CURRICULUM VITAE **FARZANEH NAJAFI, PhD**

Updated: Oct 06, 2026

Contact Information

Farzaneh Najafi
Assistant Professor
School of Biological Sciences
Georgia Institute of Technology, Atlanta, GA 30332
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Research Interests

Using experimental and computational approaches to understand the neural circuits and computations that underlie perception and learning, with the eventual goal to apply the findings to the treatment of psychiatric and neurological disorders.

Positions

Assistant Professor
- Biological Sciences, Georgia Institute of Technology (2023-present)

Training Faculty
- Computational Neural Engineering Training Program (CNTP), Georgia Institute of Technology (2024-present)

Adjunct Faculty
- Machine Learning PhD Program, Georgia Institute of Technology (2026-present)
- School of Electrical and Computer Engineering, Georgia Institute of Technology (2025-present)
- Neuroscience Graduate Program, Emory University (2023-present)
- Biomedical Engineering Graduate Program, Georgia Institute of Technology (2023-present)
- BioEngineering Graduate Program, Georgia Institute of Technology (2023-present)

Affiliate
- Institute for Data Engineering and Science (IDEaS), Georgia Institute of Technology (2026-present)
- Institute for Neuroscience, Neurotechnology, and Society (INNS), Georgia Institute of Technology (2025-present)
- Institute for Bioengineering and Bioscience (IBB), Georgia Institute of Technology (2023-present)

Founder and Organizer of “Sybeco” initiative: a virtual, author-led journal club on Systems, Behavioral & Computational Neuroscience (2023-present)

Scientist II
- Allen Institute for Brain Science, Seattle, WA (2019-2022)

Visiting Student Research Collaborator
- Princeton University, NJ (2010-2012)

Education

PhD, Biology
- University of Pennsylvania, Philadelphia, PA, USA
- 2007-2014

BSc/MSc, Biotechnology (continuous BSc-to-PhD program)
- University of Tehran, Tehran, Iran
- 2002-2007

Research Training

Postdoctoral Fellow
2014-2019, Cold Spring Harbor Laboratory, NY**,** USA
- Population coding of decision-making signals by excitatory and inhibitory neurons in mouse parietal cortex
- Advisor: Anne Churchland

PhD student
2007-2014, University of Pennsylvania, PA, USA
- Trial-by-trial coding of instructive signals in the cerebellum: insights from eyeblink conditioning in mice
- Advisor: Javier Medina

Visiting Student Research Collaborator
2010-2012, Princeton University, NJ, USA
- Two-photon imaging of sensory-evoked calcium signals in Purkinje cell dendrites of awake mice
- Advisor: Sam SH Wang

Master's student
2005-2007, Royan Research Institute, Tehran, Iran
- Differentiation of dorsal cell types of the neural tube from mouse Embryonic Stem Cells using BMP4
- Advisor: Hossein Baharvand

Honors, Awards, Grants

BBRF Young Investigator Grant (Brain and Behavior Research Foundation)
"Microcircuit Mechanisms of Prediction-Error Weighting and Belief Updating"
PI: Najafi F
2027-2028

Junior Faculty **Outstanding Undergraduate Research Mentor** Award
2026, Georgia Institute of Technology (institute-wide award)

Shurl and Kay Curci Foundation Award
"Sleep & Cerebellum: How Their Interaction Shapes Learning & Disease"
PI: Najafi F
2027-2028

Whitehall Foundation Award
"Neural Circuitry Underlying Sensorimotor Temporal Processing"
PI: Najafi F
2025-2027

Scialog Award
"Rewiring Genome in 3D to Enhance Cognition after Sleep Deprivation across Species"
PIs: Najafi F, Tan L (Stanford), Tabuchi M (Case Western)
2025-2026, Research Corporation for Science Advancement (RCSA)

Scialog Award
"From Spikes to Neuromodulation: Uncertainty Coding in Rodents and Primates"
PIs: Najafi F, Disney A (Duke), Chen R (UCSF)
2025-2026, Research Corporation for Science Advancement (RCSA)

Chan-Zuckerberg Initiative, Supplemental Award
"Investigating Temporal and Novelty Coding in Hippocampal-Parietal Circuits"
PIs: Najafi F, Mortensen L

2025-2026, Chan-Zuckerberg Initiative (CZI)

Chan-Zuckerberg Initiative, Collaborative Pairs Pilot Project Award
"Does the Cerebellum Sleep? Exploring the Mechanisms and Significance"
PIs: Najafi F, Tononi G (U Wisconsin)
2024-2025, Chan-Zuckerberg Initiative (CZI)

Scialog Fellow, Molecular Basis of Cognition
2024-present

Finalist for **HHMI Freeman Hrabowski** Scholars award
"Neural Circuitry Underlying Predictive Processing During Passive and Active Behavior"
PI: Najafi F
2024, Howard Hughes Medical Institute (HHMI)

1st place Award Winner for Best Poster Presenter
2013, Gordon Research Conferences (GRC) on the Cerebellum

College scholarship award, Ministry of Sciences, Research and Technology, Iran
2004

Achievements

Application accepted to attend the Canonical Cortical Computations Workshop
2026, Simons Foundation, NYC

Nominee for Outstanding Achievement in Early Career Research
2026, Georgia Tech Biological Sciences

Research Leadership Academy, Inaugural Cohort: selected as one of ~15 GT faculty participants to receive leadership training
Georgia Institute of Technology
2025

Georgia Tech President *Ángel Cabrera* recognized Najafi's Scialog Collaborative Awards
2024

Proposal selected for Cluster Hire Initiative, College of Science, Georgia Tech: Science for Georgia Communities
2024

Collaborative proposal selected to organize *Frontiers in Science Symposium* at Georgia Tech in 2025: "Biological and Artificial Intelligence"
2024

Proposal accepted to mentor interns for the Summer Internship Program at the Allen Institute
2020, 2022

Ranked 29th nationwide in the National University Entrance Exam among ~ 500,000 participants; hence, admitted to the Medical School & the Continuous PhD Program in Biotechnology, University of Tehran, Iran
2002

Qualified for the Iranian National Biology Olympiad (first level)
2000

Papers and Preprints

A probabilistic model for noisy decision making in rodent brains

- Shamsnia A, Ozkan H, **Najafi F**
- IEEE SIU, Signal Processing and Communications Applications (2026)

Intrinsic interval timing, not temporal prediction, underlies ramping dynamics in visual and parietal cortex
- Huang Y, Shamsnia A, Chen M, Wu S, Stamm T, Medico S, **Najafi F**
- Science Advances [accepted]; bioRxiv (2025); DIO: https://doi.org/10.1101/2025.09.11.673960

Neural mechanisms of predictive processing: a collaborative community experiment through the OpenScope program
(56 alphabetically-ordered authors)
- Aizenbud I., Audette N., Auksztulewicz R., Basiński K., Bastos A. M., Berry M., Canales-Johnson A., Choi H., Clopath C., Cohen U., Costa R. P., De Filippo R., Doronin R. S. P., Errington J. P., Gavornik C. J., Gillon A., Granier J. P., Hamm L., Hertäg H., Kennedy S., Kumar A., Ladd H., Ladret J. A., Lecoq A., Maier P., McCarthy J., Mei J., Mejias J., Mikulasch F., Mudrik N., **Najafi F**., Nejad K., Nejat H., Oweiss K., Petrovici M. A., Priesemann V., Rudelt L., Ruediger S., Russo S., Salatiello A., Senn W., Sennesh E., Sima S., Uran C., Vasilevskaya A., Vezoli J., Vinck M., Westerberg J. A., Wilmes K., Xiong Y. S.
- arXiv (2025); DOI: https://doi.org/10.48550/arXiv.2504.09614

Spike Reliability is Cell-Type Specific and Shapes Excitation and Inhibition in the Cortex
- Russo S, Stanley GB, **Najafi F**
- Scientific Reports (2025); PMID: 39747147

Constructing Biologically Constrained RNNs via Dale's Backprop and Topologically-Informed Pruning
- Balwani A, Wang AQ, **Najafi F**, Choi H
- Science Advances (2025); PMID: 41385638

Unexpected events modulate context signaling in VIP and excitatory cells of the visual cortex
- **Najafi F***, Russo S, Lecoq J* [***Co-corresponding author**]
- iScience (2025); PMID: 39898018

Stimulus novelty uncovers coding diversity in visual cortical circuits
- Garrett M*, Groblewski P*, Piet A*, Ollerenshaw D*, **Najafi F***, Yavorska I*, ..., Zeng H, Philips J, Mihalas S, Arkhipov A, Koch C, Olsen S [***Co-first author**]
- Neuron (accepted); bioRxiv (2023)

Allen Brain Observatory: Visual Behavior 2P: Technical Whitepaper Link
- 2022; Allen Institute: MindScope

Excitatory and inhibitory subnetworks are equally selective during decision-making and emerge simultaneously during learning
- **Najafi F**, Elsayed GF, Cao R, Pnevmatikakis E, Latham PE, Cunningham JP, Churchland AK
- Neuron (2020); PMID: 31753580

Bidirectional short-term plasticity during single-trial learning of cerebellar-driven eyelid movements in mice
- **Najafi F**, Medina JF
- Neurobiology of Learning and Memory (2020); PMID: 31610225

CaImAn: An open source tool for scalable Calcium Imaging data Analysis
- Giovannucci A, Friedrich J, Gunn P, Kalfon J, Koay SU, Taxidis J, **Najafi F**, Gauthier JL, Zhou P, Tank DW, Chklovskii DB, Pnevmatikakis E
- eLife (2019); PMID: 30652683

Perceptual Decision-making: a field in the midst of a transformation
- **Najafi F**, Churchland AK
- Neuron (2018); PMID: 30359608

Cerebellar granule cells acquire a widespread predictive feedback signal during motor learning
- Giovannucci A, Badura A, Deverett B, **Najafi F**, Pereira TD, Gao Z, Ozden I, Kloth AD, Pnevmatikakis E, Paninski L, De Zeeuw CI, Medina JF, Wang SS
- Nature Neuroscience (2017); PMID: 28319608

Sensory-driven enhancement of calcium signals in individual Purkinje cell dendrites of awake mice
- **Najafi F**, Giovannucci A, Wang SSH, Medina JF
- Cell Reports (2014); PMID: 24582958

Coding of stimulus strength via analog calcium signals in Purkinje cell dendrites of awake mice
- **Najafi F**, Giovannucci A, Wang SSH, Medina JF
- eLife (2014); PMID: 25205669

Beyond "all-or-nothing" climbing fibers: graded representation of teaching signals in Purkinje cells
- **Najafi F**, Medina JF
- Frontiers in Neural Circuits (2013); PMID: 23847473

Differentiation of mouse embryonic stem cells into dorsal interneurons of the spinal cord using BMP4 and Activin A
- **Najafi F**, Hatami M, Zare N, Baharvand H
- Yakhteh Medical Journal (2009) 11(3): 277-84

Books

Translation of "Developmental Biology, 8th edition by S.F. Gilbert" to Persian
- Baharvand H, Afzal E, Faghihi F, Karamali F, Moghaddasali R, **Najafi F**, Piryaee A, Siadat SF
  2006

Publicly Available Data and Code

Data:
- https://zenodo.org/records/20350578
  Najafi Lab; Dataset for paper Huang et al, 2026

- https://dandiarchive.org/dandiset/000016?search=najafi&pos=1
  http://repository.cshl.edu/36980
  Postdoc Dataset: CSHL repository, 2018

- https://portal.brain-map.org/explore/circuits/visual-behavior-2p
  Allen Institute Visual Behavior Dataset, 2021

Code:
- https://github.com/najafi-laboratory
- https://github.com/farznaj/imaging_decisionMaking_exc_inh
- https://github.com/AllenInstitute/mesoscope_manuscript
- https://github.com/AllenInstitute/visual_behavior_analysis/tree/feature/clustering/visual_behavior/clustering
- https://github.com/AllenInstitute/visual_behavior_analysis/tree/feature/clustering/visual_behavior/decoding_population

Press

Sainsbury Wellcome Centre (SWC) Speaker Series
Predicting the future or remembering the past? https://www.sainsburywellcome.org/qa/predicting-future-or-remembering-past
2026

Georgia Tech, Research Horizons, College of Sciences and INNS (Institute for Neuroscience, Neurotechnology, and Society):
https://neuro.gatech.edu/neuroscientist-went-looking-prediction-she-found-time-instead
2026

Georgia Tech, Institute for Neuroscience, Neurotechnology, and Society:
https://neuro.gatech.edu/nathan-mcdonald-and-farzaneh-najafi-awarded-curci-foundation-grants

2026

Georgia Tech, College of Science News: Nathan McDonald and Farzaneh Najafi Awarded Curci Foundation Grants
2026

Podcast: “A New Healthcare Era”; Invited guest
2025

Georgia Tech News: From Molecules to Mind: Farzaneh Najafi Receives Multiple Awards for Cognitive Research
2025

Podcast: “WiN (Women in Neuroscience)”; Invited guest: Stories of WiN
2023

Podcast: “Konjab” (in Farsi on Neuroscience); Invited guest
2021

Podcast: “Experimental” (in Farsi, by Biotechnology Integrated PhD Program, University of Tehran, Iran); Invited guest
2020

Talks

Invited talks:

Invited speaker
2026, SFN, Nanosymposium

UCSF
2026

Sainsbury Wellcome Centre for Neural Circuits and Behaviour (SWC) Seminar Series
2026, London

NYU, Center for Neural Science
2026, New York

Invited panelist
2026, Canonical Cortical Computations Workshop, Simons Foundation, New York

Invited speaker
2026, Columbia University, Center for Theoretical Neuroscience

University of Pittsburgh, Department of Neuroscience
2026, Pittsburgh

CRaNE conference
2026, Georgia Tech

Sissa, Neuroscience Seminars
2026, Trieste, Italy

UCLA: joint Neural Development, Degeneration, and Repair (NDDR) and Synapse to Circuit (S2C) seminar series
2025, Los Angeles

Invited speaker, Timing Research Forum (TRF)
2025, virtual

Invited speaker, Middle Eastern Systems Neuroscience Symposium
2025, San Diego

Invited speaker, IBB Breakfast Club
2025, Georgia Tech

Invited speaker, Retreat of master's students in Neuro-engineering
2025, Technical University of Munich (TUM), Austria

Invited speaker, Neuroscience Seminar Series
2025, Medical University of Isfahan, Iran

Invited speaker, Frontiers in Science Symposium on "Intelligence: From AI to the Brain and Back"
2025, Georgia Tech, College of Sciences, Atlanta

Invited speaker, Regenerative Bioscience Center
2025, University of Georgia, Atlanta

Invited speaker, Department of Biomedical Informatics
2025, Emory University, Atlanta

Invited speaker, Frontiers in Neuroscience
2024, Emory University, Atlanta

Invited speaker, Intersection of Biology and Engineering (IBE) workshop
2024, Georgia Tech Research Institute (GTRI), Atlanta

Invited speaker; zoomed colloquium for Biology department
2024, Illinois Institute of Technology, virtual

Invited speaker at Neuroscience Competition Program to promote neuroscience among college students in Iran
2024, virtual

Invited speaker, GT/GTRI Collaborative Workshop: Looking to the Future: The Intersection of Biology and Engineering
2023, Georgia Tech, Atlanta

Invited speaker, Atlanta Neuro Community
2023, Atlanta

Invited speaker, Biology Seminar Series
2023, Emory University

Invited speaker, Institute of Neuroscience (ION) Seminar Series
2022, University of Oregon

Invited speaker at the symposium "Neural Basis of Auditory Decision- Making"
2022, Association for Research in Otolaryngology (ARO)

Invited speaker at the Simons Collaboration on the Global Brain (SCGB), postdoc meeting
2021, , Simons Foundation, New York

Invited speaker: *"Distinct cortical representation & interaction following unexpected events in a visual task"*
2021, Weill Cornell Medicine, virtual

Invited speaker: *"Multiplane Mesoscope reveals distinct cortical interactions following violations of expectation"*
2020, Basic & Clinical Neuroscience Congress, Iran

Invited speaker: *"Cerebellar encoding of teaching signals and PPC encoding of decision signals"*

2017, Institute for Research in Fundamental Sciences, Iran

Submitted talks:

Stanford University
2026

Johns Hopkins University
2026

Barrels meeting
2025, San Diego

Allen Institute for Brain Science: OpenScope collaborative project
2025, Seattle

University of Washington: Computational Neuroscience Center
2025, Seattle

Predictive processing in the whisker system
2024, Barrels meeting, Chicago

Novelty modulates neural coding and reveals neuronal functional diversity
2023, Barrels meeting, Johns Hopkins University

Speaker at the Summer Workshop on the Dynamic Brain (SWDB): Introducing the Visual Behavior project of the Allen Institute
2021

Conference Presentations

2026, SFN, Washington DC
Nanosymposium: *"Intrinsic timing, not temporal prediction, underlies ramping dynamics in visual and parietal cortex, during passive behavior"*

2026, SFN, Washington DC
Aminnaji S, Zhu J, **Najafi F**
"Cerebellar encoding of temporal expectation signals during behavior"

2026, SFN, Washington DC
Huang Y, **Najafi F**
"Investigating the role of a cerebellar-thalamic-cortical circuit during movement timing adaptation"

2026, SFN, Washington DC
Shamsnia A, Chen M, Huang Y, Zhu J, Wang J, Ozkan H, **Najafi F**
"Dynamic integration of sensory evidence and temporal priors guides interval discrimination in mice"

2026, SFN, Washington DC
OpenScope predictive processing community project: A community-designed dataset combining brain-wide single-cell recordings, dense local pan-neuronal calcium imaging, and single-cell dendritic imaging to compare predictive processing models across visual contexts

2026, Ascona Meeting (The assembly and function of neuronal circuits), Switzerland

2026, GRC Frontal Cortex, Holderness, NH

2026, CCN (Cognitive Computational Neuroscience), NYC

2026, IEEE SIU (Signal Processing and Communications Applications), Turkey
Shamsnia A, Ozkan H, **Najafi F**
"A Probabilistic Model for Noisy Decision Making in Rodent Brains"

2026, GRC Thalamocortical, Italy

2026, Cosyne
Huang Y, Shamsnia A, Chen M, Wu S, Stamm T, Medico S, **Najafi F**
"Intrinsic interval timing, not temporal prediction, underlies ramping dynamics in visual and parietal cortex, during passive behavior"

2025, SFN
Salamtabrizi Z, Amiratashani O, Malekpour S, Chen M, Nguyen DH, Medico S, Stamm T, Bita S, **Najafi F**
"Cerebellar mechanisms of adaptive motor timing in trace eyeblink conditioning"

2025, SFN
Chen M, Shamsnia A, Stamm T, Medico S, Huang Y, **Najafi F**
"Perceptual predictive processing in cerebellar-parietal circuits"

2025, SFN
Aminnaji S, Medico S, Huang Y, Shamsnia A, Stamm T, **Najafi F**
"Cerebellar dynamics underlying predictive timing during voluntary motor behavior"

2025, SFN
Huang Y, Shamsnia A, Chen M, Wu S, Stamm T, Medico S, **Najafi F**
"Intrinsic interval timing, not temporal prediction, underlies ramping dynamics in visual and parietal cortex, during passive behavior"

2025, Cosyne
Balwani, Wang A, **Najafi F**, Choi H
"Constructing biologically constrained RNNs with Dale's backprop and topologically-informed pruning"

2024, SFN, Chicago
Huang Y, Shamsnia A, Stamm T, Aminnaji S, Patil H, Coplenad L, Zhang Y, **Najafi F**
"Cerebellar-Parietal Dynamics During Predictive Motor Timing Behavior"

2022, Neuromatch Conference
Medepalli S, **Najafi F**
"VIP Inhibitory Neurons in the Visual Cortex Perform Two Types of Predictive Processing: Stimulus Specific & Non-specific"

2022, Portugal, Cosyne
Najafi F*, Yavorska I*, Garrett M*, Piet A*, Groblewski PA*, Arkhipov A, Mihalas S, Olsen SR
"Novelty modulates neural coding and reveals functional diversity within excitatory and inhibitory populations in the visual cortex"

2020, Neuromatch Conference
Gupta A, **Najafi F**
"Recurrent Neural Networks reveal distinct signal flow in mouse visual cortex following expectation violations"

2020, Denver, Cosyne
Najafi F, Orlova NY, Tsyboulski D, Seid SM, Kato I, …, Olsen SR, Lecoq J
"Activation of distinct cortical circuitries by expected and unexpected stimuli"

2019, Chicago, Society for Neuroscience
Najafi F, Orlova NY, Tsyboulski D, Seid SM, Kato I, …, Olsen SR, Lecoq J

"Representation of unexpected stimuli across functionally connected cortical columns during visual behavior in mouse"

2018, San Diego, Society for Neuroscience
Najafi F, Elsayed GF, Pnevmatikakis E, Cunningham JP, Churchland A
"Inhibitory and excitatory populations have similar accuracy yet different redundancy in predicting the choice during perceptual learning"

2018, Main, Gordon, Neurobiology of Cognition
Najafi F, Elsayed GF, Pnevmatikakis E, Cunningham JP, Churchland A
"Inhibitory and excitatory populations in parietal cortex are equally selective for decision outcome in both novices and experts"

2018, Denver, Cosyne
Najafi F, Elsayed GF, Pnevmatikakis E, Cunningham JP, Churchland A
"Excitatory and inhibitory neural populations reflect single trial decisions"

2017, Salt Lake City, Cosyne
Najafi F, Elsayed GF, Pnevmatikakis E, Cunningham JP, Churchland A
"Single-trial decision can be predicted from population activity of excitatory and inhibitory neurons"

2016, San Diego Society for Neuroscience
Najafi F, Elsayed GF, Pnevmatikakis E, Cunningham JP, Churchland A
"Population dynamics of excitatory and inhibitory neurons in mouse parietal cortex during decision-making"

2013, New London, NH, Gordon Research Conference
Najafi F, Medina J.F.
"Contribution of short-term memory to single-trial motor adaptation in mice"

2011, Washington, DC, Society for Neuroscience
Najafi F, Giovannucci A, Kloth AD, Wang SSH, Medina JF
"Climbing fibers code for the strength of periorbital airpuff stimuli in single trials"

2011, Washington, DC, Society for Neuroscience
Giovannucci A, **Najafi F**, Kloth AD, Medina JF, Wang SSH
"Calcium imaging from cerebellar neuronal populations after eyeblink conditioning in head-fixed mice"

2010, San Diego, Society for Neuroscience
Najafi F, Medina JF
"Trial-by-trial motor adaptation to error size during eyeblink conditioning in mice"

2010, San Diego, Society for Neuroscience
Arlt C, **Najafi F**, Giovannucci A, Mcdougle S, Wang SSH, Ozden I, Medina JF
"Eyeblink conditioning and in vivo calcium imaging in mice walking on a floating-ball apparatus"

2006, Innsbruck, Austria, Society of Differentiation
Najafi F, Baharvand H, Hatami M, Zare N, Farrokhi A
"Generation of dorsal cell types of the neural tube through BMP signaling"

2006, Toronto, Canada, Society for Stem Cell Research
Najafi F, Baharvand H, Hatami M, Massumi M, Zare N
"Specification of diverse cell types of the dorsal half of the neural tube in the mouse embryo by BMP4"

Attended Conferences and Workshops

Ascona Meeting: the assembly and function of neuronal circuits
2026, Switzerland

Health Connect South
2026, Georgia Aquarium, Atlanta

2026, GRC Frontal Cortex, Holderness, NH

Canonical Cortical Computations Workshop
2026, Simons Foundation, NYC

GRC, Thalamocortical
2026, Tuscany, Italy

Society for Neuroscience (SFN)
2008-Present

Chan-Zukerberg Initiative (CZI) Awardees meeting
2025, San Jose, CA

Chan-Zukerberg Initiative (CZI) Awardees meeting
2024, Monterey, CA

Gordon Research conferences: Thalamocortical Interactions
2024, Ventura, CA

Barrels Meeting
2023 (Baltimore), 2024 (Chicago)

Gordon Research conferences: Neurobiology of Cognition
2018, Maine

Gordon Research conferences: Cerebellum
2013 (NH), 2023 (NH)

Cosyne
2017, 2018, 2020, 2022

Service

Academic Faculty Senate member, Georgia Tech
2026-present

Participated in an IDEaS-organized data strategy meeting to discuss challenges and infrastructure needs for research data storage, computing, and sharing at Georgia Tech.
2026

Participated in MBI (Medical Building Innovation) feasibility workshops to inform laboratory design decisions and infrastructure needs for neuroscience research.
2026

Member of the College of Science International Research Focus Group, led by Tansu Celikel
2026

Hosted speakers for Biology Seminar Series, Georgia Tech
2026 (Andre Fenton), 2025 (Dean Buonomano)

Hosted speakers for Neuroscience Seminar Series, Georgia Tech
2024 (Kathleen Cullen), 2024 (Jennifer Raymond)

Selection committee member for Georgia Tech's Postdoctoral STAR Award Lecture
2025

Provost Search candidate meetings, Invited faculty participant
Georgia Institute of Technology
2025

Member, Collaborative community experiment through the OpenScope program: Neural mechanisms of predictive processing
2025

Organizing member of Frontiers in Science Symposium: *Intelligence: From AI to the Brain and Back*; College of Science, Georgia Tech
2025

Reviewer of grants for: **1)** NSF; **2)** NIH; **3)** Sinica Taiwan; **4)** Human Frontier Science Program (HFSP) Postdoctoral Fellowship
2024-present

Quantitative Biosciences PhD Program, Admission Committee Member, Georgia Institute of Technology
2024-present

Barrels Pre-SFN Meeting organizer
2024-present

Founder and Organizer of "Sybeco" initiative: a virtual, author-led journal club on Systems, Behavioral & Computational Neuroscience
2023-present

Proposal selected for the Cluster Hire Initiative: Science for Georgia Communities; College of Science, Georgia Tech
2024

Inaugural member, steering committee: Center of Excellence in Computational Cognition (CoCo) , Georgia Institute of Technology
2023-present

Member of the committee for selecting the Next Generation Leaders (NGLs), Allen Institute for Brain Science
2021

Cochair of the committee for selecting distinguished Brain Science seminar speakers, Allen Institute for Brain Science
2020-2022

Organizer of author-led Journal Club for Systems & Computational Neuroscience, Allen Institute for Brain Science
2020-2022

Reviewer of Cosyne abstracts
2019-present

Reviewer of manuscripts for: *Cell, Neuron, Nature Communications, eLife, Journal of Physiology, Communications Biology, PlOS Computational Biology, Frontiers, PNAS Nexus, Cerebellum, Cerebral Cortex, PlosOne*
2019-present

Mentoring and Outreach

Professional development mentor, Neuromatch Academy
2026

Exhibitor at Atlanta Science Festival, CNTP booth (Computational Neural Engineering Training Program; Georgia Tech/Emory)
2025

Mentor for high school student participant in NIH STEP-UP program: “Short-Term Research Experience Program to Unlock Potential”; Georgia Institute of Technology
2024

Interviewed as an alumnus for the 25th Anniversary of the Biotechnology Program, University of Tehran, Iran
2024

Interviewed for an episode of Women In Neuroscience (WIN) Podcast series
2023

Najafi Lab tour for high school students, Georgia Tech
2023-present

Mentor for a student participant in the Summer Internship Program, Allen Institute for Brain Science
2022

TA and mentor at the Summer Workshop on the Dynamic Brain (SWDB), Allen Institute for Brain Science
2021

Mentor for a student participant in the Summer Internship Program, Allen Institute for Brain Science
2020

Mentor for student projects at Neuromatch Academy: online course for computational neuroscience
2020

Mentor for undergraduate student participant in NSF-funded REU in Computational Neuroscience & Bioinformatics at Cold Spring Harbor Laboratory
2016

Volunteer at Girl Scout of Nassau County - STEM conference, Cold Spring Harbor
2017

Mentor at 1000 girls, 1000 futures mentorship program,
2015-2017

Volunteer at DNA Learning Center for WiSE (Women in Science and Engineering), Cold Spring Harbor
2016

Volunteer at Long Island Makers Festival
2015

Science Pen Pal for a high school student
2015

Teaching

Frontiers in Neuroscience (Neur 8801), Georgia Institute of Technology
Fall 2026

Capstone: Coding and data analysis in neuroscience (Neur 4001), Georgia Institute of Technology
Spring 2026

Special Topics: Scientific Communication (NEUR 4801), Georgia Institute of Technology
Spring 2025

Human Neuroanatomy (BIOS 4400), Georgia Institute of Technology
Fall 2024

Teaching Assistant at the University of Pennsylvania for the 4 following courses:
1) Introduction to Brain & Behavior; 2) Cellular Neurobiology; 3) Cell Biology & Biochemistry; 4) Principles of Microbiology
2007-2009

Student Success Activities

PhD student, Ruitao Shen, is selected as a CNTP scholar: Computational Neural Engineering Training Program, GT/Emory
2026

PhD student, Mengze Chen, is selected as a CNTP scholar: Computational Neural Engineering Training Program, GT/Emory
2026

PhD student, Sana Aminnaji, receives Conference Fund from the Student Government Association (SGA), Georgia Tech
2026

Master's student, Ali Shamsnia, is accepted to the Neurobridges Summer School in Neuroscience
2026

Capstone students presented a poster at the Spring Neuroscience Symposium
2026

Master's student, Arya Nalavade, received an award from Georgia Tech Society of Women Engineers
2026

PhD Student, Yicong Huang, receives a Student Travel Award to attend the 2026 InterfaceNeuro conference at Rice University; Awarded by the Institute for Neuroscience, Neurotechnology, and Society (INNS) at Georgia Tech and the Rice Neuroengineering Initiative

Master's student, Arya Nalavade, received GRA for the Bioinformatics Master's Program
2026; Spring, Fall

Master's student, Davis Grubin, received GRA for the Bioinformatics Master's Program
2026; Spring, Summer, Fall

Master's student, Zahra Salamtabrizi, received GRA for the Bioinformatics Master's Program
2026; Spring, Summer

PhD student, Yicong Huang, selected as BME 'Student of the Week'
2025

PhD student, Sana Aminnaji, won QBIOS travel award
2025

PhD student, Yicong Huang, won BME travel award
2025

PhD student, Sana Aminnaji, Finalist for the 2025 Neuro Next Graduate Research Award
2025

PhD student, Yicong Huang, is selected as a CNTP scholar: Computational Neural Engineering Training Program, GT/Emory
2024

PhD student, Sana Aminnaji, is selected as a CNTP scholar, Computational Neural Engineering Training Program, GT/Emory
2024

Master's student, Esha Choudhary, received GRA for the Bioinformatics Master's Program

2024

Master's student, Hosala Patil, received GRA for the Bioinformatics Master's Program
2023

Individual Student Guidance (Georgia Tech)

Postdocs:

1. Simone Russo (Jack and Dana McCallum Family Foundation Postdoctoral Fellows in Central Nervous Systems Research, start date: Spring 2027)

PhD students:

1. Ruitao Shen (NSNT; Fall 2026-present)
2. Mengze Chen (NSNT; Fall 2026-present)
3. Sana Aminnaji (QBios; Fall 2024-present)
4. Yicong Huang (BME; Fall 2023-present)

Master's students:

1. Leah Rachels (BINF, 2026-present)
2. Shreshta Raghuvanshi (Biology, 2026-present)
3. Advika Rajeev (Analytics, 2026-present)
4. Gary White (Data science, 2026-present)
5. Jun Feng Zhu (Biology, 2025-present)
6. Jiahe Wang (Biology, 2025-present)
7. Arya Nalavade (BINF, 2025-present)
8. Zahra Salamtabrizi (BINF, 2025-present)
9. Ali Shamsnia (2025-present)
10. Davis Grubin (BINF, 2025-2026)
11. Omid Amiratashani (2025-present)
12. Esha Choudhary (BINF, 2025)
13. Mengze Chen (Biology, 2024-2026)
14. Markella Bibidakis (BME, 2025)
15. Dan Nguyen (BME, 2024-2025)
16. Hosala Patil (BINF, 2023-2024)
17. Kayla Frasier (Biology, 2024)
18. Timothy Stamm (ECE, 2023)
19. Aakash Venkataraman (ECE, 2023)

Medical students:

1. Daniel Mehrabian (Medical College of Georgia, 2024)

Undergraduate students:

1. Dylan Burkey (Mechanical Engineering, 2026-present)
2. Sohan Kyatham (Mathematics & Computing, 2026-present)
3. Isabella Huang (Biology, 2025-present)
4. Yitian Yu (CE, 2025-present)
5. Saba Bita (Neuroscience, 2024-2026)
6. Anjali Ganapathiraju (Biology, 2025; Fast Track Scholar)
7. Alex Kwan (BME, 2025)
8. Kennedy Wright (Biology, 2025)
9. Siya Kumar (Biology, 2024-2025)
10. Arya Nahri (Math/CS, 2025)
11. Preeti Vellanki (Biology, 2025)

12. Hassan Azzam (ME, 2025)
13. Omid Amiratashani (2025)
14. Shayan Malekpour (2025)
15. Ali Shamsnia (2024-2025)
16. Meera Chaudhari (Biology, 2024-2025)
17. Yunkai Zhang (EE, 2023-2024)
18. Garrett Anderson (Neuroscience, 2023-2024)
19. Stella (Jue) Wang (Biology, 2023-2024; Fast Track Scholar)
20. Chanel Gautama (CE, 2024)
21. Misha Mishechkin (Physics & Applied math, 2024)
22. Yuvraj Dhadwal (CS, 2024)
23. Vishaal Jamched (CS, 2024)
24. Kushal Dudipala (CS/Biology, 2024)
25. Nandita Narayanan (CS, 2024)
26. Rikhil Seshadri (CE, 2024)
27. Alejandro Avila (CE, 2024)
28. Rudra Goel (CE, 2024)
29. Kelly Adams (ME, 2023)
30. Yizhao Hou (ME, 2023)
31. Belle Abebe (EE, 2023)
32. Aadya Potdar (CE, 2023)
33. Mark Yehoon Jang (CS, 2023)
34. Rishika Vinaykumar (ME, 2023)
35. Kevin McCollum (EE, 2023)
36. Matthew Ma (EE, 2023)
37. Reagan Hicks (Biology, 2023; Fast Track Scholar)

High school students:

1. Shritej Mamidala (2026-present)
2. Abhi Saji (2024)

Technicians:

1. Sophie Medica (2025-2026)
2. Tim Stamm (2024-2026)
3. Laurence Copeland (2024)
4. Vanshika Mehta (2023)

Mentored a postdoc (Simone Russo) for a Journal Club paper published in *Journal of Neuroscience* 2024

Thesis committee member for PhD students:

1. Keith (Jun) Yang [Gt/QBios; PI: Hannah Choi; 2026-present]
2. Bita Jadali [GT/BioSci; PI: Alberto Stolfi; 2025-present]
3. Sina Dabiri [GT/BME; PI:Tansu Celikel and Audrey Sederberg; 2025-present]
4. Aish Balwani [GT/Math; PI: Hannah Choi; Graduated Summer 2025]
5. Kwantae Kim [GT/BioSci; PI: Alberto Stolfi; Graduated December 2023]

External graduate thesis committee member:

1. Constanza Daniela Bassi (PhD student; University of Pittsburgh, 2026)
2. Ali Shamsnia (Masters student; Sabanci University, 2025-present)

Qualification exam committee member, PhD students:

Xinyi Jiang (Jemma) [BME; PI: Annabell Singer; 2025]
Chuoqi Chen [BioE; PI: Omer Inan; 2024]

PhD rotation students:

1. Lucy Snipes (2026)
2. Rhys Gough (2025)
3. Shuang Wu (2024)
4. Bita Jadali (2024)

Skills

Programming:

- Python (since 2015)
- Matlab (since 2008)

Workshops:

- Canonical Cortical Computations Workshop
  2026, Simons Foundation

- Summer Workshop on the Dynamic Brain (SWDB)
  2021, Allen Institute

- Neuropixels workshop
  2021, Allen Institute

- Computational Vision Course
  2016, CSHL