Marisa Gaetz – Curriculum Vitae

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EDUCATION

Massachusetts Institute of Technology *2020 – 2025*
Ph.D. Candidate in Mathematics, advised by David Vogan — GPA: 5.0/5.0
Massachusetts Institute of Technology *2016 – 2020*
B.S. Mathematics and Minor in Philosophy — GPA: 4.9/5.0

JOB EXPERIENCE

Research Scientist Intern at Gates Foundation Institute for Disease Modeling (AgileOne) . . Jan.–March 2024
Co-Founder and President of Brave Behind Bars, Inc. (education for incarcerated people) 2021–

SELECTED AWARDS

NSF Graduate Research Fellowship . . . . 2020 – 2025
Fannie & John Hertz Fellowship . . . . 2020 – 2025
MIT Mathematics Award for Service to the Math Community 2022
George Lusztig PRIMES Mentorship Award for Exceptional Mentor Service 2022
MIT Martin Luther King Jr. Leadership Award 2021
The Educational Justice Institute at MIT Teaching Award 2021
MIT Priscilla King Gray (PKG) Award for Public Service 2021
MIT ESG-PKG Public Service Fellowship 2020
Alice T. Schafer Mathematics Prize Honorable Mention 2020
MIT William L. Stewart Jr. Award 2020
MIT ESG Community Service Award 2019

PUBLICATIONS AND PREPRINTS

10. M. Gaetz. Dual pairs in $PGL(n, \mathbb{C})$, *Preprint* (2024). — arXiv:2410.09625

9. M. Gaetz. An explicit classification of dual pairs in exceptional Lie algebras, *Preprint* (2024). — arXiv:2410.02030

8. M. Gaetz and D. A. Vogan. Disconnected reductive groups, *J. Lie Theory* **34** (2024) 2, 469–480. — arXiv:2310.00170

7. M. Gaetz. Dual pairs in complex classical groups and Lie algebras, *Preprint* (2024). — arXiv:1910.07592

6. M. Nisser, M. Gaetz, A. Fishberg, R. Soicher, F. Faruqi, and J. Long. From prisons to programming: fostering self-efficacy via virtual web design curricula in prisons and jails, *Proceedings of the CHI Conference on Human Factors in Computing Systems* (2024). — arXiv:2404.15904

5. M. Gaetz. Anti-power j-fixes of the Thue-Morse word, *Discrete Math. Theor. Comput. Sci.* **23** (2021) 1. — arXiv:1808.01528

4. M. Gaetz and C. Ji. Enumeration and extensions of word-representants, *Discrete Appl. Math.* **284** (2020), 423–433. — arXiv:1909.00019

3. B. Flanagan, M. Gaetz, M. Scheepers, and M. Shanks. Quantifying CDS sortability of permutations by strategic pile size, *Discrete Math. Algorithms Appl.* **12** (2020). — arXiv:1811.11937

2. M. Gaetz, W. Hardt, and S. Sridhar. Support equalities among ribbon Schur functions, *Electron. J. Combin.* **26** (2019) 3, P3.52. — arXiv:1709.03011

1. B. Benesh and M. Gaetz. A q-player impartial avoidance game for generating finite groups, *Internat. J. Game Theory* **47** (2018) 2, 451–461. — arXiv:1607.06420

ORGANIZING AND COMMITTEE INVOLVEMENT

Co-Founder and Co-Director, Brave Behind Bars, Inc. 2021 –
- · Co-founded and co-direct a 501(c)(3) nonprofit (incorporated in 2023) that provides year-long college-accredited STEM education for incarcerated people.
- · Employed by Georgetown University as an Adjunct Professor in Summers 2023, 2024, and 2025 to provide our courses at the DC Jail.

Co-Coordinator, *PRIMES Circle*, MIT Department of Mathematics 2021 –
- · Co-coordinate a free after-school math enrichment program for high schoolers from underrepresented backgrounds.

Committee Head, *Computer Education*, The Educational Justice Institute at MIT 2020 –

Committee Member, *Diversity and Community Building*, MIT Dept. of Mathematics 2018 –

Organizer, *Pure Math Graduate Student Seminar*, MIT Department of Mathematics 2021 – 2022

Co-Founder and President, *Prison Education Initiative*, MIT 2018 – 2021

Organizer, *Summer of HOPE* ethics program for court-involved youths 2019 – 2020

Organizer and Head Counselor, *Discover Mathematics* program for first years 2017 – 2020

MENTORING AND TEACHING

Teaching Assistant, *Linear Algebra (18.06)*, MIT Fall 2024

Teaching Assistant, *Web Design I*, Brave Behind Bars, Inc. 2021 – 2024
- · TA-ed a remote web design course for incarcerated people through my nonprofit.

Reading Course Mentor, *Directed Reading Program*, MIT Dept. of Mathematics Winter 2021
- · Mentored two undergraduates studying quantum mechanics and representation theory.

Reading Course Mentor, *PRIMES Circle*, MIT Department of Mathematics 2018 – 2020
- · Mentored high schoolers from underrepresented backgrounds studying game theory.

Teaching Assistant, *Philosophy Courses*, The Educational Justice Institute at MIT 2018 – 2021
- · *ES.9112 Philosophy of Love*, Maine Department of Corrections (Spring 2021).
- · *ES.9114 Nonviolence as a Way of Life*, Maine Department of Corrections (Fall 2020).
- · *ES.9114 Nonviolence as a Way of Life*, South Bay House of Correction (Spring 2019).
- · *ES.9114 Nonviolence as a Way of Life*, Boston Pre-Release Center (Fall 2018).

Associate Advisor, *Algebra of Surfaces*, MIT Freshman Advising Seminar Fall 2018

Teaching Assistant, *Physics I*, The Educational Justice Institute at MIT Spring 2017

LANGUAGES

- · **Programming/Markup**: LaTeX, Python, HTML, CSS, JavaScript, SQL