

# DR. SHRADDHA SHAH

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## EDUCATION

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<b>University of Rochester Medical Center</b> PhD, Neuroscience	<i>2016-2022</i>
<b>University of Rochester Medical Center</b> Master of Science, Neuroscience	<i>2018</i>
<b>Thayer School of Engineering, Dartmouth College</b> Master of Engineering Management	<i>2013</i>
<b>Sardar Patel Institute of Technology, University of Mumbai</b> Bachelor of Engineering, Electronics Engineering (top 10% in class)	<i>2011</i>
<i>Summer courses</i>	
Neuromatch Academy: Computational Neuroscience	<i>July 2023</i>
Vision: A Platform for Linking Circuits, Behavior and Perception, Cold Spring Harbor Laboratory	<i>June 2019</i>

## RESEARCH

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<b>Postdoctoral Associate</b> <i>Adviser: Sameer Sheth, MD PhD</i>	<i>Nov 2022 - present</i>
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 in patients undergoing brain resection neurosurgery in order to study local microcircuits in the human brain	
<b>Dissertation Research</b> <i>Adviser: Farran Briggs, PhD</i>	<i>2019 - 2022</i>
Dissertation: <a href="#">Linking attentional modulation to neuronal feature-selectivity in macaque V1</a>	

## HONORS AND AWARDS

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Selected participant and Travel award, Science Forward conference (Towards inclusive excellence in academia) at Cold Spring Harbor Laboratory	<i>March 2023</i>
eLife Community Ambassador	<i>Feb 2022-Sept. 2023</i>
Society for Neuroscience Trainee Professional Development Award	<i>October 2021</i>
UR Graduate Women in Science Mentoring-Up Resolution Challenge winner	<i>May 2021</i>
Messersmith & Goodman Fellowship, Neuroscience Graduate Program nominee	<i>May 2021</i>
Messersmith & Goodman Fellowship, Neuroscience Graduate Program nominee	<i>May 2020</i>
Helmsley Scholar, summer course in Vision at Cold Spring Harbor Laboratory	<i>2018 - 2019</i>
Fields Institute Travel Award to attend VISTA Mathematics of Vision workshop	<i>2019</i>
Schmitt Program in Integrative Neuroscience Travel Award to present at Society for Neuroscience annual international conference	<i>2018</i>
Abraham Fellowship, Thayer School of Engineering	<i>2011 - 2012</i>
Global Engagement Summit Delegate, Northwestern University	<i>2012</i>
JRD Tata Trust Scholarship, University of Mumbai	<i>2009 - 2010</i>
Sir Dorabji Tata Trust Education Grant, University of Mumbai	<i>2008 - 2009</i>

## TALKS

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ROH Young Investigators Meeting 2023, “Neuropixels in the OR: High-density electrode recordings to peer into the human brain” (July 2023)

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, NEUROCIDY 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**, J. R. Hembrook-Short, V. Mock, F. Briggs, Correlated variability, and its attentional modulation, depend on anatomical connectivity (under review)

**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 anterior cingulate and entorhinal cortex, [poster presentation](#), Society for Neuroscience

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\***, 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\***, 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\***, 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

\* presenting author

## TEACHING AND MENTORING

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- Project co-mentor: Layth Mattar, research assistant, Sheth Lab and Bartoli Lab, Baylor College of Medicine (Sept. 2023 - present)
- Bench mentor: Somya Mittal, Pranav Mehta, undergraduate researchers, Sheth Lab, Baylor College of Medicine (Rice University, Independent Research, 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)

## PEER REVIEW

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Journal of Neural Engineering  
Progress in Neurobiology

## ADVOCACY SERVICE & LEADERSHIP

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- Organizing committee member, Seminars for Postdocs Advancing Inclusion seminar series, Baylor College of Medicine (2023-24)
- 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 Boot-camp 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)
- 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)
- Brain Awareness week activities, University of Rochester Medical Center (2016, 2018)

## SCIENCE COMMUNICATION AND OUTREACH

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- Participant in Skype-a-Scientist (2018 - present)
- Lead Judge, Behavioral and Social Sciences category, 2023 Science and Engineering Fair of Houston (February 2023)
- 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)
- 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)