

Brian DePasquale

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Academic Positions	Princeton University	Princeton, NJ
	Postdoctoral Research Associate Laboratories of Carlos Brody & Jonathan Pillow	2016–present
	Columbia University	New York, NY
	Ph.D. in Neurobiology & Behavior Laboratory of Larry Abbott	2016
Publications	Massachusetts Institute of Technology	Cambridge, MA
	Research and Technical Assistant Laboratory of Ann Graybiel	2005–2009
	Fordham University	Bronx, NY
	B.S. in Physics, <i>cum laude</i> Victor F. Hess Award (top graduating physics student)	2005
Publications	[1] DePasquale, B., Sussillo, D., Churchland, M.M., & Abbott, L.F. (2018). Using recurrent neural networks to approximate low-dimensional, nonlinear population dynamics. <i>in preparation</i> .	
	[2] Panichello, M.F., DePasquale, B., Pillow, J.W. & Buschman, T.J. (2018). Attractor dynamics mediate errors in visual working memory. <i>submitted</i> .	
	[3] Insanally, M.N., Carcea, I., Field, R.E., Rodgers, C., DePasquale, B., Rajan, K., DeWeese, M.R., Albanna, B.F. & Froemke, R.C. (2018). Nominally non-responsive frontal and sensory cortical cells encode task-relevant variables via ensemble consensus-building. <i>under review</i> .	
	[4] DePasquale, B., Cueva, C.J., Rajan, K., Escola, G.S. & Abbott, L.F. (2018). full-FORCE: A target-based method for training recurrent networks. PLoS ONE 13(2): e0191527.	
	[5] DePasquale, B. (2016). <i>Methods for Building Network Models of Neural Circuits</i> . Ph.D. thesis, Columbia University.	
	[6] Abbott, L.F., DePasquale, B. & Memmesheimer, R.-M. (2016). Building functional networks of spiking model neurons. Nature Neuroscience 19:350-355.	
	[7] DePasquale, B., Churchland, M.M. & Abbott, L.F. (2016). Using firing-rate dynamics to train recurrent networks of spiking model neurons. arXiv:1601.07620.	
	[8] Feingold, J., Gibson, D.J., DePasquale, B. & Graybiel, A.M. (2015). Bursts of beta oscillation differentiate postperformance activity in the striatum and motor cortex of monkeys performing movement tasks. PNAS 112(44):13687-13692.	
	[9] Paninski, L., Vidne, M., DePasquale, B. & Ferreira, D.G. (2012). Inferring synaptic inputs given a noisy voltage trace. Journal of Computational Neuroscience 33:1-19.	
Research Support	National Science Foundation Graduate Research Fellow	2010–2013

Teaching & Mentorship	Princeton University	Princeton, NJ
	Undergraduate research co-advisor	2016–present
	Columbia University	New York, NY
	Instructor, General Physics (undergraduate)	2013–2014
	Summer Health Professions Education Program	
	TA, Introduction to Theoretical Neuroscience (graduate)	2011 & 2013
Service	Organizer, <i>Recurrent Spiking Neural Networks—Dynamics, Learning, Computation</i> . COSYNE Workshop (2016), Salt Lake City, UT.	
	<i>Ad hoc</i> reviewer: NIPS, Brain Research, eLife.	
References	<p>Carlos Brody, Ph.D. Wilbur H. Gantz III '59 Professor in Neuroscience Princeton University Tel: +1 609 258 7645, email: brody@princeton.edu</p> <p>Jonathan Pillow, Ph.D. Associate Professor of Psychology Princeton University Tel: +1 609 258 7848, email: pillow@princeton.edu</p> <p>Larry F. Abbott, Ph.D. William Bloor Professor of Theoretical Neuroscience Columbia University Tel: +1 212 853 1065, email: lfa2103@columbia.edu</p> <p>Mark M. Churchland, Ph.D. Assistant Professor, Department of Neuroscience Columbia University Tel: +1 212 853 1068, email: mc3502@columbia.edu</p> <p>Ann M. Graybiel, Ph.D. Institute Professor Massachusetts Institute of Technology Tel: +1 617 253 5785, email: graybiel@mit.edu</p>	

**Conference
Proceedings &
Talks**

Matthew Panichello, Brian DePasquale, Jonathan Pillow, Timothy Buschman (2018). Memory load modulates the dynamics of visual working memory. Vision Sciences Society 18th Annual Meeting, St. Pete Beach, FL.

Brian DePasquale, Mark M. Churchland, LF Abbott (2016). Using firing-rate dynamics to train recurrent spiking neural networks. Recurrent Spiking Neural Networks—Dynamics, Learning, Computation, COSYNE Workshop, Salt Lake City, UT.

Brian DePasquale, Christopher J. Cueva, Raoul-Martin Memmesheimer, LF Abbott, G. Sean Escola (2016). Full-rank regularized learning in recurrently connected firing rate networks. COSYNE, Salt Lake City, UT.

Brian DePasquale, Mark M. Churchland, LF Abbott (2015). Using firing-rate dynamics to train recurrent spiking neural networks. Annual Tri-Center Gatsby Meeting, Columbia University, NY, NY.

Brian DePasquale, Mark M. Churchland, LF Abbott (2014). Using firing rate dynamics to train spiking neural networks that perform tasks. Techniques and Approaches in Theoretical Neuroscience, Janelia Farms Research Campus, HHMI, Ashburn, VA.

Brian DePasquale, Mark M. Churchland, LF Abbott (2014). Constructing networks of spiking neurons that perform tasks. Department of Neuroscience retreat, Columbia University, NY, NY.

Brian DePasquale, Mark M. Churchland, LF Abbott (2014). Firing rate dynamics from spiking networks. COSYNE, Salt Lake City, UT.

Brian DePasquale, Mark M. Churchland, LF Abbott (2013). Low-rank connectivity induces firing rate fluctuations in a chaotic spiking model. Temporal Dynamics in Learning: Networks and Neural Data, Janelia Farms Research Campus, HHMI, Ashburn, VA.

Brian DePasquale, Mark M. Churchland, LF Abbott (2013). Low-rank connectivity induces firing rate fluctuations in a chaotic spiking model. COSYNE, Salt Lake City, UT.

J Feingold, Brian DePasquale, AM Graybiel (2009). Modulation of beta power in the prefrontal cortex and Caudate Nucleus of monkeys during self-timed sequential arm movements. SFN 39th Annual Meeting, Chicago, IL

J Feingold, Brian DePasquale, AM Graybiel (2007). Cortical 8-20 Hz oscillations in supplementary motor areas during self-timed sequential arm movements in monkey. SFN 37th Annual Meeting, San Diego, CA