Mrugank Dake

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New York, NY

EDUCATION

New York University New York, NY
PHD IN COMPUTATIONAL COGNITIVE NEUROSCIENCE *Expected Graduation:* **May 2026**
Advisor: Dr. Clayton Curtis
GPA: 3.95/4.0

MPHIL IN PSYCHOLOGY **May 2025**
Relevant Coursework: Linear Algebra for Neural & Cognitve Science, fMRI Analysis Methods, Computational Neuroscience

Indian Institute of Science Education & Research (IISER) Tirupati, India
BS-MS DUAL DEGREE (BIOLOGY & PHYSICS) **August 2021**
GPA: 3.3/4.0
Relevant Coursework: Nonlinear Dynamics & Chaos, Statistical Thermodynamics, Linear Algebra (I & II), Calculus (Univariate and Multivariate)

PUBLICATIONS

- **Dake M.**, Muni R., ..., Rajamani N. (2026). More Than a Squeak: Complex Repertoires and Acoustic Adaptation in *Funambulus* Squirrels. *bioRxiv*.
- **Dake M.**, Curtis C. E. (2025). Perturbing human V1 degrades the fidelity of visual working memory. *Nature Communications*.
- **Dake M.**, Dandekar S., Curtis C. E. (*in prep*). β oscillations synchronize visual and prefrontal cortices to bring about distributed working memory
- **Dake M.**, George M., Serfaty J., Curtis C. E. (*in prep*) Perturbing human V1 during WM reduces perceptual biases in orientation

POSTERS & TALKS

- **Dake M.**, Dandekar S., Curtis C. E. Working memory synchronizes oscillations within and across cortical areas; *Society for Neuroscience (SfN), San Diego CA, USA* **Nov 2025**
- **Dake M.**, Dandekar S., Curtis C. E. Working memory synchronizes oscillations in visual cortex; *Computational Cognitive Neuroscience (CCN), Amsterdam, Netherlands* **May 2025**
- **Dake M.**, Curtis C. E. Perturbing human V1 degrades the fidelity of visual working memory; *In Working Memory Symposium (Virtual)* **July 2024**
- **Dake M.**, Curtis C. E. Do perturbations to visual cortex impact working memory?; *In Society for Neuroscience (SfN), Washington D.C., USA* **Nov 2023**
- Khare S., Chopra S., Grover H., Vohra T., Mahmood U., Jatwani K., Kaushik D., Pandey A., Bhardwaj S., Tanwar A., Singh J., Shekhar C., **Dake M.**, Krishnamoorthy K., Kumar K. Li-Koff: To Detect and Degrade N-Nitrosamines; *Giant Jamboree (iGEM), Boston, USA* **Nov 2020**
- Amar I., Avadhani K., Bajaj M., Balasubramanian D., Bhagat S., Chutani N., **Dake M.**, Khatri U., Krishna N., Jacob M., Mal S., Mohapatra O., Pal A., Saha D., Tripathy B., Mukherjee R., Rao B.J. CoCa coli: probiotic immunotherapy against colon cancer; *Giant Jamboree (iGEM), Boston, USA* **Nov 2019**

PRE-DOCTORAL RESEARCH EXPERIENCE

- Statistical and Machine learning approaches to Squirrel Acoustics (Masters' Thesis) **Aug 2020 - Aug 2021**
  Advisor: Dr. Nandani Rajamani, IISER Tirupati, India
- EEG and MRS Analysis for underpinning neural correlates of attentional blink **May - Dec 2019**
  Advisor: Dr. Sridharan Devarajan, IISc Bangalore, India

- CoCa coli: probiotic immunotherapy aginst colon cancer (iGEM project, student leader) **Jan 2018 - Nov 2019**
  Advisors: Dr. Raju Mukherjee; Dr B J Rao, IISER Tirupati, India
- Isolation and characterization of neurons and glia from goat hippocampal culture **Sep 2018 - May 2019**
  Advisor: Dr. Vasudharani Devanathan, IISER Tirupati, India
- Identifying differentially expressing tumor suppressor genes in *Drosophila melanogaster* wing and haltere imaginal discs **May - Aug 2018**
  Advisor: Prof. L S Shashidara, IISER Pune, India
- RNA Origami (Square) using in-vitro replication and transcription **Jan - March 2018**
  Advisor: Dr. Ashwani Sharma, IISER Tirupati, India
- Head direction cell model for rodents with internal updating mechanism **May - Aug 2017**
  Advisor: Dr. Collins Assisi, IISER Pune, India

NON-ACADEMIC EXPERIENCE

- Teaching Assistant for Scientific Programming (MA Course, 20 students) **Sep - Dec 2025**
  Instructor: Dr. Shannon Tubridy, NYU
- Product Data Science (PhD) Intern **May - Aug 2025**
  Meta Reality Labs, Meta
- Teaching Assistant for iEEG/EEG/MEG Methods Course (PhD Course, 17 students) **Sep - Dec 2024**
  Instructor: Dr. Sebastian Michelmann, NYU
- TA for Introduction to Cognitive Neuroscience (Undergrad Course, 120 students) **Sep - Dec 2023**
  Instructor: Dr. Clayton Curtis, NYU
- Teaching Assistant for Math Tools III: Linear Systems (PhD Course, 7 students) **Jan - May 2023**
  Instructor: Dr. Laurence Maloney, NYU
- Website Design Coordinator **May - Nov 2023**
  Climatematch Academy
- Statistics & Biology Tutor **Jan 2019 - Aug 2021**
  Chegg India Inc.

AWARDS

- Society for Neuroscience Trainee Professional Development Award (USD 1000) **2025**
- NYU Graduate School of Arts and Science Conference Travel Grant (USD 500) **2025**
- Dean's Award for Research Communication Excellence (NYU) (USD 2000) **2025**
- MacCracken Doctoral Fellowship (NYU) (USD 36000/year) **2021-2026**
- Indian Biological Engineering Competition (iBEC) 2020 Grant (INR 1 million) **2020**
- Indian Biological Engineering Competition (iBEC) 2019 Grant; Gold Medal at Giant Jamboree, Boston (iGEM) IISER Tirupati (INR 1 million) **2019**
- INSPIRE Fellowship, Department of Science and Technology India (INR 60000/yr) **2016-2021**
- Pune Regional Winner and 5th at National Level for Indian National Brain Bee (INBB) **2015**

SKILLS

Languages: English (Fluent), Marathi (native), Hindi (native), German (Basic), Spanish (Basic)
Programming Skills: ADVANCED: Python, MATLAB, R, SQL, LaTeX, HTML; INTERMEDIATE: CSS, JavaScript
Software Skills: Tensorflow, Keras, scikit-learn, PyTorch, Fieldtrip, MNE-Python, Git, Github, SimNIBS, Psychtoolbox, Adobe Illustrator, Adobe Photoshop
Neuroimaging & Modeling Skills: EEG, MEG, ECoG, fMRI, TMS, time-series analysis, neural networks, computational modeling, machine learning