

Arkarup Banerjee

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POSITIONS AND EMPLOYMENT

Nov, 2020 - Assistant Professor, Cold Spring Harbor Laboratory, NY
2017-2020 Junior Fellow, Simons Foundation Society of Fellows, NY
2016-2020 Post-doctoral Fellow, New York University School of Medicine, NY
Fall, 2016 Adjunct Faculty, Adelphi University, Garden City, NY

EDUCATION

Ph.D. (Neuroscience, 2010-2016). Cold Spring Harbor Laboratory, NY, USA.
M.Sc (Biophysics, 2007-2010). Tata Institute of Fundamental Research, Mumbai, India.
B.Sc (Biochemistry, 2004-2007). University of Delhi, New Delhi, India.

SUMMER COURSES

Advanced Course in Computational Neuroscience, Lisbon, Portugal (2015).
Harvard-NCBS Optogenetics course, Bangalore, India (2009).

ACADEMIC AWARDS/HONORS

2024 Winship Herr Award for Excellence in Teaching, School of Biological Sciences, CSHL
2023-2026 Klingenstein-Simons Fellowship Awards in Neurosciences
2022-2024 Searle Scholar, Searle Scholars Program
2020 Advances and Perspectives in Auditory Neuroscience Poster/Talk award
2017-2020 Junior Fellow, Simons Foundation Society of Fellows
2016 National Science Foundation Travel Award
2007 Karyn-Kupciet International summer school fellowship, Weizmann Institute of Science, Israel
2007 University Gold Medal for ranking 1st in Bachelor of Science
2004-2007 KVPY scholar, Government of India

PUBLICATIONS: (ORCID number 0000-0003-1979-857X)

1. **Banerjee, A.*#**, Chen, F. #, Druckmann, S., & Long, M. A.*(2024). Temporal scaling of motor cortical dynamics reveals hierarchical control of vocal production. *Nat Neurosci* **27**, 527–535 (2024). *: corresponding author.

Media Coverage:

[TBR Newsmedia](#): By Daniel Dunaief. CSHL’s Arkarup Banerjee shows that a mouse adjusts the timing of its song.

2. **Banerjee, A.***, & Vallentin, D.* (2022). Convergent behavioral strategies and neural computations during vocal turn-taking across diverse species. *Current Opinion in Neurobiology*, 73, 102529. *: corresponding author.

3. Chae, H. #, **Banerjee, A.** #, Dussauze, M., & Albeanu, D. F. (2022). Long-range functional loops in the mouse olfactory system and their roles in computing odor identity. *Neuron*, 110(23), 3970-3985.
4. **Banerjee, A.** #, Egger, R. #, & Long, M. A. (2021). Using focal cooling to link neural dynamics and behavior. *Neuron*, 110(23), 3970-3985.
5. **Banerjee, A.**, Phelps, S. M., & Long, M. A. (2019). Singing mice. *Current Biology*, 29(6), R212-R214.
6. Okobi, D. E. #, **Banerjee, A.** #, Matheson, A. M., Phelps, S. M., & Long, M. A. (2019). Motor cortical control of vocal interactions in neotropical singing mice. *Science*, 363(6430), 983-988.

Media Coverage:

- a) New York Times: By Carl Zimmer. These Mice Sing to One Another --- Politely. Feb 2019.
 - b) Forbes: By Jamie Carter. How Do Human Brains Hold Conversations? 'Singing Mice' In A Cloud Forest Could Hold The Secret. Feb 2019
 - c) Discover Magazine: By Roni Dengler. These Singing Mice Take Turns During Duets, Offering Insights into Human Speech. March 2019
 - d) Smithsonian Magazine: By Meilan Solly. Meet the Singing Mice of Central America. March 2019.
 - e) Ars Technica: By Jennifer Ouellette: Singing mice could offer clues about how human brains manage conversation. Feb 2019.
7. **Banerjee, A.** # & Long, M. A. (2017). Ready, steady, go! Imaging cortical activity during movement planning and execution. *Neuron*, 94(3), 698-700.
 8. **Banerjee, A.** #, Marbach, F. #, Anselmi, F., Koh, M. S., Davis, M. B., Oyibo, H. K., Gupta, P., & Albeanu, D. F. (2015). Long-range interactions between short axon cells and external tufted cells gate glomerular output in the mouse olfactory bulb. *Neuron*, 87(1), 193-207.
 9. Anselmi, F., **Banerjee, A.**, & Albeanu, D. F. (2015). Patterned photo-stimulation in the brain. In *New Techniques in Systems Neuroscience* (pp. 157-174). Springer.
 10. Sarkar, B. #, **Banerjee, A.** #, Das, A. K., Nag, S., Kaushalya, S. K., Tripathy, U., ... & Maiti, S. (2014). Label-free dopamine imaging in live rat brain slices. *ACS Chemical Neuroscience*, 5(4), 329-334.
 11. Sarkar, B., Das, A. K., Arumugam, S., Kaushalya, S. K., **Bandyopadhyay, A.**, Balaji, J., & Maiti, S. (2012). The dynamics of somatic exocytosis in monoaminergic neurons. *Frontiers in Physiology*, 3, 41.
 12. Nag, S., Sarkar, B., **Bandyopadhyay, A.**, Sahoo, B., Sreenivasan, V. K., Kombrabail, M., ... & Maiti, S. (2011). Nature of the amyloid-beta monomer and the monomer-oligomer equilibrium. *Journal of Biological Chemistry*, 286(15), 138

#: first author; *: corresponding authors.

RECENT INVITED TALKS

- 2024 International Neuroethology Conference, Berlin, German
- 2024 Max Planck Institute for Brain Research, Frankfurt, Germany
- 2024 Center for Mind, Brain and Culture. Emory University. Atlanta, US
- 2023 National Center for Biological Science (NCBS), India
- 2023 Indian Institute of Science (IISc), India
- 2023 Jawaharlal Nehru Center for Advanced Scientific Research (JNCASR), India
- 2023 Forum for the future of Neuroscience, Stockholm, Sweden
- 2023 Burke Neurological Institute, Weill Cornell, NY
- 2022 Society for Social Neuroscience, San Diego, US
- 2022 Gordon Conference, Neural Mechanisms of Acoustic Communication, Mt. Holyoke, US
- 2022 Neural Circuits Meeting, CSHL, NY
- 2021 Arizona State University, US
- 2021 University of California, Irvine
- 2021 Bridging Brains and Bioacoustics invited seminar series

2021 McGill University, Canada
2021 Max Planck Institute of Ornithology, Germany
2020 Neuromatch3.0 Conference
2020 Advances and Perspectives in Auditory Neuroscience (APAN)
2020 Motor Club, Columbia University
2020 U.T. Austin, Online
2020 Nencki Institute, Poland, Online
2020 Monsoon Brain Meeting, Online
2019 Gordon Research Seminar on Neuroethology, Vermont
2019 Simons Collaboration on the global brain, NY
2018 Birdsong and Animal Communication Annual Meeting, Millbrook, NY
2018 New York University Annual Retreat, Mohonk, NY
2018 Simons Society of Fellows Annual Retreat. South Carolina
2016 Research in Encoding and Decoding of Neuronal Ensembles (AREADNE), Greece
2016 Neuronal Circuits Meeting, CSHL, NY

FUNDING SUPPORT

2023-2028 NIH BRAIN initiative R01 1RF1NS132046-01 (Lead-PI)
2023-2026 Klingenstein-Simons Fellowship Awards in Neurosciences (PI).
2023 Pershing Square Innovation Fund 2023 (PI).
2022-2024 Searle Scholar, Searle Scholars Program (PI).
2017-2020 Junior Fellowship, Simons Foundation Society of Fellows (PI).

TEACHING EXPERIENCE

Co-instructor – systems neuroscience, School of Biological Sciences CSHL (2021-2023)

Course Developer and Co-instructor – Core Shared Principles of Biology, School of Biological Sciences CSHL (2023)

Teaching Assistant – CSHL Imaging Structure and Function in the Nervous System Course (2017-2019)

Teaching Assistant - Transylvanian Experimental Neuroscience Summer School (TENSS, Pike Lake, Romania, 2016)

Course Developer/Lead Instructor - Cellular function and interaction in the nervous system, graduate course (Adelphi University, NY, USA, 2016)

Teaching Assistant - WSBS Optical Methods in Biology (CSHL, 2016)

Organizer - “Neuroscience boot-camp” for 1st year graduate students (CSHL, 2014 and 2015)

Teaching Assistant - Biostatistics (TIFR, 2009, 2010)

Teaching Assistant - Fluorescence Correlation Spectroscopy Workshop (TIFR, 2008)

MENTORSHIP AND SERVICE

Thesis advisor: Emily Isko, Mike Zheng, Yaman Thapa

Thesis committee member: Chris Krasniak, Luqun Shen, DeeDee Rupert, Hoda Ansari, Iacopo Gentile

Chair of the Executive committee, School of Biological Sciences, CSHL

External reviewer: Current Biology, Nature Communication, Nature Neuroscience, PNAS, Cell Reports, PLOS ONE, Wellcome Trust.

Faculty advisory member, CSHL Diversity Initiative for the Advancement of STEM (DIAS)

Faculty affiliate for bioRxiv.

SCIENCE OUTREACH

Public Event – Screen a Movie with a Scientist. Cine Arts Center, Huntington 2024

Public Talk – Cocktails and Chromosomes, Huntington 2023

Guest Speaker at a Town hall on Communication in mice and men (BioBus, NY, 2021)

Authored an essay titled: How topology *almost* made bacterial replication impossible, Cold Spring Harbor Student Magazine – Current exchange (CSHL, 2015)

Co-organizer of Graduate Student Symposium (CSHL, 2014)

Co-edited inaugural student magazine of TIFR “IMAGINE” (TIFR, Mumbai, 2010)

Conducted lab demonstrations at the Cold Spring Harbor Laboratory Open day (CSHL, 2015)

Member of the Tata Institute of Fundamental Research-Science Outreach Committee (TIFR, 2007-2010).

Member of the student organizing committee of the second ASEAN Bioinformatics Workshop (University of Delhi, 2007).

OTHER EXPERIENCE AND PROFESSIONAL MEMBERSHIPS

2012-present	Member, Society for Neuroscience
2019-present	Member, International Society for Neuroethology
2019-present	Member, Post-doctoral Planning Committee, NYU Medical Center, NY
2020	Advisor, Neuroscience Institute Committee for Diversity Initiative, NYU Medical Center, NY
2017-2019	Teaching Assistant, Imaging Structure and Function in the Nervous System Course, CSHL
2016	Teaching Assistant, Transylvanian Experimental Neuroscience Summer School (TENSS), Romania
2016	Lecturer, Cellular and Systems Neuroscience, graduate course, Adelphi University, NY
2016	Teaching Assistant, WSBS Optical Methods in Biology, CSHL
2014-2015	Organizer, “Neuroscience boot-camp” for 1 st year graduate students, CSHL, NY
2009-2010	Teaching Assistant, Biostatistics, TIFR, India
2008	Teaching Assistant, Fluorescence Correlation Spectroscopy Workshop, TIFR, India