Ian Miller

CONTACT INFORMATION

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Research Interests

Partial Differential Equations, Nonlinear Dispersive Equations, Equations with Electromagnetic Derivatives

Positions

(Upcoming) Postdoctoral Scientist, Okinawa Institute of Science and Technology, Beginning Late Summer 2025

Education

Ph.D. Mathematics, University of Colorado Boulder, 2025
Advisor: Magdalena Czubak
Thesis: On Momentum in Nonlinear Schrödinger Equations

M.A. Mathematics, University of Colorado Boulder, 2025

B.A. Mathematics, St. Mary's College of Maryland, 2018

Papers

1. *Scattering and Blow-Up in Both Time Directions Above the Ground State for the Focusing Nonlinear Schrödinger Equation.* arXiv:2412.06962.
2. *Dichotomy Results for the Electromagnetic Schrödinger Equation*, with Magdalena Czubak and Svetlana Roudenko. arXiv:2412.20239.

Invited Talks

1. Joint Alabama-Florida Conference on Differential Equations, Dynamical Systems and Applications, University of Alabama at Birmingham, Alabama, May 22, 2025
2. Special Session on Recent Developments in Nonlinear Evolution Equations, AMS Spring Eastern Sectional Meeting, University of Connecticut, Connecticut, April 5, 2025
3. Special Session on Nonlinear Dispersive Equations, AMS Spring Central Sectional Meeting, University of Kansas, Kansas, March 29, 2025
4. (Conference canceled) Special Session on Nonlinear Dispersive Equations, AMS Fall Southeastern Sectional Meeting, Georgia Southern University - Armstrong Campus, Savannah, October 5, 2024
5. Geometry and Analysis Seminar, University of Colorado Boulder, Colorado, October 1, 2024
6. AIMS Lab Seminar, McMaster University, Ontario, March 18, 2024
7. Geometry and Analysis Seminar, University of Colorado Boulder, Colorado, March 5, 2024
8. Special Session on Progress in Nonlinear Waves, AMS Fall Central Sectional Meeting, Creighton University, Nebraska, October 7, 2023

Contributed and Expository Talks and Posters	1. Math for All in Boulder, University of Colorado Boulder, Colorado, February 25, 2023
	2. Analysis Student Summer Seminar, University of Colorado Boulder, Colorado, June 8, 2021
	3. Spring 2018 Meeting of the MD-DC-VA Section of the MAA, Washington and Lee University, Virginia Military Institute, Virginia, April 14, 2018
	4. Spring 2016 Meeting of the MD-DC-VA Section of the MAA, Montgomery College, Maryland, April 16, 2016, joint with Ryan Johnson

Teaching Experience

Instructor at University of Colorado Boulder
Math 2300 Calculus 2, Spring 2025
Math 2400 Calculus 3, Fall 2024
Math 2300 Calculus 2, Spring 2024
Math 1300 Calculus 1, Fall 2023
Math 2300 Calculus 2, Spring 2023
Math 1300 Calculus 1, Fall 2022
Math 1300 Calculus 1, Fall 2021
Math 2300 Calculus 2, Spring 2021
Math 2300 Calculus 2, Spring 2020
Math 2300 Calculus 2, Spring 2020
Math 1300 Calculus 1, Fall 2019

TA at University of Colorado Boulder
Math 1300 Calculus 1, Spring 2022
Math 2400 Calculus 3, Fall 2020
Math 2300 Calculus 2, Spring 2019
Math 1300 Calculus 1, Fall 2018

TA at St. Mary's College of Maryland
Analysis II, Spring 2018
Analysis I, Fall 2017
Foundations of Mathematics, Fall 2016

Service, Organization, and Leadership

1. Co-organizer for the Analysis Student Summer Seminar, University of Colorado Boulder, Summer 2021
2. Mentor for the Graduate Student Mentoring Program, University of Colorado Boulder Fall 2019
3. Vice President, AWM St. Mary's College of Maryland Chapter, 2017-2018
4. President, SIAM St. Mary's College of Maryland Chapter, 2017-2018
5. Volunteer, Math Girls Day, St. Mary's College of Maryland, Spring 2017
6. Volunteer, SIAM National Math Festival, Washington Convention Center, Spring 2017
7. Vice President, SIAM St. Mary's College of Maryland Chapter, 2016-2017
8. Talk Moderation, Fall 2015 Meeting of the MD-DC-VA Section of the MAA, St. Mary's College of Maryland, Fall 2015

Conferences and Workshops Attended

1. Special Session on Progress in Nonlinear Waves, AMS Fall Central Sectional Meeting, Creighton University, Nebraska, October 7 - October 8, 2023

2. Potential Theory Workshop: Intersections in Harmonic Analysis, Parial Differential Equations and Probability, Centro de Investigación en Matemáticas, Guanajuato, September 28 - October 6, 2023

3. Rivière-Fabes Symposium, University of Minnesota, Minnesota, April 28 - April 30, 2023

4. Math for All in Boulder, University of Colorado Boulder, Colorado, February 25, 2023

5. MSRI Summer Graduate School on Geometric Flows, Institute of Applied and Computational Mathematics, Crete, June 19 - July 1, 2022

6. Conference on Nonlinear Partial Differential Equations and Applications, University of Michigan, Michigan, July 9 - July 12, 2019

Honors, Awards, and Fellowships

1. 2024 University Summer Fellowship, University of Colorado Boulder, Summer 2024

2. 2023 University Summer Fellowship, University of Colorado Boulder, Summer 2023

3. 2022 University Summer Fellowship, University of Colorado Boulder, Summer 2022

4. 2021 University Summer Fellowship, University of Colorado Boulder, Summer 2021

5. Student Paper Award: 1st Place, Spring 2018 Meeting of the MD-DC-VA section of the MAA, Spring 2018

6. Departmental Award in Mathematics, St. Mary's College of Maryland, Spring 2018

7. Departmental Putnam Competition High Point Award, St. Mary's College of Maryland, Fall 2017

8. Departmental Algebra Award, St. Mary's College of Maryland, Spring 2017

9. Honorable Mention, MCM-Comap Competition in Math Modeling, Spring 2016

Professional Development Activities

1. Workshop: DEI Practices and Posters, University of Colorado Boulder, August 2024

2. Workshop: Chat+: Disabilities in Academia, University of Colorado Boulder, April 2023

3. Workshop: Chat+: Interrupting Sexism in Advanced Mathematics, University of Colorado Boulder, May 2021

4. Reading Group of the AWM Boulder Chapter, University of Colorado Boulder, Fall 2018 - Spring 2019: Weekly meetings discussing articles and sections of books focusing on diversity issues in teaching and in the wider math community