

Scott S. Bolkan, PhD

Postdoctoral Fellow
Princeton Neuroscience Institute
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Education and Research Positions

- 2017-present** **Princeton University, Postdoctoral Fellow**
Advisor: Ilana B. Witten, PhD
- 2010-2016** **Columbia University, Graduate Student**
PhD in Neurobiology and Behavior
Advisors: Christoph Kellendonk, PhD & Joshua A. Gordon, MD/PHD
- 2008-2010** **Oregon Health & Science University, Research Assistant**
Advisor: K. Mathew Lattal, PhD
- 2004-2008** **Stanford University, Undergraduate Researcher**
BA in Human Biology
Advisor: Craig H. Heller, PhD

Research Support

- 2019-2022** **NIMH NRSA Postdoctoral Fellowship (F32 MH118792)**
Striatal substrates supporting sensory and memory guided behaviors
Advisors: Ilana B. Witten & David W. Tank
- 2014-2017** **NIMH NRSA Predoctoral Fellowship (F31 MH102041)**
Optogenetic dissection of thalamo-prefrontal circuitry supporting working memory
Advisors: Joshua A. Gordon & Christoph Kellendonk
- 2013-2014** **NINDS Predoctoral Training Grant**
Columbia University T32
**competitively awarded*
- 2011** **NSF Graduate Research Fellowship**
**declined due to changes in eligibility*

Publications

- 2022** Stujenske JM, O'Neill PK, Fernandes-Henriques C, Nahmoud I, Goldberg SR, Singh A, Diaz L, Labkovich M, Hardin W, **Bolkan SS**, Reardon TR, Spellman TJ, Salzman CD, Gordon JA, Liston C, Likhtik E. Prelimbic cortex drives discrimination of non-aversion via amygdala somatostatin interneurons. *Neuron* (online ahead of print, 10.1016/j.neuron.2022.03.020).
- 2022** Fleming W, Lee J, Briones B, **Bolkan SS**, Witten IB. Cholinergic interneurons mediate cocaine extinction in male mice through plasticity across medium spiny neuron subtypes. *Cell Reports*. 39(9).
- 2022** **Bolkan SS***, Stone IR*, Pinto L, Ashwood ZC, Iravedra-Garcia JM, Herman AL, Singh P, Bandi A, Cox J, Zimmerman CA, Cho JR, Engelhard B, Koay SA, Pillow JW, Witten IB. Opponent

control of behavior by dorsomedial striatal pathways depends on task demands and internal state. *Nature Neuroscience*. 25:345-257.

Highlighted in: *Holly EN et al. Trends in Neuroscience (2022)*.

News and Views: *Histed & Rowe. Nature Neuroscience (2022)*.

- 2020** Canetta S, Teboul E, Holt E, **Bolkan SS**, Padilla-Coreano N, Gordon J, Harrison N, Kellendonk C. Differential synaptic dynamics and circuit connectivity of hippocampal and thalamic inputs to the prefrontal cortex. *Cerebral Cortex Communications*. 1(1).
- 2018** Abbas AI, Sundiang MJM, Henoch B, Morton MP, **Bolkan SS**, Park AJ, Harris AZ, Kellendonk C, Gordon JA. Somatostatin interneurons facilitate hippocampal-prefrontal synchrony and prefrontal spatial encoding. *Neuron*. 100(4): 926-939.
- Parnaudeau S, **Bolkan SS**, Kellendonk C. The mediodorsal thalamus: An essential partner of prefrontal cortex for cognition. *Biological Psychiatry*. 83(8):648-656.
- Harris AZ, Atsak P, Bretton ZH, Holt ES, Alam R, Morton M, Abbas AI, Leonardo ED, **Bolkan SS**, Hen R, Gordon JA. A novel method for chronic social defeat stress in female mice. *Neuropsychopharmacology*. 1-8.
- 2017** **Bolkan SS**, Stujenske JM, Parnaudeau S, Spellman TJ, Rauffenbart C, Abbas AI, Harris AZ, Gordon JA, Kellendonk C. Thalamic projections sustain prefrontal activity during working memory maintenance. *Nature Neuroscience*. 20(7):987-996.
Highlighted in: *Acsady L. Nature Neuroscience (2017)*.
- 2016** **Bolkan S**, Gordon JA. Untangling autism. *Nature*. 532(7597):45-6.
- Canetta S, **Bolkan S**, Padilla-Coreano N, Song L, Sahn R, Harrison N, Gordon JA, Brown A, Kellendonk C. Prenatal Maternal Immune Activation Leads to Selective Functional Deficits in Adult PV Interneurons. *Molecular Psychiatry*. 21(7):956-968.
- Padilla-Coreano N, **Bolkan S**, Pierce G, Blackman D, Spellman T, Gordon JA. Direct hippocampal-prefrontal input is required for anxiety-related neural activity and behavior. *Neuron*, 89(4):857-66.
- 2015** **Bolkan SS**, Carvalho-Poyraz F, Kellendonk C. Using human brain imaging studies as a guide toward animal models of schizophrenia. *Neuroscience*. 3(321):77-98.
- Parnaudeau S, Taylor K, **Bolkan SS**, Ward RD, Balsam PD, Kellendonk C. Mediodorsal thalamus hypofunction impairs flexible goal-directed behavior. *Biological psychiatry*. 77(5), 445-453.
- 2014** **Bolkan SS**, Lattal KM. Opposing effects of d-cycloserine on fear despite a common extinction duration: Interactions between brain regions and behavior. *Neurobiology of learning and memory*. 113, 25-34.
- 2013** Parnaudeau S*, O'Neill PK*, **Bolkan SS**, Ward RD, Abbas AI, Roth BL, Balsam PD, Gordon JA, Kellendonk C. Inhibition of mediodorsal thalamus disrupts thalamofrontal connectivity and cognition. *Neuron*. 77(6), 1151-1162.

Presentations

- 2022 Bolkan SS.** University of Florida, Gainesville, FL. Neuroscience External Seminar Series.
- 2022 Bolkan SS.** Dopamine Society Meeting, Montreal, Canada. Panel talk on *Dopamine circuits translating motivation into action*.
- 2022 Bolkan SS,** Stone IR, Pillow JW, Witten IB. Gordon Research Conference on the Basal Ganglia, Ventura, CA. Poster.
- 2020 Bolkan SS,** Stone IR, Pillow JW, Witten IB. Virtual Dopamine Conference. Poster.
- 2017 Bolkan SS,** Stujenske JM, Parnaudeau S, Spellman TJ, Rauffenbart C, Abbas AI, Harris A, Gordon JA, Kellendonk C. Society for Neuroscience, Washington DC, Poster.
- Bolkan SS.** Winter Conference on Brain Research, Big Sky, Montana. Panel talk on *New concepts of how thalamo-cortical interactions regulate complex behaviors*.
- 2016 Bolkan SS,** Stujenske JM, Spellman TJ, Gordon JA, Kellendonk K. Society for Neuroscience, San Diego, CA, Poster.
- Bolkan SS,** Stujenske JM, Spellman TJ, Gordon JA, Kellendonk C. Gordon Research Conference on Thalamocortical Interactions, Ventura, CA. Poster.
- 2015 Bolkan SS,** Parnaudeau S, Spellman TJ, Clark A, Gordon JA, Kellendonk C. Society for Neuroscience, Chicago, IL. Poster.
- 2014 Bolkan SS,** Parnaudeau S, Spellman TJ, Clark A, Gordon JA, Kellendonk C. Society for Neuroscience, Washington DC. Poster.
- Bolkan SS.** Columbia University Neurobiology and Behavior Departmental Retreat, Mohonk, NY. Research talk.
- 2011 Bolkan SS,** O'Neill PK, Parnaudeau S, Ward R, Gordon JA, Balsam P, Kellendonk C. Society for Neuroscience, Washington DC. Poster.
- Bolkan SS,** Parnaudeau, O'Neill PK, Ward R, Gordon JA, Palsam P, Kellendonk C. New York Academy of Sciences: Advancing Drug Discovery for Schizophrenia. New York, NY. Poster.
- 2009 Bolkan SS,** Lattal M. Society for Neuroscience, Chicago, IL. Poster

Professional Affiliations/Honors

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| 2022- | Dopamine Society |
| 2017- | Princeton University, BRAIN CoGS (U19 collaborative) |
| 2016- | Reviewer, Frontiers in Neuroscience |
| 2011-2017 | New York Academy of Sciences |
| 2009- | Society for Neuroscience |
| 2007 | NSCAA Collegiate Scholar All-American |

Teaching Experience/Academic Service

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| 2018,2022 | Mentor, PNI Summer Internship Program |
| 2013-2015 | Mentor, Brain Research Apprenticeships In New York At Columbia (BRAINYAC) |
| 2012 | Teaching Assistant, Developmental and Systems Neurobiology |

2011	Teaching Assistant, Molecular and Cellular Neurobiology
2010-2014	Member, Columbia University Neuroscience Outreach