Madineh Sedigh-Sarvestani

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Assistant Professor, Neurobiology & Behavior	July 2023- present
Cornell University	
Freeman Hrabowski Scholar	April 2024-present
Howard Hughes Medical Institute	
Post-doc Fellow	2018 - 2022
Max Planck Florida Institute for Neuroscience, w/ David Fitzpatrick	
Post-doc Fellow	2014 - 2017
University of Pennsylvania, w/ Diego Contreras & Larry Palmer	
Graduate Student	2008-2014
Penn State University, w/ Bruce Gluckman	
Research Engineer I	2007-2008
Walter Reed Army Institute of Research, w/ Debra Yourick	
Research Associate	2005-2007
Biostar West, w/ Liz Orwin & Shenda Baker	
Education	
Allen Institute Summer Workshop on the Dynamic Brain	Aug 2016
Friday Harbor	
Computational Neuroscience in Vision CSHL	July 2014
PhD Biomedical Engineering	Aug 2013

Penn State University

BS Engineering Harvey Mudd College

Awards & Funding_

E. Matilda Ziegler Foundation for the Blind Research Grant	2024-2026
HHMI Freeman Hrabowski Scholarship	2024-2029
NIH-NEI Small Conference Grant (R13) for Tree Shrew Discovery Meeting	2020-22
NIH-NEI Post-doctoral training fellowship (F32)	2015-19
NIH-NINDS Pre-doctoral training fellowship (F31)	2010-2013

Publications _____

Structural and functional evidence supports re-defining mouse higher order visual areas into a single area V2.	bioRxiv
Declan Rowley, M Sedigh-Sarvestani .	2024.10. 10.617533, 2024
What & Where: Location-dependent feature sensitivity as a canonical organizing principle of the visual system.	Frontiers in Neural Circuits
M Sedigh-Sarvestani, D Fitzpatrick.	16, 834876, 2022

May 2005

DeBruyn and Casagrande manuscripts on tree shrew retinal ganglion cells as a basis for cross-species retina research.	Visual Neuroscience
T Norton, E Savier, M Sedigh-Sarvestani .	39, E001, 2022
Sinusoidal transformation of the visual field is the basis for periodic maps in V2.	Neuron
M Sedigh-Sarvestani, KS Lee, R Satterfield, N Shultz, D Fitzpatrick.	109 (24): 4068-4079.e6, 2021
A bright future for the tree shrew in neuroscience research: Summary from the	Zooloaical Research
inaugural Tree Shrew Meeting.	
E Savier, M Sedigh-Sarvestani , R Wimmer, D Fitzpatrick.	42(4): 478-81, 2021
Neuromatch Academy: Teaching Computational Neuroscience with global accessibility.	TiCS
T van Viegen, A Akrami, K Bonnen, E DeWitt, A Hyafil, H Ledmyr, GW Lindsay, P Mineault, JD Murray, XPitkow, A	
Puce, M Sedigh-Sarvestani , C Stringer, T Achakulvisut, E Alikarami, MS Atay, E Batty, JC Erlich, BV Galbraith,	25(7)-535-538 2021
Y Guo, AL Juavinett, MR Krause, S Li, M Pachitariu, E Straley, D Valeriani, E Vaughan, M Vaziri-Pashkam, ML	25(1).555 556, 2021
Waskom, G Blohm, K Kording, P Schrater, B Wyble, S Escola, MAK Peters	
Thalamocortical synapses in the cat visual system are weak and unreliable.	eLife
M Sedigh-Sarvestani, LA Palmer, D Contreras.	e41925, 2019.
Inhibition in simple cell receptive fields is broad and OFF-subregion biased.	J Neurosci
M.M. Taylor, M Sedigh-Sarvestani , LA Palmer, D Contreras.	38(3):595-612, 2018.
Spatiotemporal evolution of focal epileptiform activity from surface and laminar field	Mauraphysial
recordings in cat neocortex.	J Neurophysiol
H. Bink, M Sedigh-Sarvestani , I Fernandez-Lamo, L Kini, H Ung, D Kuzum, F Vitale, B Litt, D Contreras.	119(6):2068-81, 2018.
Intracellular, in vivo, dynamics of thalamocortical synapses in visual cortex.	J Neurosci
M Sedigh-Sarvestani , L Vigeland, I Fernandez- Lamo, MM Taylor, LA Palmer, D Contreras.	37(21):5250-5262, 2017.
Seizures and brain regulatory systems: Consciousness, sleep, and autonomic systems.	J Clin Neurophysiol
M Sedigh-Sarvestani, H Blumenfeld, T Loddenkemper, LM Bateman.	32(3):188-93, 2015.
lpha2-adrenergic stimulation of the VLPO destabilizes the anesthetic state.	J Neurosci
HS McCarren, MR Chalifoux, B Han, JT Moore, QC Meng, N Baron-Hionis, M Sedigh-Sarvestani ,D Contreras,	
SG Beck, MB Kelz.	34(49): 16385-16396, 2014.
Second order receptive field properties of simple and complex cells support a new	
standard model of thalamocortical circuitry in V1.	J Neurosci
M Sedigh-Sarvestani, I Fernanzdez-Lamo, A Jaegle, MM Taylor.	34(34):11177-9, 2014.
REM sleep precedes seizure onset in the TeTX model of temporal lobe epilepsy.	J Neurosci
M Sedigh-Sarvestani, GI Thuku, SJ Schiff, SL Weinstein, BJ Gluckman.	34(4):1105-14, 2014.
Reconstructing mammalian sleep dynamics with data assimilation.	PLoS Comp Biol
M Sedigh-Sarvestani, SJ Schiff, BJ Gluckman.	8(11):e1002788, 2012.
Data assimilation of glucose dynamics for use in the intensive care unit.	IEEE Eng Med Biol Soc
M Sedigh- Sarvestani, DJ Albers, BJ Gluckman.	Conf Proceedings, 2012.
Analyzing large data sets acquired through telemetry from rats exposed to	181
organophosphorous compounds.	J Neurosci Meth
M De Araujo Furtado, A Zheng, M Sedigh-Sarvestani , L Lumley, S Lichtenstein, D Yourick.	184(1):176-83, 2009.

Invited Talks_____

Montreal Neuro AI 2024	October 2024
FASEB, Retinal Neurobiology and Visual Processing	June 2024
UT Austin, Neuroscience Seminar Series	April 2024
U Penn, MindCORE Vision Seminar Series	March 2024
Cornell University, Biomedical Engineering Seminar Series	Feb 2024
University of Michigan, Vision Research Seminar	Sept 2023
Vanderbilt University, Department of Psychology Brown Bag Seminar Series	Nov 2022
Bernstein Conference, Major transitions in cortical circuit evolution Workshop (Berlin, Germany)	Sept 2022
Animal Behavior Society, Presidential Symposium (Virtual)	July 2022
University of Rochester (Virtual)	Jan 2022
University of Oxford/World-Wide Neuro (Virtual)	Jan 2022
University of Virginia (Virtual)	Dec 2021
Monash University (Virtual)	Mar 2021
Vanderbilt University (Virtual)	Feb 2021
Allen Institute (Virtual)	Feb 2021
University College London (Virtual)	Dec 2020
University of Miami 4th Annual Neural Engineering Symposium	Oct 2020
Weill Cornell Medicine (Virtual)	Sept 2021
University of Alabama. Vision Science Research Center Visiting Scholars Program Seminar	Jan 2020
University of Virginia. Department of Psychology	June 2019
Society for Neuroscience, hosted by Thomas Recording	Oct 2017
University of Pennsylvania	Aug 2014

Teaching, Organizing, Board Membership_____

Lecturer, CSHL Computational Neuroscience in Vision	2024
Cornell Neurotech Advisory Group	2024-Present
Co-organizer for Tree Shrew Discovery Meetings	2020-present
Chief Instructions Officer, Neuromatch Academy	2021
Executive Committee Member, Neuromatch Academy	2020
Co-Instructor, CSHL Neural Data Science Summer Course	2019
TA, CSHL Neural Data Science Summer Course	2015,17
SAT tutor: Summit Education (Maryland) and Ivy Tutoring (Los Angeles)	2005-2008

Mentoring and Outreach ______

Cornell Biology Scholars Program First-Year Seminar: Lecture on career trajectory and overview of research. Cornell University, Ithaca, NY	Feb 2024
Cornell Neuroscience Initiative Accessible Neuroscience lecture on sensory system to group of k-5 educators. Cornell University, Ithaca, NY	Oct 2023
Panelist and discussion leader on transition to independence. Tri-Institutional Post-doc event, Scripps/FAU/MPFI, Jupiter, Florida	Jan 2023
Lecture on leadership to a group of 6-8th graders. Junior Achievement, Woodlands Middle School, Lakeworth, Florida	Jan 2023
Networking Session Invited Panelist. Network for Women in Science (NWIS), a mentoring and networking group led by scientists from Max Planck Florida Institute for Neuroscience, the Scripps Research Institute, and Florida Atlantic University	June 2022
Neuromatch Academy. NMA is a volunteer-run globally accessible virtual summer school in computational neuroscience that has served 5000+ students. In 2020, I contributed to content development. In 2021, I led the team responsible for hiring and training 400 TAs. In 2022, I contributed to evaluation and training of TAs and contributed to a session on diversity and inclusion in neuroscience. Outside the summer school, I mentor several NMA students in Iran and Europe.	2020-present
Max Planck Florida. I'm involved in several institute and community based initiatives at MPFI. In 2018, I was the supervisor for Solana Liu, a post-bac student and Saige Drecksler, a high-school student and have served as the post-doc mentor for graduate students at the institute. I've also given several public science talks, including one at the local high school, and have participated in many outreach efforts in the community.	2018-present
Philadelphia Charter Schools. During the school year, I served as the science mentor for 6th and 7th grade students in Belmont Academy. During weekly class-room visit, I would work with the kids on their science fair projects. I also served as a science fair judge for the school district of Philadelphia.	2014-17