

DANIEL (DJ) STROUSE
 5634 Frist Center
 Princeton University
 Princeton, NJ 08544
 danieljstrouse@gmail.com
 www.djstrouse.com

Born: Nov 24, 1987
 in Elgin, IL
 Citizenship: USA
 Hometown: Newark, DE
 Last updated: Nov 6, 2015

Education

- | | |
|--------|--|
| 9/2017 | PhD in Physics
Princeton University, Princeton, NJ
<i>Advisor: William Bialek</i> |
| 9/2012 | Master's of Philosophy (MPhil) in Engineering
University of Cambridge, Cambridge, UK
<i>Advisor: Máté Lengyel</i> |
| 5/2011 | B.A. Physics (<i>magna cum laude</i>), B.S. Mathematics (<i>magna cum laude</i>)
University of Southern California (USC), Los Angeles, CA |

Research Interests

- Design principles of biological systems
- Inference and prediction in biological systems
- Quantitative approaches to cultural phenomena

Grants, Honors, & Awards

- | | |
|-----------|--|
| 2013-2017 | Hertz Foundation Fellowship |
| 2012-2016 | DoE Computational Sciences Graduate Fellowship (<i>awarded in 2011</i>) |
| 2011-2012 | Churchill Scholarship |
| 2011 | Hertz Foundation Fellowship Finalist |
| 2011 | NSF Graduate Research Fellowship (<i>declined for DoE CSGF</i>) |
| 2011 | USC Order of the Laurel and the Palm (<i>highest honor bestowed upon graduating seniors</i>) |

Journal Publications & Conference Proceedings

- DJ Strouse** & D. Schwab. *The deterministic information bottleneck*. AISTATS 2016. (submitted)
- X. Wu, **DJ Strouse**, & B. Mel. *Optimizing online learning capacity in a biologically-inspired neural network*. (in preparation)
- AM Childs & **DJ Strouse**. *Levinson's theorem for graphs*. Journal of Mathematical Physics. Aug 2011. [arxiv] [journal]

Posters

- DJ Strouse** & David Schwab. *Compression and regularization with the information bottleneck*. APS March Meeting. Baltimore, MD. March 2016.
- DJ Strouse** & David Schwab. *The Deterministic Information Bottleneck*. APS March Meeting. San Antonio, TX. March 2015.
- DJ Strouse** & David Schwab. *The Deterministic Information Bottleneck: Optimizing Memory for Prediction*. Society for Neuroscience (SfN). Washington, DC. November 2014. [link]
- DJ Strouse**, Balazs Ujfalussy, & Mate Lengyel. *Dendritic subunits: the crucial role of input statistics and a lack of two-layer behavior*. Computational and Systems Neuroscience (Cosyne). Salt Lake City, UT. February 2013.

DJ Strouse, Jakob Macke, Roman Shusterman, Dima Rinberg, & Elad Schneidman. *Behaviorally-locked structure in a sensory neural code*. Sensory Coding & Natural Environment (SCNE). Vienna, Austria. September 2012.

DJ Strouse & Mate Lengyel. *Hierarchical generalized linear models of dendritic integration and somatic membrane potential*. Computational and Systems Neuroscience (Cosyne). Salt Lake City, UT. February 2012.

Bartlett Mel, Xundong Wu, & **DJ Strouse**. *Optimizing online learning capacity in a biologically-inspired memory structure*. Computational and Systems Neuroscience (Cosyne). Salt Lake City, UT. February 2012.

Xundong Wu, **DJ Strouse**, & Bartlett Mel. *Optimizing online learning capacity in a biologically-inspired neural network*. Society for Neuroscience (SfN). Washington, DC. November 2011.

Xundong Wu, **DJ Strouse**, & Bartlett Mel. *Optimizing online learning capacity in a biologically-inspired neural network*. Annual Joint Symposium On Neural Computation. San Diego, CA. June 2011.

DJ Strouse. *Reliable brains from unreliable neurons – the search for synfire chains in the brain*. Stanford Amgen Scholars Symposium. Palo Alto, CA. August 2010.

Talks

8/2012	Advanced Course in Computational Neuroscience Symposium (Będlewo, Poland) Title: <i>Optimal dynamics for fast network responses</i>
4/2012	Microsoft Research Cambridge, Machine Learning Group (Cambridge, UK) Title: <i>The Information Bottleneck Method</i>
8/2011	Methods in Computational Neuroscience Symposium (MBL, Woods Hole, MA) Title: <i>Sniff-modulations of the olfactory bulb vocabulary</i>
8/2010	Stanford Amgen Scholars Symposium (Palo Alto, CA) Title: <i>Reliable brains from unreliable neurons – the search for synfire chains in the brain</i>
7/2010	Open Science Summit (University of California, Berkeley, CA) [link] Title: <i>Open science is more than open publishing – meet CoLab</i>
6/2010	Institute for Quantum Computing Colloquium (Waterloo, Ontario, Canada) [link] Title: <i>A Levinson's theorem for scattering on graphs</i>

Professional

10/2015	Organizer, Hertz Foundation East Coast Fellows Retreat
2/2015	Co-Founder, <i>Vokl</i> , a voice-based forum allowing users to host, participate in, and listen to discussions around specific topics
3/2013	Organizer, Computational and Systems Neuroscience (Cosyne) workshop on <i>Dendritic computation in neural circuits</i>
12/2009-4/2012	Co-Founder, <i>CoLab</i> , an online set of tools designed to promote open and massively collaborative science

Summer Schools

8/2013	Computational and Cognitive Neuroscience Summer School (CCNSS) Cold Spring Harbor Asia, Beijing, China
8/2012	Advanced Course in Computational Neuroscience (ACCN) FENS-IBRO European Neuroscience School Programme, Będlewo, Poland
8/2011	Methods in Computational Neuroscience (MCN) summer course Marine Biological Laboratory (MBL), Woods Hole, MA

Other Skills & Information

COMP. LANGUAGES	Matlab, R, Python, Mathematica
HUMAN LANGUAGES	English (fluent), Mandarin (conversational), Spanish (conversational)
HOBBIES	running, traveling, hiking, web/mobile app development