Sam Lewallen

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Education and employment

Swartz Fellow
Center for Brain Science, Harvard University
2018 - Present

Postdoctoral Research Fellow
Princeton Neuroscience Institute
Advisor: David Tank
2014 - 2018

Methods in Computational Neuroscience summer school
MBL, Woods Hole, MA
2013

Ph.D., Mathematics
Princeton University
Advisor: Zoltán Szabó
Thesis title: *Floergåsbord.* (General subject matter: Low-dimensional topology, topological quantum field theory)
2008 - 2014

B.A., Mathematics
Harvard University
Graduated with Highest Honors
2004 - 2008

Publications

Probing variability in a cognitive map using manifold inference from neural dynamics.
Ryan J Low*, **Sam Lewallen***, Dmitriy Aronov, Rhino Nevers, David W Tank (2018). *bioRxiv.*

A map-like micro-organization of grid cells in the medial entorhinal cortex.
Yi Gu, **Sam Lewallen**, Amina A Kinkhabwala, Cristina Domnisoru, Kijung Yoon, Jeffrey L Gauthier, Ila R Fiete, David W Tank (2018). *Cell.*

Grid cell responses in 1D environments assessed as slices through a 2D lattice.
KiJung Yoon*, **Sam Lewallen***, Amina A Kinkhabwala, David W Tank, Ila R Fiete (2016). *Neuron.*

Stimulus-dependent correlations in threshold-crossing spiking neurons.
Yoram Burak, **Sam Lewallen**, Haim Sompolinsky (2009). *Neural Computation.*

(1,1) L-space knots.
Joshua Evan Greene, **Sam Lewallen**, Faramarz Vafaee** (2018). *Compositio Mathematica.*

Strong L-spaces and left orderability.
Adam Simon Levine, **Sam Lewallen**** (2012). *Mathematical Research Letters.*

* Joint first authors
** Authors in alphabetical order

Awards and fellowships

NSF Nordic Fellowship, 2011

NSF Graduate Research Fellowship, 2008-2011

Centennial Fellowship, 2008-2011 (awarded to top few incoming Phd students by Princeton math department)

Other research experiences in neuroscience

Independent undergraduate research project advised by Haim Sompolinsky, Harvard University
Summer, 2007

Undergraduate research assistant with Maria Geffen and Marcello Magnasco, Rockefeller University
Summer, 2006