

NICOLO FELLINI

Queen's University
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EDUCATION

- Queen's University** *Sep. 2021 – current*
PhD Mathematics
Supervisor: Ram Murty
- University of Toronto** *Sep. 2020 – Aug. 2021*
MSc Mathematics
Project: *Real Analytic Modular Forms and Their Representations*
Supervisor: Stephen Kudla
- University of Toronto** *Sep. 2016 – Apr. 2020*
Honours BSc with Distinction, Mathematics Specialist
Thesis: *Optimizing Timber Harvest in Flammable Boreal Forest Suitable for Woodland Caribou*
Supervisors: Adam Stinchombe and David Martell

RESEARCH INTERESTS

- Number theory**
Automorphic forms, Diophantine equations, L -functions, Langlands program, sieve theory.
- Mathematical modeling**
Decision support systems, stochastic optimization, simulation models, graph theory.

RESEARCH EXPERIENCE

- University of Toronto** *May 2020 – Aug. 2020*
Supervisor: David Martell
Project: Quantifying the impact of fire on caribou habitat in boreal forest.
- University of Toronto** *May 2019 – Aug. 2019*
Supervisor: David Martell
Project: Developing and implementing integer linear programming models to inform decisions about daily airtanker deployment in Ontario. This work has been presented at two conferences.
- University of Toronto** *May 2018 – Aug. 2018*
Supervisor: David Martell
Project: Developing statistical models of wildfire spotting and barrier breaching processes.

PUBLICATIONS

- The Ankeny-Artin-Chowla conjecture and Fermat quotients** (with M. Ram Murty), 2023
- Tiling the plane with prime rectangles**, 2022, submitted
- The non-existence of certain permutations of finite groups**, 2022, submitted
- Special values of cyclotomic polynomials representable as a sum of two squares**, 2022, submitted

TEACHING EXPERIENCE

Teaching Fellow MATH121 B - Differential and integral calculus	<i>Jan. 2024 – Apr. 2024</i>
Teaching Fellow MATH121 B - Differential and integral calculus	<i>Jun. 2023 – Jul. 2023</i>
Teaching Fellow APSC172 Calculus II	<i>Jan. 2023 – Apr. 2023</i>
Teaching assistant MATH 326 Complex variables	<i>Sep. 2022 – Dec. 2022</i>
Teaching assistant MATH 225 Ordinary Differential Equations	<i>May. 2022 – Aug. 2022</i>
Teaching assistant MATH 818/418 Number Theory and Cryptography	<i>Jan. 2022 – Apr. 2022</i>
Teaching assistant MATH382 Mathematical Explorations - Mathematical Modeling	<i>Jan. 2022 – Apr. 2022</i>
Teaching assistant MTHE217 Algebraic Structures with Applications	<i>Sep. 2021 – Dec. 2021</i> <i>Sep. 2022 – Dec. 2022</i>
Teaching assistant MATH381 Mathematics from a Historical Perspective	<i>Sep. 2021 – Dec. 2021</i>
Teaching assistant MAT315 Introduction to Number Theory	<i>May 2021 – Aug. 2021</i>
Teaching assistant FOR3004 Forest Management Decision Support Systems	<i>Jan. 2021 – Apr. 2021</i>
Head teaching assistant MAT135 Calculus I and MAT136 Calculus II	<i>Sep. 2020 – Apr. 2021</i>
Teaching assistant MAT135 Calculus I and MAT136 Calculus II	<i>Sep. 2019 – Apr. 2020</i>
Lecture teaching assistant MAT135 Calculus I and MAT136 Calculus II	<i>Sep. 2019 – Apr. 2020</i>

TALKS

Reflections on the congruence relations of Ankeny, Artin, and Chowla <i>Number Theory Seminar, Queen's University</i>	<i>Jan. 2024</i>
Variations of a conjecture of Ankeny–Artin–Chowla <i>Number Theory Seminar, University of Waterloo</i>	<i>Oct. 2023</i>
Newman's Tauberian Theorem and its applications <i>Number Theory Seminar, Queen's University</i>	<i>Jul. 2023</i>
Variations of a conjecture of Ankeny–Artin–Chowla <i>Early Career Research in Number Theory, Canadian Mathematical Society</i>	<i>Jun. 2023</i>
The probabilistic Galois problem <i>Number Theory Seminar, Queen's University</i>	<i>Jan. 2023</i>

The bipartite sieve <i>Number Theory Seminar, Queen's University</i>	<i>Jan. 2023</i>
A graph theoretic approach to a multidimensional Turán inequality <i>Number Theory Seminar, Queen's University</i>	<i>Nov. 2022</i>
The ABC's of Diophantine equations <i>Graduate Student Seminar, Queen's University</i>	<i>Sep. 2022</i>
The Ankeny-Artin-Chowla conjecture and Fermat quotients <i>Number Theory Seminar, Queen's University</i>	<i>Sep. 2022</i>
Lower bounds for moments of twisted modular L-functions <i>Number Theory Seminar, Queen's University</i>	<i>Jun. 2022</i>
Lower bounds for moments of the Riemann Zeta function <i>Number Theory Seminar, Queen's University</i>	<i>Jun. 2022</i>
Converse theorems and their applications <i>Number Theory Seminar, Queen's University</i>	<i>Feb. 2022</i>
The p-adic numbers <i>Graduate Student Seminar, Queen's University</i>	<i>Oct. 2021</i>
The congruent number problem and elliptic curves <i>Number Theory Seminar, Queen's University</i>	<i>Oct. 2021</i>
An introduction to L-functions and converse theorems <i>Junior Number Theory Seminar, University of Toronto</i>	<i>Nov. 2020</i>
Introduction to \LaTeX <i>Student Chapter of the Association for Women in Mathematics (AWM), University of Toronto</i>	<i>Sep. 2019 and Oct. 2020</i>

SELECTED AWARDS

Department of Mathematics Graduate Program Award University of Toronto	<i>2020</i>
Canadian Forest Workforce Diversity Undergraduate Supplement Natural Sciences and Engineering Research Council of Canada (NSERC) and Natural Resources Canada – Canadian Forest Services	<i>2020</i>
NSERC Undergraduate Student Research Award Supervisor: David Martell (University of Toronto, Faculty of Forestry)	<i>2020</i>
University of Toronto Fellowship, Faculty of Arts and Science University of Toronto	<i>2019</i>
NSERC Undergraduate Student Research Award Supervisor: David Martell (University of Toronto, Faculty of Forestry)	<i>2019</i>
NSERC Undergraduate Student Research Award Supervisor: David Martell (University of Toronto, Faculty of Forestry)	<i>2018</i>
President's Entrance Scholarship University of Toronto	<i>2016</i>

SERVICE AND OUTREACH

Co-organizer of Queen's Number Theory seminar, Queen's University *2022 - current*
Organized weekly meetings and arranged speakers for the seminar.

Undergraduate Mentor Summer Research Experience, University of British Columbia, *Apr. 2022 - Sep. 2022*
Organized weekly meetings with four undergraduate students to guide, help, and supervise a summer research project related to various number theory topics.

Treasurer, *AWM Student Chapter*, University of Toronto *2018 - 2020*
Founding member and treasurer of the student chapter of the Association for Women in Mathematics at the University of Toronto. My duties included general financial oversight, budgeting, seeking funds, and record keeping. In addition, I was responsible for the preparation and organization of events such as a lecture series featuring gender minority mathematicians.