

# Timothy Spellman, Ph.D.

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## EDUCATION

- 2014 Degree: Ph.D. in Physiology and Cellular Biophysics  
Institution: Columbia University, New York, NY  
Mentor: Joshua Gordon, M.D., Ph.D.
- 2004 Degree: B.A. in Psychology, *cum laude*  
Institution: Dartmouth College, Hanover, NH

## POSITIONS

- 2021- Assistant Professor of Neuroscience, University of Connecticut School of Medicine, Farmington, CT
- 2018-2021 Instructor in Neuroscience, Dept. of Psychiatry, Weill Cornell Medicine, New York, NY
- 2014-2018 Postdoctoral Research Fellow, Brain and Mind Research Institute, Weill Cornell Medical College, New York, NY. Mentor: Conor Liston, M.D., Ph.D.
- 2008-2014 Ph.D. Candidate, Program in Physiology and Cellular Biophysics, Columbia University, New York, NY. Mentor: Joshua Gordon, M.D., Ph.D.
- 2005-2008 Lab Manager, Research Coordinator, Division of Brain Stimulation, Columbia University, New York, NY. Mentor: Sarah H. Lisanby, M.D.

## PUBLICATIONS

### First-authored Research Articles

- 1) Spellman TJ, Svei M, Kaminsky J, Manzano-Nieves G, Liston C (2021). *Prefrontal deep projection neurons enable cognitive flexibility via persistent feedback monitoring*. *Cell*. Apr 13; S0092-8674(21)00378-0.
- 2) Spellman TJ, Rigotti M, Ahmari S, Fusi S, Gogos J, Gordon JA (2015). *Hippocampal-prefrontal input supports spatial encoding in working memory*. *Nature*, 522(7556): 309-14.
- 3) Spellman TJ, Peterchev A, Lisanby SH (2009). *Focal electrically administered seizure therapy: a novel form of ECT illustrates the roles of current directionality, polarity, and electrode configuration in seizure induction*. *Neuropsychopharmacology*. 34(8):2002-10. PMID: 19225453.
- 4) Spellman TJ, McClintock S, Terrace H, Husain M, Lisanby SH (2008). *Differential Effects of High Dose Magnetic Seizure Therapy (MST) and Electroconvulsive Shock (ECS) on Cognitive Function*. *Biological Psychiatry*. 15;63(12): 1163-70. PMID: 18262171.

### Co-authored Research Articles

- 1) Stujenske J, O'Neill PK, Fernandez-Henriquez C, Gordon J, Liston C, Likhtik E (2022). *Prelimbic cortex drives discrimination of non-aversion via amygdala somatostatin interneurons*. *Neuron*. Vol 110, Issue 14, P2258-2267.E11
- 2) Luber B, Beynel L, Spellman T, Gura H, Ploesser M, Termini K, Lisanby SH (2022). *Effects of Online Single Pulse Transcranial Magnetic Stimulation on Prefrontal and Parietal Cortices in Deceptive*

*Processing: A Preliminary Study. Front Hum Neurosci. Jun 20;16:883337.*

- 3) Tamura M, Spellman TJ, Rosen AM, Gogos JA, Gordon JA (2017). *Hippocampal-prefrontal theta-gamma coupling during performance of a spatial working memory task. Nat Commun. 2017 Dec 19;8(1):2182.*
- 4) Bolkan SS, Stujenske JM, Parnaudeau S, Spellman TJ, Rauffenbart C, Abbas AI, Harris AZ, Gordon JA, Kellendonk C (2017). *Thalamic projections sustain prefrontal activity during working memory maintenance. Nat Neurosci. 2017 Jul;20(7):987-996.*
- 5) Padilla-Coreano N, Bolkan SS, Pierce GM, Blackman DR, Hardin WD, Garcia-Garcia AL, Spellman TJ, Gordon JA (2016). *Direct Ventral Hippocampal-Prefrontal Input Is Required for Anxiety-Related Neural Activity and Behavior. Neuron. 2016 Feb 17;89(4):857-66.*
- 6) Stujenske JM, Spellman TJ, Gordon JA (2015). *Spatiotemporal dynamics of light and heat propagation during optical stimulation. Cell Reports, 12(3):525-34.*
- 7) Mukai J, Tamura M, Fénelon K, Rosen AM, Spellman TJ, Kang R, MacDermott AB, Karayiorgou M, Gordon JA, Gogos JA (2015). *Molecular substrates of altered axonal growth and brain connectivity in a mouse model of schizophrenia. Neuron. 2015 May 6;86(3):680-95.*
- 8) Rosen AM, Spellman TJ, Gordon JA (2015). *Electrophysiological endophenotypes in rodent models of schizophrenia and psychosis. Biol Psychiatry. 2015 Jun 15;77(12):1041-9.*
- 9) Ahmari S, Spellman TJ, Douglas N, Kheirbek M, Simpson B, Deisseroth K, Gordon JA, Hen R (2013). *Repeated cortico-striatal stimulation generates persistent OCD-like behavior. Science, 340(6137):1234-9.*
- 10) McClintock SM, DeWind NK, Husain MM, Rowny SB, Spellman TJ, Terrace H, Lisanby SH. (2013). *Disruption of component processes of spatial working memory by electroconvulsive shock but not magnetic seizure therapy. Int J Neuropsychopharmacol. 2013 Feb;16(1):177-87.*
- 11) Cywocicz YM, Luber B, Spellman TJ, Lisanby SH. (2009). *Neurophysiological characterization of high-dose magnetic seizure therapy: comparisons with electroconvulsive shock and cognitive outcomes. J ECT. 2009 Sep;25(3):157-64.*
- 12) Cywocicz YM, Luber B, Spellman TJ, Lisanby SH. *Differential neurophysiological effects of magnetic seizure therapy (MST) and electroconvulsive shock (ECS) in non-human primates. Clin EEG Neurosci. 2008 Jul;39(3):144-9.*

### **Reviews and Commentary**

- 1) Spellman TJ, Liston CM (2020). *Toward Circuit Mechanisms of Pathophysiology in Depression. American Journal of Psychiatry. AJP-20-03-0280*
- 2) Spellman TJ, Gordon JA (2015). *Synchrony in schizophrenia: a window into circuit-level pathophysiology. Current Opinion in Neurobiology, 30:17-23.*

### **CURRENT RESEARCH SUPPORT**

**R00 (4R00MH117271-03)**

05/01/2022 – 04/31/2025

Role: PI

Source: National Institute of Mental Health

\$168,218 (direct costs/year)

Effort: 9 cm/yr

Title: *Prefrontal Circuits Underlying Cognitive Flexibility*

Goal: The goal of this project is to define mechanisms by which mPFC allows for selection of modality-specific targets of attention.

### **COMPLETED RESEARCH SUPPORT**

2018 – 2022 *K99 Pathway to Independence Award, NIMH*

2018 – 2021 *NARSAD Young Investigator Award*, Brain & Behavior Research Foundation

2019 – 2020 *Leon Levy Fellowship in Neuroscience*

2015 – 2017 *Hartwell Postdoctoral Fellowship*, Hartwell Foundation

## **HONORS**

2016 *Samuel W. Perry III, MD Distinguished Award in Psychiatry Medicine*, Department of Psychiatry, Weill Cornell Medicine

2016 *Regeneron Prize for Creative Innovation Finalist*, Regeneron Pharmaceuticals

2014 *Dean's Award for Excellence in Research*, Columbia University Graduate School of Arts and Sciences

2004 *Bachelor of Arts Cum Laude*, Dartmouth College

## **INVITED TALKS**

2022 Gordon Research Conference: Optogenetic Approaches to Understanding Neural Circuits and Behavior (Newry, ME)

2022 Seminar Series, Institute of Neurological Sciences and Psychiatry, Hacettepe University (virtual)

2022 University of Bristol Neuroscience Seminar Series (virtual)

2021 Neurons in Action Conference, Nencki Institute, Polish Academy of Sciences (virtual)

2021 UConn Health Neuroscience Virtual Seminar Series (virtual)

2021 Neuro-Launchpad Virtual Seminar Series (virtual)

2020 Weill Cornell Frontiers in Neuropsychiatry Seminar Series (virtual)

2020 Hope for Depression Research Foundation Annual Meeting (virtual)

2020 University of Connecticut Physiology and Neurobiology Research Seminar (virtual)

2019 Sackler Institute for Developmental Psychobiology Seminar (New York, NY)

2019 Leon Levy Fellows in Neuroscience Annual Symposium (New York, NY)

2017 Brain and Mind Research Institute (BMRI) Work in Progress Seminar Series (New York, NY)

2015 Regeneron Prize for Creative Innovation Finalists' Symposium (Tarrytown, NY)