

JULIA GORMAN

San Diego, CA

✉ jugorman@ucsd.edu  [LinkedIn](#)

EDUCATION

University of California, San Diego

PhD in Computational Neuroscience; specialization in Anthropogeny

Sep 2020 – present

La Jolla, CA

Seattle University

BS Mathematics, BA Biology - Summa Cum Laude

Sep 2016 – Mar 2020

Seattle, WA

RESEARCH INTERESTS

- Linking neural population dynamics to complex, adaptive behavior
- Multi-region neural circuit models of information flow and feedback
- Integrating theory and experiment to connect biological network properties to emergent dynamics

RESEARCH TRAINING

2020 – Graduate Student Researcher, UC San Diego, **Advisor: Timothy Q Gentner, Ph.D.**

2018 – 2020 Undergraduate Researcher, Seattle University, **Advisor: Brian Fischer, Ph.D.**

2019 – 2020 Undergraduate Researcher, Washington University in St. Louis, **Advisor: Barani Raman, Ph.D.**

2017 – 2018 Undergraduate Researcher, Seattle University, **Advisor: Eric Bahuaud, Ph.D.**

GRANTS AND FELLOWSHIPS

2024 – 2030 NIH Blueprint D-SPAN Predoctoral to Postdoctoral Training Grant (F99/K00)

2023 – 2025 Center for Academic Research and Training in Anthropogeny Fellowship

2019 – 2020 NIH Blueprint ENDURE Research Fellowship

PUBLICATIONS

Manuscripts

8. **Julia C Gorman**, Lauren Ostrowski, Ezequiel Arneodo, Pablo Marcos-Tostado, Lauren Stanwicks, Timothy Q Gentner. Dynamically coupled control of motor sequencing in a delay-compensated premotor network. *In preparation*
7. **Julia C Gorman**, Timothy Sainburg, Trevor S McPherson, Timothy Q Gentner. Anticipatory organization of neural population dynamics speeds behavioral decisions. *Under review, Nature Communications*. Preprint: [bioRxiv 2026.06.30.735699](https://doi.org/10.64898/2026.06.30.735699). doi:10.64898/2026.06.30.735699
6. **Julia C Gorman***, Trevor McPherson*, Timothy Q Gentner. Neurobiological mechanisms underlying control theoretic approaches. *In preparation*
5. Christian Cazares, Maribel Patiño, Minerva Contreras, **Julia C Gorman**, Jillybeth Burgado, Sana A Ali, Quirine van Engen, Eena L Kosik, Pamela Riviere, Emily T Baltz, Chimuanya K Agba, Michael Preston, Akshay Nagarajan, Jianna Cressy, Natalie Paredes, Chiaki Santiago, Kevin L White (2024) A trainee-informed model for undergraduate neuroscience research programs serving marginalized students. *Nat Neurosci* 27, 2047–2052.
4. Dori M. Grijseels, Brenden J. Prendergast, **Julia C. Gorman**, Cory T. Miller. (2023) The neurobiology of vocal communication in marmosets. *Annals of NY Academy of Sciences*.

3. **J Gorman**, K Holzhausen, J Reimer, J Riseth. Realizing Synaptic Signal Transmission During Astrocyte-Neuron Interactions within the EMI Framework. *Computational Physiology: Simula Summer School 2022 Student Reports*, edited by Kimberly J. McCabe, Springer Nature Switzerland, 2023, pp. 65–78. Springer Link.
2. **Julia C. Gorman***, Victoria Ngo*, Fernanda de la Fuente, Antonio Souto, Nicola Schiel, Cory T Miller (2022) Active vision for prey-pursuit in wild marmoset monkeys. *Current Biol* 32(15): 3423-3428.e3.
1. **Gorman JC**, Tufte OL, Miller AVR, DeBello WM, Peña JL, Fischer BJ (2021) Diverse processing underlying frequency integration in midbrain neurons of barn owls. *PLoS Comput Biol* 17(11): e1009569.

Science Communication

Articles for *NeuWrite San Diego*, 2021–2025 (*) indicates includes Spanish translation). Selected:

“Neuromorphic Engineering: How Computers are Learning from the Brain” *

“What’s a Topology and Why is it in my Neuroscience?!” *

“Meritocracy without DEI is a Myth” *

“This brainless blob might outsmart you”

PRESENTATIONS

Invited Research Talks

Jun 2025	Species-specific neural population dynamics during vocal production. <i>Leaders of the Future Symposium</i> , Stanford, CA.
Mar 2025	Expectation-dependent neural population dynamics in a sensory population during behavior. <i>Cosyne</i> , Montreal, Can.
Jan 2025	Neural population dynamics underlying vocal communication behaviors <i>UCSD NGP Research Rounds</i> , San Diego, CA.
Nov 2024	Determining fixed points of a network from its underlying graph. <i>Janelia Junior Scientist Workshop on Theoretical Neuroscience</i> , Ashburn, VA.
Nov 2024	Expectation-driven sensory adaptations support enhanced acuity not probabilistic integration during categorical perception. <i>Janelia Junior Scientist Workshop on Theoretical Neuroscience</i> , Ashburn, VA.
May 2023	Neural population dynamics in area MT. <i>UCSD NGP Research Rounds</i> , San Diego, CA.
May 2023	Recommendations for Serving Students from Historically Marginalized Groups in Neuroscience. <i>virtually at Bowdoin College</i> , Brunswick, ME.
Mar 2023	Recommendations for Serving Students from Historically Marginalized Groups in Neuroscience. <i>Cognitive Neuroscience Society</i> , San Francisco, CA.
Nov 2019	Modeling ICx Neurons in the Barn Owl. <i>SMART Friday at Seattle University</i> , Seattle, WA.
Apr 2018	Solving PDEs using a Crank-Nicolson Scheme. <i>PNW Chapter of the Mathematical Association of America</i> , Seattle, WA.

Posters

Mar 2026	Julia C Gorman , Lauren Ostrowski, Zeke Arneodo, Pablo M Tostado, Timothy Q Gentner. Transient, behavior-dependent coupling of neural population dynamics during learned motor sequences. <i>Cosyne</i> , Lisbon, PT.
Nov 2025	Julia C Gorman , Zeke Arneodo, Lauren Ostrowski, Pablo M Tostado, Trevor S McPherson, Timothy Q Gentner. Latent premotor neurodynamics reveal species-specific vocalization control strategies in songbirds. <i>Society for Neuroscience</i> , San Diego, CA.
Nov 2023	Julia C Gorman , Tim Sainburg, Trevor S McPherson, Timothy Q Gentner. Context-dependent dynamic interneural correlation structure affects ability of population decoding. <i>Society for Neuroscience</i> , Washington, DC.

Nov 2022	Julia C Gorman , Sana Ali, Minerva Contreras, Jillybeth Burgado, Hilario Vasquez, Maribel Patino, Christian Cazares. Mentors like us! CoB-KIBM Scholars Program at UC San Diego. Society for Neuroscience, San Diego, CA.
Oct 2019	Julia C Gorman , Jose Pena, Brian Fischer. Modeling nonlinear dendritic integration in space-specific auditory neurons of barn owls. Society for Neuroscience, Chicago, IL.
Oct 2019	Julia Gorman , Doris Ling, Barani Raman. Decoding olfactory neurons in <i>Drosophila</i> using the Flywalk behavioral assay. Society for Neuroscience, Chicago, IL.
Oct 2018	Gorman, Julia and Miller, Anna. Modeling ICx neurons in the barn owl. Fall Symposium at Seattle University, Seattle, WA.

TEACHING EXPERIENCE AND MENTORSHIP

Teaching Experience

2025	Assoc. Instructor: BIPN/PSYC 189, Brains, Behavior, and Evolution
2024	Instructor: NGP Computational Neuroscience Bootcamp
2024	Instructor: STARTneuro Sensory Systems and Lab
2023	TA: NGP Computational Neuroscience Bootcamp
2022	TA: NGP Computational Neuroscience Bootcamp
2022	TA: Intro to Python, NIH BP ENDURE Workshop
2021	TA: NGP Computational Neuroscience Bootcamp
2021	TA: STARTneuro Summer Program

Research Advising

2022 – 2025	Colors of the Brain mentees: Sayed Sadaat, Jazylinn Meza, Sharai Barrera
2022 – 2023	Lab undergraduate research assistants: Hector Orozco, Anand Mysorekar
2021 – 2025	Graduate mentorship programs: Camila Romero (NGP-GAAP), Maria Puerto Fals (Científico Latino)

AWARDS AND HONORS

2026	Society for Neuroscience Scholars Program Scholar
2025	UCSD Neuroscience Graduate Program Community Leadership Award
2025	COSYNE Presenters Travel Award
2025	Summer Graduate Teaching Scholars Award
2023	Society for Neuroscience Scholars Program Associate
2022	SIMULA Summer School in Computational Physiology Travel Award
2020	Mirbahgeri-Yandl Award for Achievement in Mathematics
2018	Seattle University College of Science and Engineering Bannan Scholar
2018	Alpha Sigma Nu Honor Society

LEADERSHIP POSITIONS

2024 –	Executive & Advisory Board Member, Colors of the Brain (CoB), UCSD
2021 – 2024	Program, Event & Outreach Coordinator, CoB-KIBM Summer Program
2021 – 2025	Contributor & Spanish Translator, NeuWrite SD
2020 –	Chair, NGP Social Media Committee; Member, NGP Admissions & Diversity Committees
2022 – 2024	Event Coordinator, Taste of Science San Diego

WORKSHOPS AND SYMPOSIA ORGANIZED

Aug 2024	CoB-KIBM Summer Research Program Symposium
Aug 2024	STARTneuro and CoB-KIBM joint workshop on Intro to Python
Sep 2023	CoB-KIBM Summer Research Program Symposium
Aug 2023	CoB-KIBM Summer Research Program Workshop: Presenting Your Research
Aug 2023	NIH BP ENDURE Intro to Python
Jul 2023	CoB-KIBM Bootcamp Intro to EEG, Analysis of Behavior, Intro to Coding
Apr 2023	Taste of Science Event: Sexy Science: Gonads and Genitalia
Sep 2022	CoB-KIBM Summer Research Program Symposium
Aug 2022	CoB-KIBM Summer Research Program Workshop: Science Communication
May 2022	CoB-KIBM Summer Research Program Workshop: Writing Statements of Purpose
Apr 2022	Taste of Science Event: Sexy Science: Taste of Algae
Mar 2022	CoB-KIBM Summer Research Program Workshop: Writing a CV
Nov 2021	CoB-KIBM Summer Research Program Workshop: Applying to Research Programs