**ADITHYA ECHAMBADI RAJAGOPALAN**
**Present Position:** Postdoctoral Associate, Center for Neural Science, New York University
**Advisor:** Dr. Christine Constantinople
**Email:** are314@nyu.edu **ORCID ID:** https://orcid.org/0000-0002-3184-3647

**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 – April 2018 |
| Stimulus competition among many stimuli in the barn owl midbrain | Dr. Shreesh Mysore | Johns Hopkins University, August 2017 – August 2018 |
| Identifying circuits down-stream of the *Drosophila* mushroom body | Dr. Gerald Rubin, Dr. Yoshinori Aso | HHMI Janelia Research Campus, May -August 2015 & 2016 |

**AWARDS & HONOURS:**

1) Selected twice 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)**

**LEADERSHIP EXPERIENCE:**

**Committee Member/ Diversity, Equity and Inclusion Committee / Oct 2023 – Present**
*Center for Neural Science, New York University, New York NY*
7)
• 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 – Feb 2024**
*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*

• 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 structuring thesis project & 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, tutorials & 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 enrolled through the Janelia Undergradaute Scholars program
• Instructed student on apparatus 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

**ACADEMIC PUBLICATIONS:**

1) Yash Mehta, Daniel Tyulmankov, **Adithya E. Rajagopalan**, et. al. 2023. "Model Based Inference of Synaptic Plasticity Rules" *bioRxiv* 2023.12. 11.571103.

2) **Adithya E. Rajagopalan**, Ran Darshan, et. al. 2023. "Reward expectation direct learning and drive operant matching in *Drosophila.*" *PNAS* 120 (39): e2221415120.

3) 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.

4) Mehrab N. Modi, **Adithya E. Rajagopalan**, et al. 2023. "Flexible Specificity of Memory in Drosophila Depends on a Comparison between Choices." *eLife* 12:e80923.

5) **Adithya Rajagopalan** & Collins Assisi. 2020. "Effect of circuit structure on odor representation in the insect olfactory system." *eNeuro* 28 April 7 (3)

6) 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.

**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.

**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 *Drosophila* | 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 *Drosophila melanogaster* | 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 *Drosophila* | GRC Neuroethology: Behavior, Evolution and Neurobiology | Mount Snow, Vermont August, 2023 |
| Learning rules underlying dynamic foraging in *Drosophila melanogaster* | Neuroscience (organized by Society for Neuroscience) | San Diego, California November, 2022 |
| Learning rules underlying operant matching in *Drosophila melanogaster* | 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 locust | Neuroscience (organized by Society for Neuroscience) | Washington, DC, November, 2017 |