

Melanie J. Ferreri

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Education

Dartmouth College Ph.D. Mathematics, in progress	Hanover, NH <i>Expected June 2024</i>
Wake Forest University B.S. Mathematics, B.A. Computer Science; Minor in Physics Honors in Mathematics, <i>Summa cum laude</i>	Winston-Salem, NC <i>May 2019</i>

Teaching Experience

Dartmouth College	Hanover, NH
<i>Instructor</i> Math 8 (Calculus of Functions of One and Several Variables) Math 3 (Calculus)	<i>Fall 2022</i> <i>Winter 2022</i>
<i>Teaching Assistant</i> Math 22 (Linear Algebra with Applications) Math 3 (Calculus) Math 13 (Multivariable Calculus) Math 22 (Linear Algebra with Applications)	<i>Spring 2021</i> <i>Fall 2020</i> <i>Winter 2020</i> <i>Fall 2019</i>
Wake Forest University	Winston-Salem, NC
<i>Computer Science Tutor, Student-Athlete Services</i> Courses: CSC 111 (Introduction to Computer Science), CSC 221 (Data Structures and Algorithms I)	<i>October 2017 - May 2019</i>
<i>Mathematics Tutor, Math Center</i> Selected courses: Math 111 (Calculus I), Math 112 (Calculus II), Math 117 (Discrete Mathematics), Math 121 (Linear Algebra), Math 321 (Modern Algebra)	<i>January 2017 - May 2019</i>

Publications and Preprints

Melanie Ferreri, Jacob Liddy, Stanisław Radziszowski. (2018). All Ramsey-critical graphs and star-critical Ramsey numbers for cycles versus K_5 .

Research completed in summer 2018; paper in preparation.

Kui Tan, Stephanie Jensen, Liang Feng, Hao Wang, Shuai Yuan, **Melanie Ferreri**, Joseph Klesko, Rezwanur Rahman, Jeremy Cure, Jing Li, Hong-Cai Zhou, Timo Thonhauser, Yves Chabal. Reactivity of Atomic Layer Deposition Precursors with OH/H₂O-containing Metal Organic Framework Materials.

Chemistry of Materials 31(7), 2286–2295 (2019).

Presentations and Talks

Poster presentation, “Bijections for generalized Wilf equivalences” Discrete Math Workshop 2022, Smith College	Northampton, MA <i>November 19, 2022</i>
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Invited talk, "Bijections for generalized Wilf equivalences via inclusion-exclusion" Graduate Online Combinatorics Colloquium	Virtual <i>October 12, 2022</i>
Poster presentation, "Recursive maps for derangements and nonderangements" Permutation Patterns 2022 Conference, Valparaiso University	Valparaiso, IN <i>June 21, 2022</i>
"Bridged Graphs" Dartmouth College Graduate Student Seminar	Hanover, NH <i>April 27, 2022</i>
"Recursive Maps for Derangements and Nonderangements" Graduate Student Combinatorics Conference, hosted by UC San Diego	Virtual <i>March 26, 2022</i>
"Transition Matrices in QSym" MAA MathFest	Cincinnati, OH <i>August 2, 2019</i>
"Change of Basis Matrices in QSym" Wake Forest University Mathematics Department	Winston-Salem, NC <i>May 2, 2019</i>
"Ramsey Problems for Cycles versus K_5 " Joint Mathematics Meetings	Baltimore, MD <i>January 18, 2019</i>
"Ramsey-critical graphs and star-critical Ramsey numbers for cycles versus K_5 " Wake Forest University Mathematics Department	Winston-Salem, NC <i>October 3, 2018</i>
Panelist, Athletes in Medicine and STEM Q&A Session Wake Forest University Athletic Department	Winston-Salem, NC <i>September 24, 2018</i>
"All Ramsey-critical graphs and star-critical Ramsey numbers for cycles versus K_5 " Young Mathematicians Conference, Ohio State University	Columbus, OH <i>August 10, 2018</i>
"My Experience with Math" Summer Mathematics Institute, Rochester Institute of Technology	Rochester, NY <i>June 28, 2018</i>
Poster presentation, "Analyzing the Effect of Refractive Index on ADDA Light Scattering Simulation" REU Poster Session, East Carolina University	Greenville, NC <i>July 27, 2017</i>

Academic Service and Outreach

Dartmouth Combinatorics Seminar Organizer	<i>Fall 2022 – Winter 2023</i>
Four Cubes Problem Session Leader Sonia Kovalevsky Day, Dartmouth College	<i>May 21, 2022</i>
Session Chair Graduate Student Combinatorics Conference, Virtual	<i>March 26, 2022</i>

Memberships

Association for Women in Mathematics
American Mathematical Society

Selected Programs and Workshops Attended

MSRI Summer School: Topological Methods for the Discrete Mathematician St. Mary's College	Moraga, CA <i>Summer 2022</i>
Extremal Graph Theory REU Rochester Institute of Technology Advisor: Dr. Stanisław Radziszowski	Rochester, NY <i>Summer 2018</i>
HackNC, UNC Chapel Hill	<i>November 2017</i>
Software Testing and Analytics REU East Carolina University Advisor: Dr. Junhua Ding	Greenville, NC <i>Summer 2017</i>
HackDuke, Duke University	<i>November 2016</i>
Inverse Problems REU University of Washington Advisor: Dr. James Morrow	Seattle, WA <i>Summer 2016</i>
HackNC, UNC Chapel Hill	<i>October 2015</i>

Academic Honors

Sigma Pi Sigma Physics Honor Society
Upsilon Pi Epsilon Computer Science Honor Society
Pi Mu Epsilon Mathematics Honor Society,
Wake Forest Chapter Undergraduate President 2017 - 2018
Kenneth Monroe Tucker Scholarship
Byrum Wake Forest Scholarship

Programming and Software Skills: Python, Java, Matlab, C, C++, \LaTeX , Javascript