Sebastian Tudor Gherghe

University of Toronto, Department of Mathematics
40 St. George Street, Toronto, Ontario, Canada.

PERSONAL LINKS

Website: math.toronto.edu/sgherghe/
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PRINCIPAL INTERESTS

Mathematical Physics: many-body quantum mechanics, effective theories of quantum mechanics. Partial Differential Equations.

ACADEMIC BACKGROUND

Ph.D. Mathematics   2019 - Present
Department of Mathematics, University of Toronto, Toronto, ON
- Ph.D. research in Mathematical Physics.
- Supervisor: Prof. Israel Michael Sigal.
- Dissertation topic: The Time-dependent Born-Oppenheimer Approximation.

M.Sc. in Mathematics   2018 - 2019
Department of Mathematics, University of Toronto, Toronto, ON
- Focus areas: Mathematical Physics and Partial Differential Equations.
- Supervisor: Prof. Israel Michael Sigal.
- Project title: Mathematical Analysis of Schrödinger-Poisson Systems.

B.Sc. (Hons)   2014 - 2018
Faculty of Arts and Science, University of Toronto, Toronto, ON
- Honours Bachelor of Science with distinction.
- Program: Specialist in Mathematics and Physics.

ACADEMIC AWARDS

Queen Elizabeth II/Israel Halperin Graduate Scholarship	2023-2024
Ida Bulat Teaching Award for Graduate Instructors	2023
Blyth Fellowship	2022
University Of Toronto Top Up Fellowship	2022
Margaret Isobel Elliott Graduate Scholarship	2019
NSERC Undergraduate Student Research Award	2017
George Roderick Fraser Scholar for Mathematical Studies	2015 - 2017
George Roderick Fraser Admission Scholarship	2014

TEACHING EXPERIENCE

Course Instructor   2023-Present
Department of Mathematics, University of Toronto, Toronto, ON
- PUMP I Summer 2023
- MAT135 Calculus I Fall 2023
- MAT136 Calculus II Summer 2023, Winter 2023

Teaching Assistant   2016-Present
Department of Mathematics, University of Toronto, Toronto, ON
- PUMP 2 Summer 2022, Summer 2020
- MAT135 Calculus I Summer 2022, Fall 2017
- MAT136 Calculus II Summer 2021, Spring 2019, Spring 2018
- MAT188 Linear Algebra (Engineering) Spring 2021, Spring 2019

- MAT223 Linear Algebra I Spring 2016
- MAT224 Linear Algebra II Summer 2019, Spring 2019
- MAT235 Multivariable Calculus Fall 2017- Spring 2018
- MAT244 Ordinary Differential Equations Summer 2021, Spring 2020, Fall 2019, Summer 2019, Fall 2018
- MAT267 Advanced Ordinary Differential Equations Winter 2024
- MAT257 Analysis II 2021-2022, 2020-2021
- APM346 Partial Differential Equations Winter 2024, Winter 2023, Fall 2022, Fall 2020
- MAT344 Introduction to Combinatorics Fall 2022
- MAT367 Differential Geometry Spring 2022
- MAT1060 Graduate Partial Differential Equations I Fall 2019
- APM421/MAT1723 Mathematical Foundations of Quantum Mechanics Fall 2021
- Math Learning Center Fall 2022, Spring 2022

CONFERENCE PROCEEDINGS

Ehsan Alimohammadian, Stephen Ho, Erden Ertorer, Sebastian Gherghe, Jianzhao Li, and Peter R. Herman, Manipulating femtosecond laser interactions in bulk glass and thin-film with spatial light modulation (Conference Presentation), *Proc. SPIE 10094, Frontiers in Ultrafast Optics: Biomedical, Scientific, and Industrial Applications XVII, 100940Z (21 April 2017)*;
https://doi.org/10.1117/12.2255877.

OTHER SKILLS

Programming and Typesetting
Proficient in: Python, LaTeX.
Familiar with: C++, Java, HTML and CSS.

Languages
Native: English, Romanian.
Conversational: Spanish.

PROFESSIONAL EXPERIENCE

Data Science Bootcamp   2021
The Erdős Institute, completed one month long intensive Data Science Boot Camp, May 2021.