. Best Physics Student of Class 2011 . Universidad de Chile. 2011. CONICYT Master Fellowship . Chilean Government. Ranked 5/1584. 2011. Scholarship for Undergraduate Studies . Chilean Ministry of Education. 2004.	
REFEREED PUBLICATIONS	<ol style="list-style-type: none">1. Pereira U and Brunel N. Attractor dynamics in networks with learning rules inferred from in vivo data. <i>Neuron</i>, 99(1), 227-238, 2018.2. Pereira U, Couillet P and Tirapegui E. The Bogdanov-Takens Normal Form: A Minimal Model for Single Neuron Dynamics. <i>Entropy</i>, 17(12):7859–7874, 2015.3. Vera J, Pezzoli M, Pereira U, Bacigalupo J and Sanhueza M. Electrical Resonance in the θ Frequency Range in Olfactory Amygdala Neurons. <i>Plos One</i>, 9(1):e85826, 2014.4. Contreras D, Pereira U, Hernández V, Reynaert B and Letelier JC. A loop conjecture for metabolic closure. In <i>ECAL</i>, pages 176–183, 2011. MIT press. pages 176–183, 2011. Selected one of the ten best papers of ECAL 2011.	
SUBMITTED PUBLICATIONS	<ol style="list-style-type: none">1. Vera J, Pereira U, Reynaert B, Bacigalupo J and Sanhueza M. Neuronal resonance in the theta (4-10 Hz) frequency range is modulated by dynamic changes in the input resistance. <i>bioRxiv</i>, November, 2017. <i>Submitted</i>.	
PUBLICATIONS IN PREPARATION	<ol style="list-style-type: none">1. Gillett M, Pereira U and Brunel N. Unsupervised learning of sequential activity with temporally asymmetric Hebbian learning rules.2. Pereira U, Aljadeff J and Brunel N. Chaos with Associative Memory Properties in Neural Networks.3. Pereira U and Brunel N. Unsupervised Learning of Persistent and Sequential Activity.	

INVITED TALKS

Bernstein Conference, Satellite Workshops. Technical University of Berlin, Berlin, September 2018.

Neuroscience Program. University of Illinois at Urbana-Champaign. Champaign, IL, July 2018.

Center for Neural Science. New York University, New York, NY, March 2018.

Center for Theoretical Neuroscience. Columbia University, New York, NY, March 2018.

Center for Brain Science. Harvard University, Cambridge, MA, March 2018.

Junior Scientist Workshop on Theoretical Neuroscience. Janelia Research Campus, Ashburn, VA, October 2017.

Physics Seminar, Universidad de Chile, Santiago, Chile, September 2017.

International Conference on Mathematical Neuroscience, Boulder, CO, June 2017.

CONFERENCE POSTERS (SELECTED)

Gillett M, **Pereira U** and Brunel N. Unsupervised learning of sequential activity with temporally asymmetric Hebbian learning rules. COSYNE Poster Presentation. Denver, EEUU. February 2018.

Pereira U and Brunel N. Optimal Unsupervised Hebbian Learning Rules For Attractor Neural Networks. COSYNE Poster Presentation. Salt Lake City, EEUU. February 2017.

Pereira U and Brunel N. Unsupervised Learning of Persistent and Sequential Activity. COSYNE Poster Presentation. Salt Lake City, EEUU. February 2016.

Pereira U and Brunel N. Unsupervised Learning of Sequential Activity. XV International Workshop on Instabilities and Nonequilibrium Structures. Valparaíso, Chile. December 2015.

Vera J, **Pereira U**, Reynaert B, Bacigalupo J and Sanhueza M. Modulation of frequency preference by changes in input resistance. 44th Annual Meeting Society for Neuroscience. Washington D.C., USA. November 2014.

Pereira U, Tirapegui E. Una Ecuación Universal Para la Dinámica Neuronal. In Proceedings of the XVII Conference on Nonequilibrium Statistical Mechanics and Nonlinear Physics. Santiago, Chile. December 2012.

Contreras D, **Pereira U**, Hernández V, Reynaert B and Letelier JC. A loop conjecture for metabolic closure. *Eleventh European Conference on the Synthesis and Simulation of Living Systems*. Paris, France. August 2011.

Pereira U, Pezzoli M, Bacigalupo J, Sanhueza M. A computational conductance-based model of electrical resonance in the theta frequency range in olfactory amygdala neurons. VI meeting of the Chilean Society of Neuroscience. Valdivia, Chile. September 2010.

TEACHING
EXPERIENCE

Lecturer

Statistical Models and Methods. Undergraduate course attended by ~40 students from physical, biological and social sciences majors. The University of Chicago. Winter 2015.

Teaching Assistant

Theoretical Neuroscience: Network Dynamics and Computation. Graduate course. The University of Chicago. Winter 2013 and 2017.

Statistical Methods and Applications. The University of Chicago. Spring 2014, Fall 2015 and 2016.

Statistical Models and Methods. The University of Chicago. Spring 2015.

Elementary Statistic. The University of Chicago. Fall 2014.

General Physiology. Universidad de Chile. Autumn Semester 2010.

Biological Instrumentation. Universidad de Chile. Spring Semester 2008.

COURSES

Methods in Computational Neuroscience. Marine Biology Lab. Woods Hole, MA, USA. July 29 - August 24, 2018.

Latin American Summer School in Computational Neuroscience. Institute of Complex Systems. Valparaíso, Chile. January 11-29, 2010.

VI Summer School of Complex Systems. Institute of Complex Systems. Valparaíso, Chile. January 7-11, 2008.