Dr. Tamsyn Morrill

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Education

Ph.D. in Mathematics, Oregon State University, 2017

Thesis: Overpartition Ranks, Cranks, and Frobenius Representations

M.S. in Mathematics, Oregon State University, 2013

B.A. in Mathematics, Earlham College, 2011

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Work

August 2020 - Present: Assistant Professor of Mathematics, Trine University

Face-to-face, hybrid, and online teaching. Courses taught:

- College Algebra

- Trigonometry

- Discrete Mathematics

- Calculus I, II, III

- Differential Equations

- Linear Algebra

- Number Theory

- Historical Aspects of Mathematics

April 2018 - June 2020: Postdoctoral Fellow in Analytic Number Theory, UNSW Canberra

September 2017: Instructor, Oregon State University

September 2011 - June 2017: Graduate Teaching Assistant, Oregon State University

Research

Papers

- *On the Euclidean Algorithm: Rhythm Without Recursion* Thomas Morrill, Bulletin of the Australian Mathematical Society 1-7. (2022) https://doi.org/10.1017/S0004972722000909

- *A Stanley–Elder Theorem on Cranks and Frobenius Symbols* George Andrews, Manosij Dastidar, Thomas Morrill, Research in Number Theory 7, 56 (2021) https://doi.org/10.1007/s40993-021-00285-7

- *Sign Changes in the Prime Number Theorem*, Thomas Morrill, David Platt, Tim Trudgian, The Ramanujan Journal (2021) https://doi.org/10.1007/s11139-021-00398-8

- *Quasimodularity of the kth Residual Cranks*, Thomas Morrill, Aleksander Simonic, International Journal of Number Theory (2021) https://doi.org/10.1142/S1793042121500019

- *Robin's Inequality for* 20-*Free Integers*, Thomas Morrill, David Platt, INTEGERS: Electronic Journal of Combinatorial Number Theory 21 (2021) http://math.colgate.edu/~integers/v28/v28.pdf

- *Look, Knave*, Thomas Morrill, Bulletin of the Australian Mathematical Society, 103(2), 210-217 (2021) https://doi.org/10.1017/S0004972720000659

- *Inequalities for the d-th Residual Crank Moments of Overpartitions*, Ali Al-Saedi, Thomas Morrill, Holly Swisher, International Journal of Number Theory (2020) https://doi.org/10.1142/S1793042120500840

- *Difference Tones in "Non-Pythagorean" Scales Based on Logarithms*, Thomas Morrill, Journal of Mathematics and Music (2020) https://doi.org/10.1080/17459737.2019.1704084

- *An Elementary Bound on Siegel Zeroes*, Thomas Morrill, Tim Trudgian, Journal of Number Theory (2019) https://doi.org/10.1016/j.jnt.2019.10.024

- *Two Families of Buffered Frobenius Representations of Overpartitions*, Thomas Morrill, Ann. Comb. (2019) 23:103-141 https://www.doi.org/10.1007/s00026-019-00419-w

Conference Talks (Recent Five Years)

- *The Knave's Cosmological Theorem*, Indiana Section MAA Fall Meeting 2023, University of Notre Dame, October 7, 2023

- *The Student Must Have Slack!*, Inclusive Teaching: Collective Takeaways, Trine University, September 20, 2023

- *A Stanley-Elder Type Relationship for Overpartitions*, Joint Mathematics Meetings 2022, Virtual Conference, April 9, 2022

- *Quasimodularity of the k-th Residual Cranks*, Joint Mathematics Meetings 2022, Virtual Conference, April 7, 2022

- *Further Study of the Knave Map*, Number Theory Down Under 8, Virtual Conference, October 8, 2020

- *Look, Knave*, Number Theory Online Conference 2020, Virtual Conference, June 3, 2020

- *A Combinatorial Proof of Jackson's Summation*, 63rd Meeting of the Australian Mathematical Society, Melbourne Australia, December 5 2019

- *Overpartition Crank Moments and Quasimodularity*, Number Theory Down Under 7, Sydney Australia, October 3 2019

- *Overpartitions*, 62nd Meeting of the Australian Mathematical Society, Adelaide Australia, December 5 2018

- *An elementary bound on Siegel zeroes*, Number Theory Down Under 6, UNSW Canberra, September 26, 2018

- *Improving the t-free results on Robin's inequality*, CNTA XV, Université Laval, July 12, 2018

Conferences Attended (Recent Five Years)

- Indiana Section MAA Fall Meeting 2023, University of Notre Dame, October 7, 2023

- Joint Mathematics Meetings 2022, online conference, April 2022

- Number Theory Down Under 8, online conference, October 2020

- Number Theory Online Conference 2020, online conference, June 2020

- 63rd Meeting of the Australian Mathematical Society, Monash University, Melbourne Australia, December 2019

- Number Theory Down Under 7, University of Sydney, October 2019

- Joint Mathematics Meetings 2019, Baltimore MD, January 2019

Seminar Talks (Recent Five Years)

- *The Knave's Cosmological Theorem*, Oregon State State University Number Theory Seminar, October 17, 2023

- *Rook Polynomials: A Straight-Forward Problem*, Trine Mathematics Colloquium, February 10, 2022

- *The Theory of Integer Partitions, II*, Trine Mathematics Colloquium September 23, 2021

- *The Theory of Integer Partitions, I*, Trine Mathematics Colloquium, September 9, 2021

- *Moment Inequalities of Overpartition Cranks*, Amherst REU Seminar, July 19, 2021

- *Sign Changes in the Prime Number Theorem*, Binghamton Arithmetic Semianr, March 9, 2021

- *Look, Knave*, Oregon State University REU Seminar, October 2, 2020

- *A Moment to Count*, UNSW Canberra Number Theory Seminar, UNSW Canberra, March 9, 2020

- *Relaxing Modular Forms*, Canberra Number Theory Day, ANU, January 24, 2020

- *Overpartitions and q-Hypergeometric Series*, UNSW Number Theory Seminar, UNSW, October 31, 2019

- *Overpartition Cranks and Quasimodularity: Encore*, UNSW Canberra Number Theory Seminar, UNSW Canberra, October 15, 2019

- *Partition Zeta Functions*, UNSW Canberra Number Theory Seminar, UNSW Canberra, August 6, 2019

- *Introduction to Partition Theory II*, UNSW Canberra Number Theory Seminar, UNSW Canberra, May 21, 2019

- *Oscillations in the Prime Number Theorem Error Term*, Pure Maths Seminar, University of Queensland, May 14, 2019

- *Counting Sign Changes in the Prime Number Theorem*, ANU Algebra and Topology Seminar, ANU, March 26, 2019

- *Introduction to Partition Theory I*, UNSW Canberra Number Theory Seminar, UNSW Canberra, March 19, 2019

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Service (Recent Five Years)

- Director, Math Tutoring Center and Math Competition, Trine University, 2022 - 2023

- Faculty Advisor, Gender and Sexualities Alliance Network, Trine University, 2021 - Present

- Chair, Honors Calculus Committee, Trine University, 2021 - 2022

- General Education Assessment Committee, Trine University, 2021 - Present
  Data Literacy Subcommittee Chair, 2022 - Present

- Director, Math Tutoring Center, Trine University, 2021 - 2022

- Mathematics Department Assessment Committee, Trine University, 2021 - Present

- Math Competition Committee, Trine University, 2021 - 2022

- General Education Assessment Workshop, Trine University, 2021

- Mathematics Department Curriculum Committee, Trine University, 2020 - 2021

- Mathematics Department Hiring Committee, Trine University, 2020 - 2021

- Curriculum Committee, Trine Department of Mathematics and Physics, 2020 - 2021

- Co-organizer, Number Theory Online Conference 2020, June 2020

- QueersInScience Inaugral Committee for ACT, 2020

- UNSW Canberra LGBTIQ Working Group and Diversity Champion, 2019 - 2020

- UNSW Canberra Equity Diversity & Inclusion Committee, 2019 - 2020

- ACT Division Hiring Panel, National Tertiary Education Union, 2019

- UNSW ALLY Network, 2019 - 2020

- Mentor, Women in STEM Mentoring Program, UNSW Canberra, 2019, 2020

- ACT Division Councilor, National Tertiary Education Union, 2018 - 2019

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Outreach (Recent Five Years)

***Dynamical Mathematical Gazette* Contributor, 2022**

https://mathsfeed.blog/

OSU Mathematics Alumni Panel

Oregon State University Graduate Orientation Seminar, May 25, 2022

"STEM with Storm", Trine University, 2022

Online campaign promoting STEM Education in Steuben County, Indiana.

"Rook Polynomials: A Straight-Forward Problem" *AMS Feature Column*, January 1, 2022

https://mathvoices.ams.org/featurecolumn/2022/01/01/rook-polynomials/

"Diagonal Zeal," April 2021

A song about the difficulties of mathematics jargon. Full audio and notes may be found at https://jocko-homomorphism.bandcamp.com/track/diagonal-zeal

QueersInScience Wear It Purple Day Campaign, 2020

Video campaign promoting Wear It Purple Day, an annual LGBTIQA+ awareness day in Australia.

QueersInScience National Science Week Campaign, 2020

Video campaign promoting National Science Week in Australia.

"A Game of Broken Telephone," 2020

A general audience write-up of the Look, Knave problem (see *Research*, above), published in the *Midnight Missives* zine. https://wtbc.bandcamp.com/merch/midnight-missives

QueersInScience Prime Minister's Prizes for Science Campaign, 2020

Online campaign promoting diversity in nominations for the Prime Minister's Prizes for Science.

"Discretion," February 2020

A song about the mathematics behind RSA encryption. Full audio and notes may be found at jocko-homomorphism.bandcamp.com/track/discretion

"This is What a Scientist Looks Like" Australian Mathematical Sciences Institute Panel Discussion, University of New South Wales, January 23, 2019

Discussion of marginalized people's experiences in STEM fields.

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Training

- Campus Pride Safe Space Training, April 2023

- Standard Mental Health First Aider, Mental Health First Aid Australia, June 12, 2019

- UNSW Ally Training, UNSW Canberra, June 7, 2019

- Foundations of University Learning and Teaching, UNSW Canberra, February-April 2019

- Early Career Workshop, 62nd Meeting of the Australian Mathematical Society, Adelaide Australia, December 2019

- UNSW Essentials of Supervision, October 24, 2018

- NTEU Financial Governance Training, October 5, 2018

- OSU Office of Equity and Inclusion Implicit Bias Training, 2016

- OSU Online FERPA Training, Oregon State University, 2011

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References

Dr. Linda Conley	Associate Professor	(260) 665-4467	conleyl@trine.edu
Dr. Haseeb Kazi	Professor and Director of Study Abroad	(260) 665-4248	haseebk@trine.edu
Dr. Anthony Vasaturo	Associate Professor	(260) 665-4959	vasaturoa@trine.edu