Marissa Gee

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Education

Cornell Univeristy — Ithaca, NY
Ph.D. in Applied Mathematics, Advisor: Alexander Vladimirsky — Aug. 2018–May 2024 (Anticipated)

Cornell University — Ithaca, NY
M.S. in Applied Mathematics, GPA: 4.00 — 2018–2021

Harvey Mudd College (HMC) — Claremont, CA
B.S. in Mathematics, GPA: 3.90 — 2014–2018

- Thesis: "Modeling the Onset and Treatment of Type-1 Diabetes in the Human Pancreas"

Skills

- **Professional Development:** Teaching and Learning in the Diverse Classroom (Cornell University), Advancing Learning through Evidence-Based STEM Teaching (CIRTL Network), Communicating Mathematics (Alan Alda Center for Communicating Science)
- **Programming Languages:**
  - Proficient in: C++, MATLAB, Python
  - Experience with: R, Julia, Java, Maple, git

Teaching Experience

- **Lead Teaching Fellow**, Center for Teaching Innovation, Cornell University — Fall 2023 - Spring 2024
  Complete the responsibilities of a teaching fellow; mentor incoming fellows and co-organize biweekly group meetings
- **Instructor**, Cornell University — Summer 2023
  Calculus for Engineers (MATH 1910)
- **Graduate Teaching Fellow**, Center for Teaching Innovation, Cornell University — Fall 2022 - Spring 2023
  Developed and presented teaching workshops; co-organized university-wide teaching conference
- **Instructor**, Cornell University — Fall 2022, Fall 2021
  Calculus II (MATH 1120)
- **Assistant to Course Coordinator**, Cornell University — Fall 2021
  Calculus II (MATH 1120)
- **Head Teaching Assistant**, Cornell University — Fall 2020
  Differential Equations for Engineers (MATH 2930)
- **Grader**, Cornell University — 2019 - 2020
  Fall: Introduction to Differential Equations (MATH 3230), Spring: Complex Analysis (MATH 4180)
- **Teaching Assistant**, Cornell University — Summer 2019
  Basic Engineering Probability and Statistics (ENGRD 2700)
- **Math Tutor**, Academic Excellence, HMC — Fall 2017 – Spring 2018
- **Tutor**, Homework Hotline (Grades 4-12), HMC — Fall 2014 – Spring 2018
- **Grader and Tutor**, Department of Mathematics, HMC — Summer 2016 – Fall 2017
- **Grader and Tutor**, Department of Computer Science, HMC — Spring 2012 – Fall 2016

Teaching Workshops

1. (Forthcoming) "Creating Accessible Teaching and Research Documents in STEM," two part workshop to be presented as part of the Center for the Integration of Research, Teaching, and Learning (CIRTL) network's Fall programming, Fall 2023. With A. Malinovskaya.

2. "Getting Started with Active Learning," workshop presented as part of the *Active Learning Institute*, Center for Teaching Innovation, Cornell University, Oct. 2023. With C. Dombaxe.

3. "Inclusive Assessment," workshop presented at *University-wide Conference on Inclusive Teaching*, Center for Teaching Innovation, Cornell University, Apr. 2023. With A. Wolff.

4. "Topics in STEM Accessibility," talk given at Cornell University, Mar. 2023. With A. Malinovskaya, R. Gunderson, and J. Rummings.

5. "Supporting Students with Math Anxiety," talk given at *Teaching Seminar*, Department of Mathematics, Cornell University, Nov. 2022. With S. Nagpal.

6. "Effective Grading and Feedback," workshop presented as part of the *Essentials of Teaching Institute*, Center for Teaching Innovation, Cornell University, Sep. 2022. With R. Tacoma-Fogal.

Publications

1. **M. Gee** and A. Vladimirsky, "Optimal Path-Planning with Random Breakdowns" IEEE Control Systems Letters 6 (November 2021): 1658-1663

2. Q. Luo, **M. Gee**, B. Piccoli, D. Work, and S. Samaranayake, "Managing Public Transit during a Pandemic: The Trade-Off between Safety and Mobility" *Transportation Research Part C: Emerging Technologies*, vol. 138, 2020

3. B. Shtylla, **M. Gee**, A. Do, S. Shabahang, L. Eldevik, and L. de Pillis, "A Mathematical Model for DC Vaccine Treatment of Type 1 Diabetes," *Frontiers in Physiology*, vol. 10, pp. 1107, 2019.

4. B. Anderson, E. Loeser, **M. Gee**, F. Ren, S. Biswas, O. Turanova, M. Haberland, and A. Bertozzi, "Quantifying Robotic Swarm Coverage," *Lecture Notes in Electrical Engineering*, Springer, 2019.

5. B. Anderson, E. Loeser, **M. Gee**, F. Ren, S. Biswas, O. Turanova, M. Haberland, and A. Bertozzi, "Quantitative Assessment of Robotic Swarm Coverage," in *Proceedings of the 15th International Conference on Informatics in Control, Automation and Robotics (ICINCO)* Porto, Portugal, June, 2018.

6. B. Castro, T. Diaz, **M. Gee**, R. Justice, D. Kwan, P. Seshadri, and Z. Dodds, "MyCS at 5: Assessing a Middle-years CS Curriculum" in *Proceedings of the 47th ACM Technical Symposium on Computing Science Education*, Memphis, TN, USA, March, 2016.

Research Talks

1. "Optimally Navigating a Piecewise-deterministic World," talk given at *Early Career Math Colloquium*, virtual, Oct. 2023

2. "Navigating the Landscape of Fear," talk given at *SIAM Conference on Control and its Applications (CT23)*, Cornell University, Philidelphia, PA, Jul. 2023

3. "Navigating the Landscape of Fear," talk given at *Scientific Computing and Numerics (SCAN) Seminar*, Cornell University, Ithaca, NY, Mar. 2023

4. "Optimal Path-planning with Random Breakdowns," talk given at *American Control Conference 2022*, IEEE, Atlanta, GA, Jun. 2022

5. "Optimal Path-planning in the Presence of Random Breakdowns," talk given at *Scientific Computing and Numerics (SCAN) Seminar*, Cornell University, Ithaca, NY, Dec. 2021

6. "Filtering Techniques for State Estimation and Control," talk given at *Applied Dynamics Seminar*, Cornell University, Ithaca, NY, Apr. 2021

7. "Local Clustering in Time Evolving Hypergraphs," talk given at *Applied Dynamics Seminar*, Cornell University, Ithaca, NY, Nov. 2019

8. "A Differential Equations Model of Immune Cell Dynamics in the Pancreas," talk given at *Southern California Applied Mathematics Symposium*, Santa Barbara, CA, Apr. 2018

Fellowships and Awards

- Donald H. Wulff Diversity Fellowship, POD Network (up to $2000) 2023–2024
- Center for Teaching Innovation Lead Fellow ($2000) 2023–2024
- SIAM Travel Grant ($600) 2023
- Graduate Teaching Assistant Award, Department of Mathematics, Cornell University ($750) 2022
- Center for Teaching Innovation Fellow ($2000) 2022–2023
- Conference Travel Grant, Cornell University ($240) 2022
- Paul R. Bishop Award in Choral and Vocal Music ($500) 2014
- The Chavin Prize (HMC) 2014
- The Giovanni Borrelli Mathematics Prize (HMC) 2014

Service

- **Mentor**, Directed Reading Program in Mathematics, Cornell University Fa. 2020–Sp. 2023
- **Volunteer**, Expanding Your Horizons, Cornell University April, 2023
- **Judge**, Cornell Mathematical Contest in Modeling Fall 2022
- **Summer Research Experience for Undergraduates**, Cornell University Summer 2022
  Graduate Student Assistant, advisor: Alexander Vladimirsky
- **Graduate Student Mentoring Program**, Center for Applied Mathematics 2020–2022
  Mentor (2020 - 2021) and Co-coordintor (2021 - 2022)
- **Volunteer**, VaCS: Vaccine Conversations with Scientists Summer 2021
- **Volunteer**, Julia Robinson Math Festival April, 2021
- **Co-president**, Women in Math, HMC 2017 –2018
- **Wellness Peer**, Office of Health and Wellness, HMC 2015 –2018
- **Summer Institute Mentor**, Office of Institutional Diversity, HMC Summer 2016