

# DR. SHRADDHA SHAH

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## EDUCATION

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**University of Rochester Medical Center** 2016-2022

PhD, Neuroscience

**University of Rochester Medical Center** 2018

Master of Science, Neuroscience

**Thayer School of Engineering, Dartmouth College** 2013

Master of Engineering Management

**Sardar Patel Institute of Technology, University of Mumbai** 2011

Bachelor of Engineering, Electronics Engineering (top 10% in class)

*Summer courses*

Neuromatch Academy: Computational Neuroscience July 2023

Vision: A Platform for Linking Circuits, Behavior and Perception, June 2019

Cold Spring Harbor Laboratory

## RESEARCH

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**Postdoctoral Associate** Nov 2022 - present

*Adviser: Sameer Sheth, MD PhD*

Investigating the neuronal mechanisms underlying abstract and generalizable task representations in the prefrontal and medial temporal cortex using intracranial recordings in epilepsy patients undergoing neurosurgical procedures

Conducting high-density single-unit recordings using several different electrode technologies in patients undergoing tumor and epileptic tissue resection neurosurgery, in order to study the nature of spontaneous neuronal activity as well as neuronal mechanisms underlying several cognitive processes

**Dissertation Research** 2019 - 2022

*Adviser: Farran Briggs, PhD*

Dissertation: [Linking attentional modulation to neuronal feature-selectivity in macaque V1](#)

## HONORS AND AWARDS

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Science Forward conference travel award March 2023

eLife Community Ambassador Feb 2022-present

Society for Neuroscience Trainee Professional Development Award October 2021

UR Graduate Women in Science Mentoring-Up Resolution Challenge winner May 2021

Messersmith & Goodman Fellowship, Neuroscience Graduate Program nominee May 2021

Messersmith & Goodman Fellowship, Neuroscience Graduate Program nominee May 2020

Helmsley Scholar, summer course in Vision at Cold Spring Harbor Laboratory 2018 - 2019

Fields Institute Travel Award to attend VISTA Mathematics of Vision workshop 2019

Schmitt Program in Integrative Neuroscience Travel Award to present at Society for Neuroscience annual international conference 2018

Abraham Fellowship, Thayer School of Engineering 2011 - 2012

Global Engagement Summit Delegate, Northwestern University 2012

## TALKS

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Invited talk, Plexon Neuroscience 2023 Data Blitz, “Investigating the relationship between attentional modulation and task-relevant feature selectivity among V1 neurons” (January 16, 2023)

Invited talk, Plexon Neuroscience 2021 Data Blitz, “Attentional modulation of spike count correlations among pairs of anatomically connected V1 neurons” (Nov 12, 2021)

Invited talk, Growing-up-in-science style talk, NEUROCIETY Dinner seminar, University of Rochester Medical center (July 29, 2021)

Accepted Talk, “[Attention differentially modulates multiunit activity in the LGN and V1 of macaque monkeys](#)”, Neuromatch 3.0 conference (October 29, 2020)

Dept. Lunch Talk, “Attentional modulation of multiunit activity in LGN and V1”, Department of Brain and Cognitive Sciences, University of Rochester (January 28, 2020)

Invited talk, “A conceptual overview of systems neuroscience research: functional organization and neural mechanisms”, Eternal University, India (April 19, 2019)

Invited Poster Teaser Talk, “Inactivation of primate dorsolateral prefrontal cortex during auditory working memory”, Annual Neuroscience Retreat, University of Rochester Medical Center (2017)

## PUBLICATIONS

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**S. Shah\***, M. Mancarella, J. R. Hembrook-Short, V. Mock, F. Briggs [Attention differentially modulates multiunit activity in the LGN and V1 of macaque monkeys](#), The Journal of Comparative Neurology (2022)

## CONFERENCE POSTERS

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H. Azab\*, M. El-Gaby, **S. Shah**, R. Mathura, E. Bartoli, A. Watrous, A. Anand, J. A. Adkinson, T. Donoghue, S. M. Perreira, U. Topalovic, J. Sakon, Z. Kurth-Nelson, E. H. Smith, N. Suthana, I. Fried, J. Jacobs, M. Botvinick, T. E. J. Behrens, S. A. Sheth (2023) Single neuron representations of sequential task structure emerge rapidly in human entorhinal and anterior cingulate cortex, [poster presentation](#), 9th Annual BRAIN Initiative Meeting

**S. Shah\***, M. Mancarella, J. R. Hembrook-Short, V. Mock, F. Briggs (2023) Investigating the relationship between attentional modulation and task-relevant feature selectivity among V1 neurons, [poster presentation](#), International Conference on Learning and Memory

**S. Shah\***, M. Mancarella, J. R. Hembrook-Short, V. Mock, F. Briggs (2023) Investigating the relationship between attentional modulation and task-relevant feature selectivity among V1 neurons, [poster presentation](#), Science Forward

**S. Shah\***, M. Mancarella, J. R. Hembrook-Short, V. Mock, F. Briggs (2022) Investigating the relationship between attentional modulation and task-relevant feature selectivity among V1 neurons, [poster presentation](#), Society for Neuroscience

**S. Shah\***, M. Mancarella, J. R. Hembrook-Short, V. Mock, F. Briggs (2022) Investigating the relationship between attentional modulation and task-relevant feature selectivity among V1 neurons, [poster presentation](#), Human Single Neuron meeting

**S. Shah\***, J. R. Hembrook-Short, V. Mock, F. Briggs (2022) Attentional modulation of spike count correlations among pairs of anatomically connected V1 neurons, [poster presentation](#), Gordon Research Conference, Neurobiology of Cognition

**S. Shah\***, J. R. Hembrook-Short, V. Mock, F. Briggs (2022) Attentional modulation of spike count correlations among pairs of anatomically connected V1 neurons, [poster presentation](#), Gordon Research Conference, Neurobiology of Cognition

**S. Shah\***, J. R. Hembrook-Short, V. Mock, F. Briggs (2022) Attentional modulation of spike count correlations among pairs of anatomically connected V1 neurons, [poster presentation](#), Gordon Research Seminar, Neurobiology of Cognition

**S. Shah\***, J. R. Hembrook-Short, V. Mock, F. Briggs (2022) Attentional modulation of spike count correlations among pairs of anatomically connected V1 neurons, [poster presentation](#), Center for Visual Science Symposium 2022, University of Rochester

**S. Shah\***, B. Carr, J. R. Hembrook-Short, V. Mock, F. Briggs (2021) Attentional modulation of spike count correlations among pairs of anatomically connected V1 neurons, [poster presentation](#), Society for Neuroscience

**S. Shah\***, M. Mancarella, J. R. Hembrook-Short, V. Mock, F. Briggs (2020) Attentional modulation of multiunit activity leads to facilitation of firing rates in V1, but not in LGN, [poster presentation](#), Annual Neuroscience Retreat, University of Rochester Medical Center

**S. Shah\***, M. Mancarella, J. R. Hembrook-Short, V. Mock, F. Briggs (2020) Attentional modulation of multiunit activity leads to facilitation of firing rates in V1, but not in LGN, [poster presentation](#), Center for Visual Science Annual Retreat, University of Rochester

**S. Shah\***, T. Lincoln, K. Kevelson, L. M. Romanski (2018) Memory and integration of faces and vocalizations in neuronal populations in the primate prefrontal cortex, [poster presentation](#), Society for Neuroscience

**S. Shah\***, T. Lincoln, K. Kevelson, L. M. Romanski (2018) Memory and integration of faces and vocalizations in neuronal populations in the primate prefrontal cortex, [poster presentation](#), Advances and Perspectives in Auditory Neuroscience

**S. Shah\***, B. Plakke, T. Lincoln, K. Kevelson, J. Bigelow, L. M. Romanski (2018) Effects of prefrontal lesions on auditory working memory, [poster presentation](#), Annual Neuroscience Retreat, University of Rochester Medical Center

**S. Shah\***, B. Plakke, T. Lincoln, K. Kevelson, J. Bigelow, L. M. Romanski (2017) Inactivation of primate dorsolateral prefrontal cortex during auditory and visual working memory, [poster presentation](#), Society for Neuroscience

**S. Shah\***, B. Plakke, T. Lincoln, K. Kevelson, J. Bigelow, L. M. Romanski (2017) Inactivation of primate dorsolateral prefrontal cortex during auditory and visual working memory, [poster presentation](#), Advances and Perspectives in Auditory Neuroscience

\* presenting author

## TEACHING AND MENTORING

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- Bench mentor: Somya Mittal, undergraduate researcher, Sheth Lab, Baylor College of Medicine (Rice University CSCI 390: Supervised research in cognitive sciences, Spring 2023)
- Bench mentor: Pranav Mehta, undergraduate researcher, Sheth Lab, Baylor College of Medicine (Rice University NEUR 310: Independent research for neuroscience undergraduates, Spring 2023)
- Bench mentor: Tanique McDonald, Briggs Lab, University of Rochester (2020-21)
- Student mentor of UR undergraduate students Brenda Hernandez-Romero, Leen Khankan, UR2 Mentorship program, University of Rochester (Spring 2021, Fall 2021)
- Graduate Teaching Assistant: NSC 241/541 Neurons, Circuits, and Systems, University of Rochester (Fall 2019, Fall 2020)

- Graduate Teaching Assistant: NSC 547 Introduction to Computational Neuroscience, University of Rochester Medical Center (Summer 2020)
- Graduate Teaching Assistant: BCS 110 Neural Foundations of Behavior, University of Rochester (Spring 2016)
- Graduate Teaching Assistant: ENGS 1/9 Everyday Technology, Dartmouth College (2011)
- Graduate Teaching Assistant: MATLAB Lab, Dartmouth College (2011-12)

## **SERVICE & LEADERSHIP**

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- Invited panelist, Empowered Menteeship, Neuroeast highschool research program, East High School, Rochester, NY (April 2022)
- Invited panelist, Mentorship experiences in graduate school, Neuroscience Graduate Program Bootcamp for incoming students (August 2021)
- Invited to lead discussion on 'Disability and Mental health in academia' in the Thalamus Trainees meeting series (June 2021)
- Invited student member, Del Monte Institute for Neuroscience Diversity Commission, leading projects on Cultural Transformation (2020 - present)
- Co-founder and member, Neuroscience Graduate Program Student Solidarity Organization, University of Rochester Medical Center (2020 - present)
- Invited student member, International Student Advisory Board (2020 - 2022)
- Student member, University of Rochester Women+ In the Neurosciences (2020 - present)
- Advisory committee member for a first year graduate student in the Neuroscience Graduate Program (2017 - 2018, 2018 - 2019, 2020 - 2021, 2021 - 22)
- Invited member, Society for Neuroscience's Neuronline Community Leaders program (2018 - 2020)
- Led Systems Neuroscience journal club for incoming graduate students during the Neuroscience Graduate Program Bootcamp (August 2017, August 2018, August 2019)
- Brain Awareness week activities, University of Rochester Medical Center (2016, 2018)

## **SCIENCE COMMUNICATION AND OUTREACH**

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- Selected participant, ComSciCon Houston (February 2023)
- Invited speaker, BioMed Career Convention, South Brunswick High School (April 2022)
- Writing a blog titled [“Theory and Interdisciplinarity in Neuroscience”](#) (2019-2020, in hiatus)
- Participant in Skype-a-Scientist (2018 - present)
- Gave a talk to introduce high school students to Systems Neuroscience research through the Science and Technology Entry Program (STEP) - UP TO MEDICINE program at the University of Rochester School of Medicine and Dentistry (December 2017)