

MANAMI ROY

CONTACT INFORMATION

Department of Mathematical Sciences
Lafayette College
730 High St
Easton, PA 18042.

manamiroy.m@gmail.com
<https://manamiroy.github.io/>

EMPLOYMENT

Assistant Professor
Department of Mathematical Sciences, Lafayette College

July 2023 - present

Peter M. Curran Visiting Assistant Professor
Department of Mathematics, Fordham University

August 2019 - June 2023

EDUCATION

University of Oklahoma, Norman, OK, USA
Ph.D. in Mathematics
Advisor: Dr. Ralf Schmidt

2014-2019

IISER Kolkata, Mohanpur, Nadia, West Bengal, India
M.S. of the Integrated PhD. Program in Mathematics

2011-2014

Bethune College, University of Calcutta, Kolkata, India
B.Sc.(Honors) in Mathematics

2009 - 2011

RESEARCH INTEREST

Number theory and arithmetic geometry; broadly comes under the Langlands Program. Specifically, I am interested in automorphic forms, local-global representation theory, elliptic curves, L -functions and classical modular forms. Recently, I have been working on some projects in computational number theory.

PUBLICATION

1. *Supercongruences arising from Ramanujan-Sato Series* with Angelica Babei, Holly Swisher, Bella Tobin, and Fang-Ting Tu, Results Math **80**, 184 (2025), DOI: <https://doi.org/10.1007/s00025-025-02497-0>.
2. *Local data of elliptic curves under quadratic twist*, with Alexander J. Barrios, Nandita Sahajpal, Darwin Tallana, Bella Tobin, and Hanneke Wiersema, 40 pages, to appear in Research in Number Theory, 2025.
3. *Towards a classification of p^2 -discriminant ideal twins over number fields*, with Alyson Deines, Asimina S. Hamakiotes, Andreea Iorga, Changningphaabi Namoiyam, and Lori D. Watson, 17 pages, to appear in Research Directions in Number Theory: Women in Numbers VI, 2025.
4. *Creating a dynamic database of finite groups*, with Lewis Combes, John W. Jones, Jennifer Paulhus, David Roe, and Sam Schiavone, 25 pages, to appear in the proceedings of the LuCaNT (LMFDB, Computation, and Number Theory), Contemporary Mathematics, 2025

5. *Classical and adelic Eisenstein series*, with Ralf Schmidt and Shaoyun Yi, 38 pages, to appear in Rocky Mountain Journal of Mathematics, 2024.
6. *Generalized Ramanujan-Sato Series Arising from Modular Forms*, with Angelica Babei, Lea Beneish, Holly Swisher, Bella Tobin, and Fang-Ting Tu, In: Bucur, A., Ho, W., Scheidler, R. (eds) Research Directions in Number Theory. Association for Women in Mathematics Series, vol **33**. Springer, Cham. DOI: https://doi.org/10.1007/978-3-031-51677-1_3.
7. *Dimension formulas for Siegel modular forms of level 4*, with Ralf Schmidt and Shaoyun Yi, and an appendix by Cris Poor and David S. Yuen, Mathematika **69** (2023), no. 3, 795-840. DOI: <https://doi.org/10.1112/mtk.12207>.
8. *The completed standard L-function of modular forms on G_2* , with Fatma Çiçek, Giuliana Davidoff, Sarah Dijols, Trajan Hammonds, and Aaron Pollack, Mathematische Zeitschrift **302** (2022), 483-517, DOI: <https://doi.org/10.1007/s00209-022-03067-8>.
9. *Representations attached to elliptic curves with a non-trivial odd torsion point*, with Alexander J. Barrios, Bulletin of the London Mathematical Society **54** (2022), 1846-1861, DOI: [10.1112/blms.12660](https://doi.org/10.1112/blms.12660).
10. *Local Data of Rational Elliptic Curves with non-Trivial Torsion*, with Alexander J. Barrios, Pacific Journal of Mathematics **318** (2022), no.1, 1-42, DOI: <https://doi.org/10.2140/pjm.2022.318.1>.
11. *Congruences for dimensions of spaces of Siegel cusp forms and 4-core partitions*, with Chiranjit Ray and Shaoyun Yi, The Ramanujan Journal **58**, 1011-1023 (2022), DOI: [10.1007/s11139-021-00481-0](https://doi.org/10.1007/s11139-021-00481-0).
12. *Paramodular forms coming from elliptic curves*, J. Number Theory **233** (2022), 126-157, DOI: [10.1016/j.jnt.2021.06.007](https://doi.org/10.1016/j.jnt.2021.06.007).
13. *On counting cuspidal automorphic representations for $GSp(4)$* , with Ralf Schmidt and Shaoyun Yi, Forum Mathematicum **33** (2021), no. 3, 821-843, DOI: [10.1515/forum-2020-0313](https://doi.org/10.1515/forum-2020-0313).
14. *Level of Siegel modular forms constructed via sym^3 lifting*, Automorphic forms and related topics, 225-227, Contemp. Math., **732** (2019), 225-227, Amer. Math. Soc., DOI: [10.1090/conm/732/14798](https://doi.org/10.1090/conm/732/14798).
15. *Elliptic curves and paramodular forms*, University of Oklahoma doctoral dissertation, 2019.

PREPRINTS

16. *The integral Hasse principle for stacky curves associated to a family of generalized Fermat equations*, with Juanita Duque-Rosero, Christopher Keyes, Andrew Kobin, Soumya Sankar, and Yidi Wang, 41 pages, arXiv preprint, 2025 (Submitted).
17. *The quaternionic Maass Spezialschar on split $SO(8)$* , with Jennifer Johnson-Leung, Finn McGlade, Isabella Negrini, and Aaron Pollack, 38 pages, arXiv preprint, 2024 (Submitted).
18. *Prime isogenous discriminant twins over number fields*, with Alexander J. Barrios, Alyson Deines, Maila Hallare, and Piper Harris, 35 pages, arXiv preprint, 2024 (Submitted).

COMPUTATIONAL PROJECT

[Database for Groups in L-functions and Modular Forms Database \(LMFDB\)](#)

[Siegel modular forms in L-functions and Modular Forms Database \(LMFDB\)](#)

SELECTED TEACHING EXPERIENCE

Lafayette College

as Primary Instructor and Course Organizer

Number Theory	Math 328	Spring 2024
Abstract Algebra	Math 351	Fall 2024 and 2025
Discrete Structure	Math 182	Spring 2023, 2024 and 2025
Calculus I	Math 161	Fall 2023 and 2024

Fordham University

as Primary Instructor and Course Organizer

Finite Mathematics	Math 1100	Spring 2022
Math for Business Finite	Math 1108	Fall 2020, Spring 2022
Calculus I	Math 1206	Fall 2019, 2021, and 2022
Calculus II	Math 1207	Summer 2020 and 2021
Multivariable Calculus II	Math 2005	Spring 2020
Linear Algebra I	Math 2006	Spring 2021 and 2022
Abstract Algebra I	Math 3005	Fall 2020 and 2021

University of Oklahoma

as Primary Instructor

Trigonometry and Precalculus	Math 1523	Fall 2017, Spring 2018
College Algebra	Math 1503	Summer 2017

as Teaching Assistant

Discrete Mathematics	Fall 2018
Differential and Integral Calculus II	Spring 2017
Calculus and Analytic Geometry I	Fall 2016, Summer 2017
Mathematics Capstone course on Unsolved Problems	Spring 2015
Calculus and Analytic Geometry II	Fall 2015

PROJECT LEADERSHIP

Isogenous Discriminant Twins over Number Fields

- co-led of a project with Alyson Deines.
- This project started at the collaborative research workshop [Women in Number Theory 6](#).

Elliptic curves with non-trivial isogeny

- co-led a project with Alexander Barrios.
- This project started at [RNT: Rethinking Number Theory 2](#), a collaborative research workshop.

GRANTS

AMS-Simons Research Enhancement Grants for PUI 2025-2028

- A \$3,000 grant to be used for research-related activities each year for three years.

Research-in Groups of the International Centre for Mathematical Sciences (ICMS) 2025

- Project Title: Existence and enumeration of integral points on spherical stacky curves. The grant provides funding of 11500 GBP (\$14,459) for me and five of my collaborators (Juanita Duque-Rosero, Christopher Keyes, Andrew Kobin, Soumya Sankar, and Yidi Wang) to meet at ICMS, Edinburgh between June 23 and July 4, 2025.

Focussed Research Group of the Banff International Research Station for Mathematical Innovation and Discovery (BIRS) 2025

- The grant provides funding for me and five of my collaborators (Juanita Duque-Rosero, Christopher Keyes, Andrew Kobin, Soumya Sankar, and Yidi Wang) to meet at the BIRS facility at The Banff Centre in Banff, Alberta, Canada on October 26-November 2, 2025.

AMS-Simons Travel Grant 2022-2024

- A \$5,000 grant to be used for research-related travel.

American Institute of Mathematics (AIM) SQuaRE 2022-2025

- Project Title: Weight Three Paramodular Forms, (with Cris Poor, Jerry Shurman, and Dave Yuen).

American Institute of Mathematics (AIM) SQuaRE 2023-2026

- Project Title: New Directions in Quaternionic modular forms, (with Lars Kleinemeier, Jennifer Johnson Leung, Finley Mcglade, Isabella Negrini, and Aaron Pollack).

HONORS AND AWARDS

- *Association for Women in Mathematics travel grant to present at AWM JMM Graduate Student Poster Session* 2019
- *American Mathematical Society Travel Grant \$500 Travel Grant to attend JMM* 2019.
- *MGSA Good Mentor Award*, University of Oklahoma, 2019
- *Best Poster Award at TORA X*, University of North Texas 2019
- *Department of Mathematics Graduate Fellowship*, University of Oklahoma, 2015 - 2019
- *Harold Huneke Graduate Scholarship*, University of Oklahoma, 2016
- *Richard V. Andree Memorial Scholarship*, University of Oklahoma, 2015
- *Inspire Fellowship* for PhD, India, 2013
- *CSIR National Eligibility Test (NET) for JRF*, India, 2014
- *Graduate Aptitude Test in Engineering (GATE)*, 2014
- M.Sc. rank at IISER, Kolkata in Mathematics: *First*, 2014
- B.Sc. rank all over the University of Calcutta in Mathematics: *Third*, 2011

TRAINING AND CERTIFICATION

- *The Mathematical Association of America's (MAA) Project NeXT (New Experiences in Teaching) fellowship*, 2024-25
- *The Departmental Teaching Certificate*, Department of Mathematics, University of Oklahoma, 2018
- *Teach College Mathematics*, a mandatory course for all teaching assistants in the Department of Mathematics, University of Oklahoma, 2015
- Advanced Tutor Training Programs for Business and Advanced Calculus, Department of Mathematics, University of Oklahoma, 2015

- *Professional Ethics Training course in Responsible Conduct of Research*, conducted by the National Institute of Health [NIH] and National Science Foundation [NSF], University of Oklahoma, 2015.
- *Development for International Teaching Assistants*, University of Oklahoma, 2014

INVITED TALKS

Special Session on the Number Theory at PUIs, AWM Research Symposium	May 17, 2025
AMS Special Session on Rethinking Number Theory, JMM 2025	Jan 10, 2025
Special Session on Recent Developments in Automorphic Forms Representation Theory, AMS 2024 Fall Eastern Sectional Meeting, Albany	Oct 20, 2024
Algebra and Number Theory Seminar, Wesleyan University	Oct 18, 2024
International Conference on Lie Algebras and Number Theory, NIT Calicut	Jun 13, 2024
Algebra and Number Theory Seminar, Oregon State University	Nov 7, 2023
Special Session on Automorphic Forms and L-Functions, AMS Sectional	Sep 9, 2023
Joint COLUMBIA-CUNY-NYU Number Theory Seminar	Dec 1, 2022
UBC Number Theory Seminar	Oct 19, 2022
Mathematics Colloquium, Ashoka University, India	Sep 13, 2022
Stat-Math Unit Seminar, ISI Delhi, India	Sep 7, 2022
AMS Special Session on Recent Advances on the Langlands Program	May 15, 2022.
Explicit Methods for Modularity Session	Apr 12, 2022
AMS Special Session on A Showcase of Number Theory at Undergrad Institute	Apr 6, 2022
International Seminar on Automorphic Forms	Dec 7, 2021
Johns Hopkins Number Theory Seminar	Nov 17, 2021
Oregon State University Number Theory Seminar	Nov 2, 2021
PRiME (Pomona Research in Mathematics Experience)	Jul 30, 2021
Queen Mary University of London Algebra and Number Theory Seminar	Mar 12, 2021
The Ohio State University Number Theory Seminar	Feb 15, 2021
Number Theory, Cryptography, and Coding Theory Seminar, Clemson University	Jan 25, 2021
Number Theory Seminar, Queen's University	Jan 22, 2021
VaNTAGe Math	Dec 8, 2020

Algebra and Number Theory Seminar , Louisiana State University	Nov 3, 2020
Algebra Seminar , University of North Texas	Oct 23, 2020
Workshop on Arithmetic Geometry, Number theory and Computation, ICERM	Jun 2, 2020
Study group in number theory , the Graduate Center, CUNY	Oct 11, 2019
ISI, Kolkata, India	Mar 15, 2019
IISER, Pune, India	Mar 8, 2019
Clemson University	Apr 3, 2017
Algebra Symposium, University of North Texas	Nov 5, 2016

CONFERENCE TALKS

TORA XIV-Gradute Student Prep Session , Oklahoma State University	April 4, 2024
TORA XIII , University of North Texas	April 14, 2024
Southern Regional Number Theory Conference	Mar 9, 2024
Texas-Oklahoma Representations and Automorphic forms XIII	Apr 14, 2024
Symposium on Arithmetic Geometry and its Applications , CIRM	Feb 10, 2023
AMS Special Session on Number theory at non-PhD granting institutions , JMM	Jan 5, 2023
AMS Special Session on Rethinking Number Theory , JMM	Jan 4, 2023
AMS Special Session on Rethinking Number Theory , JMM	Apr 7, 2022
Upstate Number Theory Conference	Oct 23, 2021
Maine-Québec Number Theory Conference	Oct 3, 2021
PAJAMAS III , Clemson University	Sep 26, 2021
Madison Moduli Weekend , University of Wisconsin-Madison	Sep 26, 2020
MAAIM , Emory University	Nov 2, 2019
TORA X , University of North Texas	Apr 6, 2019
AMS Contributed Paper Session on Number Theory , JMM	Jan 18, 2019
TORA IX , University of Oklahoma	Apr 7, 2018

UNCG Summer School in Computational Number Theory	May 22, 2017
31st Automorphic Forms Workshop, East Tennessee State University	Mar 7, 2017
Building Bridges 3rd Workshop on Automorphic Forms and Related Topics	Jul 21, 2016

RESEARCH WORKSHOPS/CONFERENCES PARTICIPATION

Arizona Winter School 2024: Abelian Varieties	Mar 2-6, 2024
AIM Workshop on Analytic, arithmetic, and geometric aspects of automorphic forms	Jan 29 - Feb 2, 2024
Siegel modular forms in LMFDB, ICERM	Nov 16-19, 2023
AIM SQuaRE: Quaternionic modular forms	Aug 21-25, 2023
LMFDB, Computation, and Number Theory (LuCaNT)	July 10-14, 2023
MSRI/SLMath's Summer Research in Mathematics program	June 11-24, 2023
MRC 2023: Explicit Computations with Stacks	June 4-10, 2023
AIM SQuaRE: Weight three paramodular forms	May 21-27, 2023
Women in Number Theory 5	Nov 16-20, 2020
Rethinking Number Theory 1	Oct 5-18, 2020

POSTER PRESENTATION

- *Some paramodular forms connected with elliptic curves*, AWM Workshop: Poster Presentations by Women Graduate Students, [Joint Mathematics Meetings](#), Jan 18, 2019.
- *Paramodular Forms Coming From Elliptic Curves*, [TORA X](#), the poster received the best poster award at [TORA X](#), Apr 6, 2019.

SYNERGISTIC ACTIVITIES

Conference, seminar and panel co-organization

- Two different seminars of the Department of Mathematical Sciences at Lafayette College, 2024-2025
- [ProjectNEXt panel discussion on Integrating into a new institution](#), JMM 2025
- [Special Session on Explicit Methods in Arithmetic Geometry](#), 2024 Fall Eastern Sectional Meeting
- [AMS Special Session on Women in Automorphic Forms](#), JMM 2023
- Panel on Fostering Good Collaborations, [AMS Special Session on Rethinking Number Theory](#), JMM 2023
- [New Developments in Number Theory Seminar](#), [POINT](#), 2020-2022
- Lunch discussion series: [Lunch in the Time of Covid](#), 2020-2022
- [TORA IX](#), University of Oklahoma, 2018
- [Graduate Student Seminar](#), University of Oklahoma, 2018

- [Student Algebra Seminar](#), University of Oklahoma, 2017

Outreach and Mentoring

- [Beyond the Lecture Hall: Perspectives from Academia](#), Student Chapter Seminar Series, Nov 8, 2024.
- Undergraduate Directed Reading Program, University of Oklahoma, 2016-2018
- Tutor for Undergraduate Mathematics in the [Math Center](#), University of Oklahoma, 2014-2019
- Volunteer for [Math Day](#), University of Oklahoma, 2014-2019
- Volunteer work and poster presentation at Prof. S. N. Bose Science Agriculture and Book Fair for the department of mathematics and statistics, IISER Kolkata, 2012

Department/College Service

- Participated in the *Leopard For a Day Program* under Lafayette College Admissions, 2024-2025
- Co-organized of Teaching Lunches in the Department of Mathematical Sciences at Lafayette College, 2024-2025
- Conducted teaching observation and feedback for the adjunct instructors at Fordham University, 2020
- Helped reforming the Math for Business Finite course at Fordham University, 2020

Reviewer

- [Pacific Journal of Mathematics](#)
- [Journal of Number Theory](#)
- [Notices of the AMS](#)
- [Mathematical Reviews](#)

COMPUTING SKILL

Python, C, Sage, Magma, Mathematica, Latex, LMFDB

MEMBERSHIPS

- [American Mathematical Society \(AMS\)](#)
- [The Mathematical Association of America \(MAA\)](#)
- [Association for Women in Mathematics \(AWM\)](#)
- [Women in Number Theory](#)
- [People Online In Number Theory \(POINT\)](#)