

## Contact Information

Farzaneh Najafi  
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School of Biological Sciences  
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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.

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## Positions

### Assistant Professor

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

### Training Faculty

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

### Adjunct Faculty

- 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)

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)
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## 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
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## 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

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## Honors, Awards, Grants

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

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## 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

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## 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**
- 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., Aukstulewicz 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**]
- 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

CalmAn: An open source tool for scalable Calcium Imaging data Analysis

- Giovannucci A, Friedrich J, Gunn P, Kalfon J, Koay SU, Taxis 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
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## 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
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## Publicly Available Data and Code

### Data:

- <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/farznaj/imaging_decisionMaking_exc_inh)
  - [https://github.com/AllenInstitute/mesoscope\\_manuscript](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/clustering)
  - [https://github.com/AllenInstitute/visual\\_behavior\\_analysis/tree/feature/clustering/visual\\_behavior/decoding\\_population](https://github.com/AllenInstitute/visual_behavior_analysis/tree/feature/clustering/visual_behavior/decoding_population)
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## Press

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

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## Talks

### Invited talks:

Invited panelist

2026, Canonical Cortical Computations Workshop, Simons Foundation, NYC

Invited speaker

2026, Columbia University, Center for Theoretical Neuroscience

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:**

CRaNE conference, Georgia Tech  
2026

University of Pittsburgh  
2026

Johns Hopkins University  
2026

Sissa, Neuroscience Seminars  
2026, Trieste, Italy

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

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

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#### **Conference Presentations**

2026, Ascona Circuit Meeting, Switzerland

2026, GRC Frontal Cortex, 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, Bitá 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, Coplead 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”*

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## Attended Conferences and Workshops

Canonical Cortical Computations Workshop

2026, Simons Foundation, NYC

GRC, Thalamocortical

2026, Tuscany, Italy

Society for Neuroscience (SFN)

2008-Present

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

Chan-Zuckerberg 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

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## Service

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*, *PLoS Computational Biology*,  
*Frontiers*, *PNAS Nexus*, *Cerebellum*, *PlosOne*, *Cerebral Cortex*  
2019-present

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## Mentoring and Outreach

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

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## Teaching

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:  
Introduction to Brain and Behavior; 2) Cellular Neurobiology; Cell Biology and Biochemistry; 4) Principles of Microbiology  
2007-2009

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## Student Success Activities

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

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

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, selected as CNTP scholar: Computational Neural Engineering Training Program, GT/Emory  
2024

PhD student, Sana Aminnaji, selected as 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

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### Individual Student Guidance (Georgia Tech)

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

Thesis committee member for PhD students:

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

External 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 of PhD students:

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

PhD students:

1. Sana Aminnaji (QBios; Fall 2024-present)
2. Yicong Huang (BME; Fall 2023-present)

PhD rotation students:

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

Master's students:

1. Jun Feng Zhu (Biology, 2025-present)

2. Jiahe Wang (Biology, 2025-present)
3. Arya Nalavade (BINF, 2025-present)
4. Davis Grubin (BINF, 2025-present)
5. Zahra Salamtabrizi (BINF, 2025-present)
6. Esha Choudhary (BINF, 2025-present)
7. Ali Shamsnia (2025-present)
8. Omid Amiratashani (2025-present)
9. Mengze Chen (Biology, 2024-present)
10. Markella Bibidakis (BME, 2025)
11. Dan Nguyen (BME, 2024-2025)
12. Hosala Patil (BINF, 2023-2024)
13. Kayla Frasier (Biology, 2024)
14. Timothy Stamm (ECE, 2023)
15. Aakash Venkataraman (ECE, 2023)

Medical students:

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

Undergraduate students:

1. Anjali Ganapathiraju (Biology, 2025; Fast Track Scholar)
2. Alex Kwan (BME, 2025-present)
3. Kennedy Wright (Biology, 2025-present)
4. Isabella Huang (Biology, 2025-present)
5. Yitian Yu (CE, 2025-present)
6. Saba Bitra (Neuroscience, 2024-present)
7. Siya Kumar (Biology, 2024-present)
8. Arya Nahri (Math/CS, 2025)
9. Preeti Vellanki (Biology, 2025)
10. Hassan Azzam (ME, 2025)
11. Omid Amiratashani (2025)
12. Shayan Malekpour (2025)
13. Ali Shamsnia (2024-2025)
14. Meera Chaudhari (Biology, 2024-2025)
15. Yunkai Zhang (EE, 2023-2024)
16. Garrett Anderson (Neuroscience, 2023-2024)
17. Stella (Jue) Wang (Biology, 2023-2024; Fast Track Scholar)
18. Chanel Gautama (CE, 2024)
19. Misha Mishechkin (Physics & Applied math, 2024)
20. Yuvraj Dhadwal (CS, 2024)
21. Vishaal Jamched (CS, 2024)
22. Kushal Dudipala (CS/Biology, 2024)
23. Nandita Narayanan (CS, 2024)
24. Rikhil Seshadri (CE, 2024)
25. Alejandro Avila (CE, 2024)
26. Rudra Goel (CE, 2024)
27. Kelly Adams (ME, 2023)
28. Yizhao Hou (ME, 2023)
29. Belle Abebe (EE, 2023)
30. Aadya Potdar (CE, 2023)
31. Mark Yehoon Jang (CS, 2023)
32. Rishika Vinaykumar (ME, 2023)
33. Kevin McCollum (EE, 2023)
34. Matthew Ma (EE, 2023)
35. Reagan Hicks (Biology, 2023; Fast Track Scholar)

High school students:

1. Abhi Saji (2024)

Technicians:

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

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## 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