Srinivas Gorur-Shandilya

NRSA Postdoctoral Fellow, Brandeis University

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Education

Ph.D.	2017	Yale University, USA.
M.Sc.	2010	University of Göttingen, Germany.
B.Sc.	2008	St. Stephen's College, University of Delhi, India.

Graduate Research Positions

2018-present	NRSA Postdoctoral Fellow, Brandeis University, USA. Advisor: Eve Marder
2017-2018	Postdoctoral Associate, Brandeis University, USA. Advisor: Eve Marder
2010-2017	Doctoral student at Yale University, USA. Advisor: Thierry Emonet
2009-2010	Research Fellow at the Max Planck Institute for Nonlinear Dynamics and Self-Organisation, Göttingen, Germany. Advisor: Marc Timme

Professional Activities and Awards

ah-hoc reviewer for *Scientific Reports, New Journal of Physics, Brain Sciences* and *Europhysics Letters*

* Accepted into the Junior Scientist Workshop on Theoretical Neuroscience, Howard Hughes Medical Institute, USA (2019)
* Named Distinguished Referee by the European Physical Society (2018)
* Presenters' Travel Grant, Cosyne, USA (2016)
* Conference Travel Fellowship, Graduate Student Assembly, Yale University, USA (2015)
* Anne S. And William H. Macmillan Fellowship, Yale University, USA (2011-2013)
* Editor's selection in "Highlights of 2011" for first-author paper in *New Journal of Physics*
* Research Fellowship, Max Plank Society, Germany (2009-2010)
* Fellowship from the Excellence Foundation for the Promotion of the Max Planck Society, Max Plank Society (2008-2009) that paid for tuition and living expenses at the University of Göttingen, Germany. One of 10 Fellows selected by worldwide competition.
* KVPY Fellowship, The Department of Science and Technology, India (2005-2008). One of 89 Fellows selected by nationwide competition out of ~100,000 applicants.

Manuscripts

1. **Gorur-Shandilya**, Marder and O'Leary. (2019) "Compensation of size change coexists with sensitivity to perturbations in a model of neuronal homeostasis" *bioRxiv* https://www.biorxiv.org/content/10.1101/753608

Peer-reviewed Publications

1. **Gorur-Shandilya**, Martelli, Demir and Emonet. (2019) "Controlling and measuring dynamic odorant stimuli in the laboratory " *Journal of Experimental Biology* 222(23)
2. **Gorur-Shandilya†,** Hoyland† and Marder. (2018) "Xolotl: An Intuitive and Approachable Neuron and Network Simulator for Research and Teaching" *Frontiers in Neuroinformatics* 12 († = equal contribution)
3. Bronk, Kuklin, **Gorur-Shandilya**, Liu, Wiggin, Reed, Marder and Griffith. (2018) "Regulation of Eag by calcium/calmodulin controls presynaptic excitability in *Drosophila*" *Journal of Neurophysiology* 10.1152
4. **Gorur-Shandilya†**, Demir†, Long, Clark and Emonet (2017) "Olfactory receptor neurons use gain control and complementary kinetics to encode intermittent odorant stimuli" *eLife* 6 († = equal contribution)
5. Raccuglia, McCurdy, Demir, **Gorur-Shandilya**, Kunst, Emonet and Nitabach. (2016) "Temporal contrast enhancement in the *Drosophila* olfactory system regulates behavioral responses to plume-like stimuli" *eNeuro* 3(4)
6. Koh, He, **Gorur-Shandilya**, Menuz, Larter, Stewart and Carlson. (2014) "The *Drosophila* IR20a Clade of Ionotropic Receptors Are Candidate Taste and Pheromone Receptors" *Neuron* 83(4)
7. **Gorur-Shandilya** and Timme. (2011) "Inferring Network Topology from Complex Dynamics" *The New Journal of Physics* 13(1)

Public Extramural Talks

1. "The self-tuning neuron: how homeostasis can compensate for size changes". Invited talk at the Physics of Living Systems Seminar Series, MIT, USA. (2019)
2. "Homeostasis in neuron models and implications for size compensation". Invited seminar at the Allen Center for Discovery, Tufts University, USA. (2019)
3. "Sequential gain control in *Drosophila* olfactory receptor neurons." Accepted talk at Sense2Synapse, New York, USA. (2016)
4. "Topology Predicts Dynamics; Dynamics Constrain Topology." Invited talk at SIAM Conference on Applications of Dynamical Systems (DS15), Snowbird, USA. (2015)
5. "Why is anything the way it is?" Accepted lightning talk at the 30th Chaos Communication Congress (30C3), Hamburg, Germany. (2013)

Additional Training

* 1 of 20 accepted into the Quantitative Approaches to Behaviour Summer School under the Cajal Advanced Neuroscience Training Programme, Lisbon, Portugal (2018)
* Accepted into the Junior Scientist Workshop on Theoretical Neuroscience, Howard Hughes Medical Institute, USA (2019)

Teaching and Mentorship

2019-present	Fellow at the Scientific Communication Laboratory, Brandeis University. Train junior scientists in one-on-one sessions to improve written and oral presentations.
2015	Organized and ran a cryptoparty (a workshop on encryption) at the Center for Engineering Innovation and Design, Yale University.
2014	Teaching Fellow for Dynamical Systems in Biology (MCDB 361) at Yale University, taught by Profs. Thierry Emonet, Damon Clark and Jonathan Howard.
2010	Teaching Fellow for Neurobiology (MCDB 320a) at Yale University, taught by Profs. Haig Keshishian and Paul Forscher.

Mentor 2 undergraduate students at Brandeis University.

Mentored a M.Sc. student (now a scientific programmer at Boston University)

Selected Projects & Code

kontroller	a MATLAB toolbox for data acquisition and control of experiments https://github.com/sg-s/kontroller
crabsort	a general-purpose multi-channel extracellular spike sorter with machine learning. https://github.com/sg-s/crabsort
xolotl	a fast and easy-to-use neuron and network simulator. https://github.com/sg-s/xolotl
fly-voyeur	software to track and annotate behavior of flies during courtship displays. https://github.com/sg-s/fly-voyeur
puppeteer	library to manipulate models and simulations interactively. https://github.com/sg-s/puppeteer
cpplab	toolbox that allows C++ classes to be used in MATLAB. https://github.com/sg-s/cpplab

Programming languages

MATLAB	15+ years, 68,000+ lines of code
C++	10+ years, 19,000+ lines of code
Python	7+ years, 11,000+ lines of code

Other projects and code available at https://github.com/sg-s/