Melina Tsitsiklis

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Education

Columbia University 2014 – present
PhD candidate in Neurobiology and Behavior

Massachusetts Institute of Technology 2010 – 2014
B.Sc. in Biological Engineering cumulative GPA: 4.7/5.0
Minor: Brain and Cognitive Sciences

Academic and Professional Experience

Spatial memory and navigation, Columbia University September 2015 – present
Graduate Student New York, NY
Thesis research advised by Josh Jacobs. Studying single neuron coding of spatial memories in the human medial temporal lobe using intracranial EEG (iEEG).

Automated single cell recordings, McGovern Institute at MIT May 2013 – May 2014
Undergraduate Researcher Cambridge, MA
Worked in Ed Boyden's Synthetic Neurobiology Group on a project applying automated in vivo whole cell recordings to analyze single neuron functions in awake behaving mice, in order to better understand hippocampal network dynamics.

Opotogenetically probing memory, Picower Institute at MIT June 2012 – May 2013
Undergraduate Researcher Cambridge, MA
Worked in the Tonegawa Lab on a project using optogenetic tools to elucidate the role of specific cell populations that are involved in memory processes.

Skills

Data collection: Human intracranial EEG, develop and run behavioral tasks with epilepsy patients, intracranial recordings using NeuroPort recording system, PsychoPy, eyetracking (Tobii TX300)
Data analysis: Matlab, Python and R (proficient), spike sorting in Combinato
Power spectral analysis, regression, time series analysis, statistics
Data visualization: Affinity Designer, Keynote, Powerpoint

Papers

M. Tsitsiklis, Jonathan Miller, Salman E. Qasim, Cory S. Inman, Robert E. Gross, Jon T. Willie, Elliot H. Smith, Sameer A. Sheth, Catherine A. Schevon, Michael R. Sperling, Ashwini Sharan, Joel M. Stein, Joshua Jacobs (2020). Single-neuron representations of spatial targets in humans. *Current Biology.*

J. Miller, A. Watrous, **M. Tsitsiklis**, S.A. Lee, S. Sheth, C. A. Schevon, E. H. Smith, M. Sperling, A. Sharan, A. Asadi-Pooya, G. A. Worrell, S. Meisenhelter, C. S. Inman, K. A. Davis, B. Lega, P. A. Wanda, S. R. Das, J. M. Stein, R. Gorniak, J. Jacobs (2018). Lateralized hippocampal oscillations underlie distinct aspects of human spatial memory and navigation. *Nature Communications.*

J.C. McGowan, C. LaGamma, S.C. Lim, **M. Tsitsiklis**, Y. Neria, R.A. Brachman, C.A. Denny (2017). Prophylactic ketamine attenuates learned fear. *Neuropsychopharmacology.*

Awards

Georgakopoulos Family Fellowship (2018)

Kavli SfN Graduate Travel Award (2017, 2018)

T32 Training Grant for Advanced Students in Neurobiology and Behavior (2016-2018)

NSF Graduate Research Fellowship Honorable Mention (2015)

First place in the BE Znaty-Merck Undergraduate Research prize (2014)

Teaching, Volunteering

BME4000, Columbia Spring 2018
Teaching Assistant
TA for Josh Jacobs' Electrophysiology of Human Memory and Navigation course.

Columbia University Neuroscience Outreach: CUNO Fall 2015-present
Curriculum Development VP, Multi-visit VP
Work to improve single visits to classrooms to teach neuroscience. Also coordinate the multi-visit program, where volunteers teach a weekly hands-on neuroscience course at local middle schools in collaboration with Citizen Schools. Taught the multi-visit program three times.