

# JULIA GORMAN

San Diego, CA

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## EDUCATION

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<b>University of California, San Diego</b> <i>PhD in Computational Neuroscience; specialization in Anthropogeny</i>	<b>Sep 2020 – present</b> <i>La Jolla, CA</i>
<b>Seattle University</b> <i>BS Mathematics, BA Biology - Summa Cum Laude</i>	<b>Sep 2016 – Mar 2020</b> <i>Seattle, WA</i>

## RESEARCH INTERESTS

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- 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

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<b>2023 –</b>	Graduate Student Researcher, UC San Diego, <b>Advisor: Timothy Q Gentner, Ph.D.</b>
<b>2020 – 2023</b>	Graduate Student Researcher, UC San Diego, <b>Advisor: Cory Miller, Ph.D.</b>
<b>2018 – 2020</b>	Undergraduate Researcher, Seattle University, <b>Advisor: Brian Fischer, Ph.D.</b>
<b>2019 – 2020</b>	Undergraduate Researcher, Washington University in St. Louis, <b>Advisor: Barani Raman, Ph.D.</b>
<b>2018 – 2019</b>	Undergraduate Researcher, Seattle University, <b>Advisor: Leanne Robertson, Ph.D.</b>
<b>2017 – 2018</b>	Undergraduate Researcher, Seattle University, <b>Advisor: Eric Bahuaud, Ph.D.</b>

## PUBLICATIONS

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### 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.

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

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**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

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### 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 interneuronal 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

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### 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** Jazylnn 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

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**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

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

## WORKSHOPS AND SYMPOSIA ORGANIZED

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