

JULIA GORMAN

San Diego, CA

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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

- Data driven modeling of large scale neural data
- Multi-region neural circuit models of information flow and feedback
- Integrating theory and experiments to link biological network properties to emergent dynamics

RESEARCH TRAINING

- 2023 –** Graduate Student Researcher, UC San Diego, **Advisor: Timothy Q Gentner, Ph.D.**
- 2020 – 2023** Graduate Student Researcher, UC San Diego, **Advisor: Cory Miller, 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.**
- 2018 – 2019** Undergraduate Researcher, Seattle University, **Advisor: Leanne Robertson, Ph.D.**
- 2017 – 2018** Undergraduate Researcher, Seattle University, **Advisor: Eric Bahuaud, Ph.D.**

PUBLICATIONS

Manuscripts

7. **Julia C Gorman**, Timothy Sainburg, Trevor S. McPherson, Timothy Q. Gentner. Null-biased remapping stabilizes sensory population geometry to speed decisions. *In progress*
6. **Julia C Gorman***, Trevor McPherson*, Timothy Q Gentner. Neurobiological mechanisms underlying control theoretic approaches. *In progress*
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 (* indicates includes Spanish translation)

11. "This brainless blob might outsmart you" NeuWrite San Diego, Apr. 2025
10. "Meritocracy without DEI is a Myth" * NeuWrite San Diego, Feb. 2025
9. "Fighting fire with fire: How we can use opioids to fight opioid addiction" * NeuWrite San Diego, Mar. 2023
8. "Shocking the brain to protect your memories". NeuWrite San Diego, Sep. 2022
7. "Brains in Space" * NeuWrite San Diego, May. 2022
6. "Genetics of Sasquatch: Making Cryptozoology scientific?" NeuWrite San Diego, Jan. 2022
5. "Breastmilk for Baby Brains."* NeuWrite San Diego, Dec. 2021
4. "Are we ready for chips in our brains?" * NeuWrite San Diego, Nov. 2021
3. "What's a Topology and Why is it in my Neuroscience?!" * NeuWrite San Diego, June. 2021
2. "Neuromorphic Engineering: How Computers are Learning from the Brain" * NeuWrite San Diego, Apr. 2021
1. "Ketamine and Psychedelics: Next-Wave Antidepressants". NeuWrite San Diego, Jan. 2021

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

PRESENTATIONS

Invited Research Talks

Jun 2025 Species-specific neural population dynamics during vocal production. *Leaders of the Future Symposium*, Stanford, CA.

Mar 2025 Expectation-dependent neural population dynamics in a sensory population during behavior. *Cosyne*, Montreal, Can.

Jan 2025 Neural population dynamics underlying vocal communication behaviors *UCSD NGP Research Rounds*, San Diego, CA.

Nov 2024 Determining fixed points of a network from its underlying graph. *Janelia Junior Scientist Workshop on Theoretical Neuroscience*, Ashburn, VA.

Nov 2024 Expectation-driven sensory adaptations support enhanced acuity not probabilistic integration during categorical perception. *Janelia Junior Scientist Workshop on Theoretical Neuroscience*, Ashburn, VA.

May 2023 Neural population dynamics in area MT. *UCSD NGP Research Rounds*, San Diego, CA.

May 2023 Recommendations for Serving Students from Historically Marginalized Groups in Neuroscience. *virtually at Bowdoin College*, Brunswick, ME.

Mar 2023 Recommendations for Serving Students from Historically Marginalized Groups in Neuroscience. *Cognitive Neuroscience Society*, San Francisco, CA.

Nov 2019 Modeling ICx Neurons in the Barn Owl. *SMART Friday at Seattle University*, Seattle, WA.

Apr 2018 Solving PDEs using a Crank-Nicolson Scheme. *PNW Chapter of the Mathematical Association of America*, 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. *Cosyne*, 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. *Society for Neuroscience*, 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. Society for Neuroscience, 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 *Drosophila* 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

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

Research Advising

- 2024 – 2025** Camila Romero, NGP-GAAP
- 2024 – 2025** Sayed Sadaat, Colors of the Brain mentee
- 2023 – 2024** Jazlynn Meza, Colors of the Brain mentee
- 2023 – 2023** Hector Orozco, Undergraduate Research Assistant, Miller Lab
- 2022 – 2023** Anand Mysorekar, Undergraduate Research Assistant, Miller Lab
- 2022 – 2023** Sharai Barrera, Color of the Brain Mentee
- 2021 – 2022** Maria Puerto Fals, Cientifico Latino Mentee

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 and Advisory Board Member, Colors of the Brain (CoB), UCSD
2021 –	Contributor and Spanish Translator, NeuWrite SD
2020 –	Member, UCSD NGP Diversity Committee
2021 – 2024	Member, UCSD NGP Admissions Committee
2022 – 2024	Program Coordinator, CoB- Kavli Institute for Brain and Mind (KIBM) Summer Program
2022 – 2024	Event Coordinator, Taste of Science SD
2021 – 2022	Event and Outreach Coordinator, CoB-KIBM, University of California, San Diego
2020 – 2024	Chair, UCSD NGP Social Media Committee
2020 – 2022	Member, UCSD NGP Outreach Program
2021 – 2022	PhD Mentor, Científico Latino Graduate Mentorship Program
2019 – 2020	Data Acquisition Lead, Engineers Without Borders, Kilowatts for Humanity

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