MARIA ROSS

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RESEARCH INTERESTS

Broadly interested in representation theory, algebraic number theory, and combinatorics.

EDUCATION

University of Graz   *August 2020 - Present*
Doctoral Candidate in Mathematics

University of Glasgow   *September 2019 - September 2020*
Master of Science in Mathematics
Thesis: *Siegel Zeros and the Twin Prime Conjecture*

University of Puget Sound   *August 2015 - May 2019*
Bachelor of Science in Mathematics, Magna Cum Laude with Honors   GPA: 3.85/4.0
Thesis: *Implications of Cayley Graph Isomorphisms on Underlying Groups*

Recipient of Award for Outstanding Senior in the Department of Mathematics and Computer Science

Studied abroad through Budapest Semesters in Mathematics for 2017-2018 academic year

RESEARCH EXPERIENCE

Williams College   Summer 2018
Undergraduate Research   *Williamstown, Massachusetts*

Participated in small-group research in analytic number theory under the mentorship of Dr. Steven J. Miller. Used the L-functions ratios conjecture to generalize results relating to primes in the ring of Gaussian integers to the rings of integers of all imaginary quadratic fields with class number one.

Texas A&M University   Summer 2017
Undergraduate Research   *College Station, Texas*

Participated in small-group research on modular forms and nonvanishing regions of L-functions associated to canonical Hecke characters under the direction of Dr. Riad Masri. Contributed to a density result involving the number of certain L-functions in imaginary quadratic fields satisfying certain local conditions. Co-authored a research paper which has been published in Mathematical Research Letters Volume 26, Number 4.

Kansas State University   Summer 2016
Undergraduate Research   *Manhattan, Kansas*

Participated in small-group research involving various products of directed graphs and higher-rank graphs, under the direction of Dr. Danny Crytser. Studied $C*$-algebras and examined properties of directed graphs connected to $C*$-algebras.

WORK EXPERIENCE

Mathematics Tutor and Grader   2016-2017, 2018-2019

Graded homework assignments for Calculus I and Calculus II courses. Tutored students in Calculus I, II, III, and Linear Algebra courses.

PUBLICATIONS

Nonvanishing of Hecke L-Functions and Bloch-Kato p-Selmer Groups, with Arianna Iannuzzi, Byoung Du Kim, Riad Masri, Alexander Mathers, and Wei Lun Tsai. Published in Mathematical Research Letters, Volume 26.

PRESENTATIONS

Distributions of Primes in Number Fields and the L-function Ratios Conjecture, with Casimir Kothari. Young Mathematicians Conference, August 2018, at Ohio State University.

Hecke L-functions: An Introduction & Two Research Projects. Mathematics and Computer Science Seminar, April 2019, at University of Puget Sound.

RELEVANT COURSES

University of Glasgow

Further Group Theory	Operator Algebras
Algebraic and Geometric Topology	Functional Analysis
Representation Theory of Lie Algebras	Advanced Algebraic Topology

University of Puget Sound

Abstract Algebra I	Complex Analysis
Abstract Algebra II	Real Analysis I
Combinatorics	Real Analysis II
Independent Study in Algebraic Graph Theory	Binomial Coefficients
Senior Thesis in Geometric Group Theory	Mathematical Optimization

Budapest Semesters in Mathematics

Number Theory	Introduction to Topology
Algebraic Topology	Mathematical Cryptography
Advanced Abstract Algebra	Set Theory

HONORS & AWARDS

John and Hazel Wiborg Scholarship	2016−2017
McGill Family Scholarship	2016−2018
Claire Brossoit Hoffner Scholarship	2016−2018
Thomas Malcolm and Hilda Enden Jack Scholarship	2018−2019
Award for Outstanding Senior in Department of Mathematics & Computer Science	2019
McGill Book Award	2019

MEMBERSHIPS

Pi Mu Epsilon Mathematical Honor Society   Phi Eta Sigma National Honor Society