

ADITHYA ECHAMBADI RAJAGOPALAN

Present Position: Postdoctoral Associate, Center for Neural Science, New York University

Advisor: Dr. Christine Constantinople

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PAST EDUCATION:

PhD in Neuroscience / Aug 2017 – Sept 2023

Solomon H. Snyder Department of Neuroscience, Johns Hopkins University, Baltimore MD
& Howard Hughes Medical Institute, Janelia Research Campus, Ashburn VA

Advisor: Dr. Glenn C. Turner

PhD Thesis: Making decision on the fly – unravelling the computational principles governing choice behavior in the *Drosophila melanogaster* brain

BS-MS Integrated Degree, Majoring in Biology / Aug 2012 – May 2017

Indian Institute of Science Education and Research (IISER), Pune, India

Advisor: Dr. Collins Assisi

Master's Thesis: The effect of circuit structure on odour representations in the antennal lobe-mushroom body circuit

PREVIOUS RESEARCH EXPERIENCE:

Topic	Advisor	Location and Date
Prefrontal projections to striatum encode decision variables	Dr. Jeremiah Cohen	Johns Hopkins University, January 2018 – April 2018
Stimulus competition among many stimuli in the barn owl midbrain	Dr. Shreesh Mysore	Johns Hopkins University, August 2017 – August 2018

ACADEMIC PUBLICATIONS:

- 1) **Adithya E. Rajagopalan**, Ran Darshan, et. al. 2023. "Reward expectation direct learning and drive operant matching in *Drosophila*." *PNAS* 120 (39): e2221415120.
- 2) Maria Ahmed, **Adithya E. Rajagopalan**, et al. 2023. "Input Density Tunes Kenyon Cell Sensory Responses in the *Drosophila* Mushroom Body." *Current Biology: CB* 33 (13): 2742–60.e12.
- 3) Mehrab N. Modi, **Adithya E. Rajagopalan**, et al. 2023. "Flexible Specificity of Memory in *Drosophila* Depends on a Comparison between Choices." *eLife* 12:e80923.
- 4) **Adithya Rajagopalan** & Collins Assisi. 2020. "Effect of circuit structure on odor representation in the insect olfactory system." *eNeuro* 28 April 7 (3) ENEURO.0130-19.2020
- 5) Bilal A. Bari, Cooper D. Grossman, Emily E. Lubin, **Adithya E. Rajagopalan**, et al. 2019. "Stable Representations of Decision Variables for Flexible Behavior." *Neuron* 103(5): 922–33.e7.

INVITED TALKS:

Topic	Conference	Location and Date
Learning through surprise: Expectation guides foraging decisions in the fruit fly	Annual Meeting of the Central Virginia Chapter, Society for Neuroscience	Harrisonburg, Virginia April 2023
Reward expectations direct learning and drive operant matching in <i>Drosophila</i>	NeuroMEETS Seminar Series, organized by the Max Planck Florida Institute	Jupiter, Florida April 2023
Learning through surprise: Expectation guides foraging decisions in the fruit fly	Baltimore Brain Series, organized by University of Maryland, Baltimore City	Baltimore, Maryland November 2022
Learning rules underlying dynamic foraging in <i>Drosophila</i> <i>melanogaster</i>	Junior Scientist Workshop on Mechanistic Cognitive Neuroscience at Janelia Research Campus	Ashburn, Virginia November 2022

ACCEPTED POSTERS:

Topic	Conference	Location and Date
Reward expectations direct learning and drive operant matching in <i>Drosophila</i>	GRC Neuroethology: Behavior, Evolution and Neurobiology	Mount Snow, Vermont August, 2023
Learning rules underlying dynamic foraging in <i>Drosophila</i> <i>melanogaster</i>	Neuroscience (organized by Society for Neuroscience)	San Diego, California November, 2022
Learning rules underlying operant matching in <i>Drosophila</i> <i>melanogaster</i>	Computational and Systems Neuroscience (Cosyne)	Lisbon, Portugal March 2022
Stimulus competition among more than two stimuli in the barn owl midbrain	Neuroscience (organized by Society for Neuroscience)	San Diego, California November, 2018
Functional implications of connectivity in two olfactory circuits – the fruit fly and the locust	Neuroscience (organized by Society for Neuroscience)	Washington, DC, November, 2017

SCIENCE COMMUNICATION:

- 1) **Adithya E. Rajagopalan**, 'Person, Woman, Man , Camera, TV', [Nautilus](#), December 2020.
- 2) **Adithya E. Rajagopalan**, 'The Brain Cells That Guide Animals', [Facts So Romantic – Nautilus](#), January 2020.
- 3) **Adithya E. Rajagopalan**, 'New Evidence for the Strange Geometry of Thought', [Facts So Romantic - Nautilus](#), February 2019.
- 4) **Adithya E. Rajagopalan**, 'Does a Bigger Brain Mean a Higher IQ? Nope, and This Is Why', [The Wire \(India\)](#), April 2018.
- 5) **Adithya E. Rajagopalan**, 'The Surprising Relativism of the Brain's GPS', [Nautilus](#), March 2018.

LEADERSHIP EXPERIENCE:

Committee Member/ Diversity, Equity and Inclusion Committee / Oct 2023 – Present
Center for Neural Science, New York University, New York NY

- Member of 8-person committee working on initiatives to support DEI within department

Co-Organizer /Conference : Bridging Diverse Perspectives on the Mechanistic Basis of Foraging / Aug 2023 - Present

HHMI Janelia Research Campus, Ashburn VA

- Member of 6-person organizing committee - [conference](#) will be held 25-28 Feb 2024
- Coordinated speaker list of 20 prominent researchers, graded and selected 47 applicants

Committee Member / Janelia Association of Research Scientists / Dec 2021 -Sep 2023
HHMI Janelia Research Campus, Ashburn VA

- Member of 6-person committee - planned mentoring events for early career researchers
- Organized bi-weekly social hours featuring educational lectures and diversity initiatives

Co-Organizer / Johns Hopkins Dept. of Neuroscience Retreat / July 2019 - Sep 2019
Solomon. H. Snyder Dept. of Neuroscience, Johns Hopkins University, Baltimore MD

- Member of 7-person organizing committee for annual Johns Hopkins Department of Neuroscience retreat, with 250+ participants
- Scheduled 18 students and faculty research presentations at two-day event
- Moderated one of six event sessions, introducing speakers and coordinating Q&A sessions

Lead Organizer / Mimamsa - Science Quiz / Jan 2015 - Apr 2015
Indian Institute of Science Education and Research - Pune, MH, India

- Served as lead organizer of [Mimamsa](#), India's largest student organized annual science quiz which focuses on questions designed to promote deep thought and investigation
- Secured funding from outreach arms of multiple scientific companies
- Coordinated 17 prominent research scientists to serve as judges for two-day final event.
- Coordinated team of 200+ students to conduct quiz at 10 centers across India.

TEACHING/MENTORING EXPERIENCE:

Teaching Assistant / Biol 341 Animal Physiology / Sept 2022 - Dec 2022

Howard University, Washington DC

- Served as a laboratory instructor for students performing behavioral experiments with fruit flies
- Instructed students on the use of MATLAB for analysis of behavioral videos

Laboratory Mentor / Master's Student / Jan 2022 - Jan 2023

HHMI Janelia Research Campus, Ashburn VA

- Served as mentor for a master's student conducting thesis research in lab working on computational models of decision-making
- Involved in multiple meetings focused on planning structure of thesis project and research direction
- Instructed student on use of existing behavioral equipment in lab and advised student on design of novel experimental setup

Teaching Assistant / Math Methods for Neuro & ML / Jun 2019 - Aug 2019

HHMI Janelia Research Campus, Ashburn VA

- Served on 11-person organizing group, planned course structure, topics, tutorials and office hours
- Prepared lecture notes and problem sets for week 1 of course, introducing calculus
- Led tutorials and office hours to discuss problem sets and field student questions

Laboratory Mentor / Summer Undergraduate Intern / May 2018 - Aug 2018

HHMI Janelia Research Campus, Ashburn VA

- Served as mentor for summer undergraduate intern in lab, enrolled through the Janelia Undergraduate Scholars program
- Instructed student on use of olfactory-learning apparatus in lab to study the role of extended experience on memory
- Evaluated code written by student to analyze data from behavioral experiments
- Advised on structure and design of poster presented at internship conclusion

AWARDS & HONOURS:

- 1) Selected for the Janelia Undergraduate Scholars Program at the HHMI Janelia Research Campus. **(May-Aug 2016, May-Aug 2015)**
- 2) Awarded the 2nd rank at the Foundations of Ecology and Evolution winter school, held at Indian Institute of Science Education and Research (IISER), Pune. **(Dec 2014)**
- 3) Summer Research Fellowship by the Indian Academy of Sciences. **(May-July, 2014)**
- 4) Represented India at the Asian Science Camp in Tsukuba Japan, organized by the Japan Science and Technology Agency. **(Aug, 2013)**
- 5) Awarded the C.N.R Rao prize for academic excellence by IISER, Pune. **(Mar 2013)**
- 6) Awarded the INSPIRE fellowship by Department of Science and Technology, Govt. of India, given to the top 1% of Indian undergraduates. **(Aug 2012 – May 2017)**