



RAREȘ ANGHEL-STAN

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WORK EXPERIENCE

Assistant Researcher	December 2020 – Present
Mathematics Institute of the Romanian Academy	Bucharest, Romania
• Member in the Grant <i>Volumes of hyperbolic and Einstein manifolds</i> .	2021 – 2023
• Member in the Grant <i>Conformal Aspects of Geometry and Dynamics</i> .	2024 – Present
Software Engineer	June 2023 – March 2024
Diomedes-technologies (high-frequency trading firm)	Bucharest, Romania
• Managed and improved several trading systems, developed automated processes to streamline data handling.	
• Technical skills: Python, SQL, SQLAlchemy, Git, Bash, Grafana, gRPC .	

EDUCATION

PhD, Mathematics	November 2019 – June 2024
Mathematics Institute of the Romanian Academy	Bucharest, Romania
Thesis title: <i>Spectral and algebraic methods in the study of differential manifolds</i> .	
Master Degree, Mathematics	October 2017 – July 2019
University of Bucharest – Department of Mathematics and Computer Science	Bucharest, Romania
Graduated with grade 9.75/10 ranking amongst top 3% of all students.	
Bachelor's Degree, Mathematics	October 2014 – July 2017
University of Bucharest – Department of Mathematics and Computer Science	Bucharest, Romania
Graduated with grade 10/10.	

PUBLICATIONS

- *The Selberg trace formula for spin Dirac operators on degenerating hyperbolic surfaces*.
Published in **Documenta Mathematica**, available at ems.press/journals/dm/articles/14298526.
- *Spectral convergence of the Dirac operator on typical hyperbolic surfaces of high genus* (with Laura Monk).
Published in **Annales Henri Poincaré** (2024), available at link.springer.com/article/10.1007/s00023-024-01452-z.
- *Uniformization of Riemann Surfaces Revisited* (with Cipriana Anghel).
Published in **Annals of Global Analysis and Geometry** 62, 603—615 (2022), available at arxiv.org/abs/2008.12189.

PREPRINTS

- *Spin structures and class functions on Fuchsian groups*. Available upon request.

HONORS AND AWARDS

Bitdefender Scholarship	2020
Merit based scholarship awarded to two PhD students at the Mathematics Institute.	
Anghelescu Scholarship	2017
Recognition for up to 3 students at University of Bucharest – Department of Mathematics.	
Bronze medal at IMC	2016
International Mathematics Competition for University Students.	
Silver medal at SEEMOUS	2016
South Eastern European Mathematical Competition for University Students.	
Gold medal at the Romanian Mathematical Olympiad	2014
National level Mathematical Olympiad.	

CO-ORGANIZATION OF SCIENTIFIC EVENTS

Brownian motion to Black-Scholes

2023

Co-Organized with Claudiu Mîndrilă.

- We provided a self-contained introduction to the concepts of Brownian motion and the Black-Scholes equation, with a focus on their applications in finance. We mainly followed Stochastic Calculus for Finance II (Continuous-Time Models) by S. E. Shreve.
- Lecture notes can be found at: www.rares-stan.ro/brownian-motion-to-black-scholes.

SELECTED TALKS

- Seminar talk *Selberg zeta functions on degenerating 2- and 3-dimensional hyperbolic manifolds*. December 2024
Oberseminar Analysis/Numerik, Oldenburg.
- Seminar talk *Uniform Weyl laws and zeta functions on degenerating hyperbolic surfaces*. October 2024
Oberseminar Topology-Geometry, Göttingen.
- Seminar talk *Weyl's law on typical surfaces*. March 2024
Geometry seminar, IMAR.
- Seminar talk *Uniform Weyl's law on degenerating surfaces*. April 2023
Oberseminar Geometry and Topology, University of Göttingen.
- Seminar talk *Uniformization of Riemann surfaces revisited*. February 2023
Analysis Reading Group seminar, University of Bristol.
- Seminar talk *Selberg zeta function for the Dirac operator on degenerating hyperbolic surfaces*. July 2022
Geometry seminar, University of Regensburg.
- Workshop talk *Jacobi fields and the Anosov property of the geodesic flow*. June 2022
Entropy of semiclassical measures Workshop, Les Plantiers.
- Workshop talk *WKB expansions of solutions of the Schrödinger equation*. November 2021
Semiclassical Trace Formula Workshop, Rambouillet.

CONFERENCES

- Facets of mathematics: discrete, smooth, and singular, Oldenburg. October 2024
- Winter School Aussois 2022, Aussois. December 2022
- Random walks and related random topics, Göttingen. October 2022
- Geometry and Analysis on Non-Compact Manifolds, CIRM, Marseille. March 2022
- Heidelberg Laureate Forum, Heidelberg. September 2018

TEACHING EXPERIENCE

- First year Analysis tutorial, University of Bucharest. 2020 – 2021
- Tutorial for Complex Analysis and Riemann Surfaces, University of Bucharest 2019 – 2020

SKILLS AND LANGUAGES

Languages: Romanian (Native), English (C1), German (B1), French (A1).

Programming: Python, SQL, Javascript, C#, MATLAB.

HOBBIES AND OTHER ACTIVITIES

Organizing a book club (www.rares-stan.ro/book-club), playing Chess, Hiking.