

Romain Speciel

650-339-4916 | rspeciel@stanford.edu

EDUCATION

Stanford University <i>PhD, Mathematics advised by Professor Rafe Mazzeo</i>	September 2021 – Present <i>Stanford, CA</i>
University of Toronto, Trinity College <i>Honors Bachelor of Science, Mathematics Specialist</i>	September 2018 – August 2021 <i>Toronto, ON</i>

MATHEMATICAL ACTIVITIES

My research interests lie primarily in spectral geometry, microlocal analysis, partial differential equations and geometric inverse problems.

Papers

- R. Speciel, *Stability estimates for commutativity properties of the Dirichlet-to-Neumann operator* (arXiv: 2510.08822), submitted, 2025.
- R. Speciel, *A deformation approach to the BFK formula* (arXiv: 2504.12509), Canadian Mathematical Bulletin, 2025.
- R. Speciel, *Surfaces with commuting boundary Laplacian and Dirichlet-to-Neumann map* (arXiv: 2503.00270), submitted, 2025.
- D. Nackan and R. Speciel, *Continuous limits of generalized pentagram maps*, Journal of Geometry and Physics, 2021.
- G. Adam and R. Speciel, *Evaluating ensemble robustness against adversarial attacks* (arXiv:2005.05750), 2020.

Talks

- Boundary Inverse Problems Seminar (2026)
- Isaac Newton Institute at Cambridge (2026)
- Spectral Geometry in the Clouds (2025)
- UC Santa Cruz Geometry and Analysis Seminar (2025)
- Stanford Student Analysis Seminar (2021, 2022, 2023, 2024 as organizer, 2025)
- Stanford Graduate Students Colloquium (2021, 2022, 2023, 2024, 2025)
- Stanford Undergraduate Mathematical Organization (2021, 2022, 2023, 2024, 2025)
- Seminar on Boundary Value Problems for Dirac-Type Operators (2022 as organizer)
- Index Theorem Lecture Series (2022, 10 talks)

Conferences

- Geometry of eigenvalues *at the Isaac Newton Institute at Cambridge* (2026)
- 12th Applied Inverse Problems Conference *at FGV EMap* (2025)
- Geometric Inverse Problems and Inverse Problems for Elliptic Equations Summer School *at UC Santa Cruz* (2024)
- Paris-Saclay Conference in Analysis and PDE *at Laboratoire de Mathématiques d'Orsay* (2024)
- From Microlocal to Global Analysis *at MIT* (2024)
- Microlocal and Probabilistic Methods in Geometry and Dynamics *at Sorbonne-Université - Jussieu* (2023)
- International Doctoral Summer School in Conformal Geometry and Non-local Operators *at the University of Granada* (2023)
- Joint Japan/US Collaborative Workshop on Geometric Analysis *at Stanford University* (2023)
- Northeast Workshop in Geometric Analysis *at the University of Connecticut* (2022)
- Geometric Applications of Microlocal Analysis *at Stanford University* (2022)

Teaching

- Course Assistant for MATH 116 - Complex Analysis *at Stanford University* (2025)
- Teaching Assistant for MATH 51 - Linear Algebra and Differential Calculus of Several Variables *at Stanford University* (2025)

- Teaching Assistant for Microlocal Analysis and the b -Calculus - Special Geometric Structures and Analysis Summer School *at the Simons Laufer Mathematical Sciences Institute (SLMath)* (2024)
- Teaching Assistant for MATH 62CM - Modern Mathematics: Continuous Methods *at Stanford University* (2023, 2024, 2026)
- Course Assistant for MATH 115 - Functions of a Real Variable *at Stanford University* (2022)
- Course Assistant for MATH 116 - Complex Analysis *at Stanford University* (2021)
- Teaching Assistant for MAT 187 - Calculus II *at the University of Toronto* (2021)
- Teaching Assistant for MAT 188 - Linear Algebra *at the University of Toronto* (2020)

Awards

- Centennial Teaching Assistant Award - US\$1000 *awarded by Stanford University* (2025)
- NSERC Doctoral Postgraduate Scholarship - CA\$78500 over three years *awarded by the Government of Canada* (2022 - 2025)
- George Gray Falle Scholarship - CA\$2000 *awarded by the University of Toronto* (2022)
- Margaret Ronald Taylor And Thomas Paxton Taylor Scholarship - CA\$3924 *awarded by the University of Toronto* (2021)
- Samuel Beatty In-Course Scholarship - CA\$1000 *awarded by the University of Toronto* (2021)
- NSERC Undergraduate Student Research Award - CA\$5600 *awarded by the Government of Canada* (2021)
- Drew Thompson Scholarship - CA\$700 twice *awarded by the University of Toronto* (2019, 2020)

Service

- Graduate Math Outreach Organization president *at Stanford University* (2025 - 2026)
- Graduate Math Outreach Organization financial officer *at Stanford University* (2024 - 2025)
- Directed reading program mentor *at Stanford University* (2021 - 2025)
- Host of open office hours, providing guidance to young mathematicians *at Stanford University* (2022 - 2025)

ADDITIONAL INFORMATION

- I am fluent in Wolfram Language, Python (PyTorch), English and French, and intermediate in Lean and Spanish
- I am an American, Canadian and French citizen
- I enjoy writing, swimming outdoors, and using my phone as little as possible