

Department of Mathematics
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Education

- Ph.D. Mathematics, University of Toronto, Canada, 2011
Supervisor: Ian Graham
Thesis: *Loewner Theory in Several Complex Variables and Related Problems*
- M.Sc. Mathematics, Babes-Bolyai University, Romania, 2006
Supervisor: Gabriela Kohr
Thesis: *Linear Problems and Convexity Techniques in Geometric Function Theory*
- B.Sc. Mathematics and Computer Science, Babes-Bolyai University, Romania, 2005
Supervisor: Gabriela Kohr
Thesis: *Loewner Chains and Applications to Univalent Functions*

Employment

CLTA Assistant Professor, University of Toronto	2017-2018
Assistant Professor, University of Chicago	2014-2017
Postdoctoral Fellow, University of Toronto	2011-2014
Software Engineer, Romania	2005-2006

Research Interests

Spectral theory for quasiperiodic Schrödinger/Jacobi operators and Anderson localization, geometric function theory.

Publications

- (with M. Goldstein, W. Schlag) On the Spectrum of Multi-Frequency Quasiperiodic Schrödinger Operators with Large Coupling, *ArXiv e-prints* (2017), submitted, 68 pages, [arXiv](#).
- (with M. Goldstein, W. Schlag) Cartan covers and doubling Bernstein type inequalities on analytic subsets of \mathbb{C}^2 , *ArXiv e-prints* (2016), submitted, 18 pages, [arXiv](#).
- (with M. Goldstein, W. Schlag) On localization and the spectrum of multi-frequency quasiperiodic operators, *ArXiv e-prints* (2016), submitted, 51 pages, [arXiv](#).
- (with I. Binder, D. Kinzebulatov) Non-Perturbative Localization with Quasiperiodic Potential in Continuous Time, *Comm. Math. Phys.* **351** (2017), Issue 3, 1149–1175, [arXiv](#), [doi](#).
- (with D. Damanik, M. Goldstein, W. Schlag) Homogeneity of the spectrum for quasi-periodic Schrödinger operators, *ArXiv e-prints* (2015), accepted in *J. Eur. Math. Soc. (JEMS)*, 35 pages, [arXiv](#).

- (with K. Tao) Hölder continuity of the integrated density of states for quasi-periodic Jacobi operators, *J. Spectr. Theory* **7** (2017), no. 2, 361–386, [arXiv](#), [doi](#).
- (with I. Binder, M. Goldstein) On the Sum of the Non-Negative Lyapunov Exponents for Some Cocycles Related to the Anderson Model, *Ergodic Theory and Dynamical Systems* **37** (2017), Issue 2, 369–388, [arXiv](#), [doi](#).
- (with I. Binder, M. Goldstein) On fluctuations and localization length for the Anderson model on a strip, *J. Spectr. Theory* **5** (2015), no. 1, 193–225, [arXiv](#), [doi](#).
- (with I. Binder) On Optimal Separation of Eigenvalues for a Quasiperiodic Jacobi Matrix, *Comm. Math. Phys.* **325** (2014), Issue 3, 1063–1106, [arXiv](#), [doi](#).
- (with I. Binder) An estimate on the number of eigenvalues of a quasiperiodic Jacobi matrix of size n contained in an interval of size n^{-C} , *J. Spectr. Theory* **3** (2013), no. 1, 1–45, [arXiv](#), [doi](#).
- Solution of a Loewner chain equation in several complex variables, *J. Math. Anal. Appl.* **375** (2011), no. 1, 58–74, [arXiv](#), [doi](#).

Reports

- On Effective Localization Length for the Anderson Model on a Strip, *Oberwolfach Reports*, Report no. 36/2013, [doi](#).
- Separation of Eigenvalues for Quasiperiodic Jacobi Matrices, *Oberwolfach Reports*, Report no. 36/2013, [doi](#).
- Regularity of the Lyapunov exponent II, *Oberwolfach Reports*, Report no. 17/2012, [doi](#).

Service

Referee for:

- Journal of Functional Analysis
- Journal of Mathematical Physics
- Journal of Fixed Point Theory and Applications
- Annales Academiæ Scientiarum Fennicæ Mathematica

Invited Talks

- *On the spectrum of multi-frequency quasiperiodic Schrödinger operators with large coupling*, Analysis Seminar, McGill University, November 2017.
- *On the spectrum of multi-frequency quasiperiodic Schrödinger operators with large coupling*, Analysis Seminar, Université Laval, November 2017.
- *On the spectrum of multi-frequency quasiperiodic Schrödinger operators with large coupling*, Analysis Seminar, University of Western Ontario, November 2017.

- *On the spectrum of multi-frequency quasiperiodic Schrödinger operators with large coupling*, Dynamics Seminar, University of Toronto, November 2017.
- *On Localization and the Spectrum of Multifrequency Quasiperiodic Schrödinger Operators*. Methods of modern mathematical physics: a young researcher symposium on the occasion of the 70th birthday of Barry Simon, Fields Institute, August 2016.
- *Non-Perturbative Localization for Continuous Quasiperiodic Schrödinger Operators*. Spectral Theory of Ergodic Schrödinger Operators and Related Models, AMS Sectional Meeting, October 2015.
- *On the Homogeneity of the Spectrum for Quasiperiodic Schrödinger Operators*. Workshop on almost-periodic and other ergodic problems, Isaac Newton Institute, April 2015.
- *On the Homogeneity of the Spectrum for Quasiperiodic Schrödinger Operators*. Calderón-Zygmund Seminar, University of Chicago, March 2015.
- *Effective Estimates for the Lyapunov Exponents of the Anderson Model on a Strip*. Dynamical systems and spectral theory, 10th AIMS Conference on Dynamical Systems, Differential Equations and Applications, July 2014.
- *Effective Estimates for the Lyapunov Exponents of the Anderson Model on a Strip*. Workshop in Dynamics, KTH Royal Institute of Technology, May 2014.
- *Separation of Eigenvalues for Quasiperiodic Schrödinger Operators*. Complex analysis and complex geometry, CMS Winter Meeting, December 2013.
- *Separation of Eigenvalues for Quasiperiodic Schrödinger Operators*. Dynamics Seminar, University of Toronto, November 2013.
- *Fluctuations of the Green Function and Localization Length for Anderson Model on the Strip*. Mini-Workshop: Direct and Inverse Spectral Theory of Almost Periodic Operators, Oberwolfach, July 2013.

Seminar Talks

- *Quasiconformal Mappings and the Measurable Riemann Mapping Theorem*, Learning Seminar on Teichmüller Theory and Dynamics, University of Toronto, January 2013.
- *Regularity of the Lyapunov exponent*, MFO Arbeitsgemeinschaft: Quasiperiodic Schrödinger Operators, Oberwolfach, April 2012.
- *Collisions and spirals of Loewner traces*, Informal seminar on SLE and related problems, University of Toronto, 2011.
- *Holomorphic motions*, Learning Seminar on Teichmüller Theory and Dynamics, University of Toronto, 2010.
- *Lehto condition for removability*, Informal seminar on SLE and related problems, University of Toronto, 2009.
- *Discrete complex analysis on isoradial graphs*, Informal seminar on SLE and related problems, University of Toronto, 2008.

Teaching as Assistant Professor at University of Toronto

- Multivariable Calculus (2nd year; 2017-2018)
- Chaos, Fractals and Dynamics (3rd year; Winter 2018)

Teaching as Assistant Professor at University of Chicago

- Analysis in \mathbb{R}^n (2nd year; 2015-2016, 2016-2017)
- Mathematical Methods for Physical Sciences (1st year; Winter 2015)
- Calculus (1st year; Autumn 2014)

Teaching as Instructor at University of Toronto

- Multivariable Calculus (2nd year; Fall 2012, Spring 2014)
- Introduction to Nonlinear Dynamics and Chaos (3rd year; Fall 2013)
- Stochastic Differential Equations (4th year reading course; Winter 2013)
- Vector Calculus (3rd year; Winter 2012, Winter 2013)
- Partial Differential Equations (3rd year; Fall 2011)
- Calculus and Linear Algebra for Commerce (1st year; Winter, Summer 2011)
- Complex Variables (3rd year; Summer 2009)