Ing. František Štampach, Ph.D.

CONTACT
INFORMATION

Faculty of Nuclear Sciences and Physical Engineering
Czech Technical University in Prague
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RESEARCH
INTERESTS

Spectral analysis of linear operators (Schrödinger, Dirac, Jacobi, CMV, Hankel, Toeplitz, etc.), mathematical methods in quantum physics, orthogonal polynomials, moment problem, asymptotic analysis, special functions.

EDUCATION

Czech Technical University in Prague, Czech Republic

Ph.D., Faculty of Nuclear Sciences and Physical Engineering, September 2014
- Thesis Topic: *Spectral Analysis of Jacobi Matrices and Related Problems*
- Supervisor: Prof. Ing. Pavel Šťovíček, DrSc.

Master's Degree, Faculty of Nuclear Sciences and Physical Engineering, June 2010
- Graduated with honors

POSITIONS

- **01/01/2020 - present**: Assistant Professor at the Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in Prague
- **01/09/2012 - 31/12/2019**: Assistant Professor at the Faculty of Information Technology, Czech Technical University in Prague
- **01/11/2015 - 31/10/2017**: Postdoc at Department of Mathematics, Stockholm University
- **01/09/2015 - 31/10/2015**: Postdoc at Mathematisches Institut, Universität Bern

JOURNAL
PUBLICATIONS

30 articles and **1 book chapter**; **63 citations** in WoS without self-citations.
Selected publications:
- An inverse spectral problem for non-self-adjoint Jacobi matrices, joint with A. Pushnitski, to appear in *Int. Math. Res. Not.* (2024).
- Spectral enclosures and stability for non-self-adjoint discrete Schrödinger operators on the half-line, joint with D. Krejčiřík and A. Laptev, *Bull. London Math. Soc.* **54** (2022) 2379–2403.
- The Hilbert L-matrix, *J. Funct. Anal.* **282** (2022) 1–46.
- Asymptotic spectral properties of the Hilbert L-matrix, *SIAM J. Matrix Anal. Appl.* **43** (2022) 1658–1679.
- On Lieb-Thirring inequalities for one-dimensional non-self-adjoint Jacobi and Schrödinger operators, joint with S. Bögli, *J. Spectr. Theory* **11** (2021) 1391–1413.
- Location of eigenvalues of non-self-adjoint discrete Dirac operators, joint with B. Cassano, O. O. Ibrogimov, and D. Krejčiřík, *Ann. Henri Poincaré* **21** (2020) 2193–2217.
- Spectral analysis of two doubly infinite Jacobi matrices with exponential entries, joint with M. E. H. Ismail, *J. Funct. Anal.* **276** (2019) 1681–1716.

PRIZES AND
COMPETITIONS

- Josef Hlávka Award for excellent students and graduates of Czech public universities and young talented academics of the Academy of Sciences of the Czech Republic.
- Honorable mention to the doctoral thesis by the Václav Votruba prize committee.

GRANT
PROJECTS

- New challenges for spectral theory: geometry, artificial materials and complex fields, EXPRO grant No. 20-17749X, Czech Science Foundation (team member).

- Workshop: Challenges in spectral theory of differential operators, AKTION grant No. 94p4, Czech National Agency for International Education and Research (PI).
- European Regional Development Fund-Project "Center for Advanced Applied Science", grant No. CZ.02.1.01/0.0/0.0/16_019/0000778 (team member).
- Spectral Analysis of Operators and its Applications in Quantum Mechanics, grant No. GA13-11058S of the Czech Science Foundation (team member).

| CONFERENCE TALKS AND SEMINARS | Approx. **30 talks** at conferences, invited talks include |

Approx. **30 talks** at conferences, invited talks include
- *Orthogonal Polynomials, Special Functions, Operator Theory and Applications*, London, UK, November 2023.
- *Workshop on Operator Theory, Complex Analysis, and Applications*, Faro, PT, June 2022.
- *IWOTA Special session: Hilbert Spaces of Analytic Functions and Applications*, Los Angeles, USA, August 2021.
- *Workshop on Operator Theory, Complex Analysis, and Applications*, Lisbon, PT, June 2021.
- *Hausdorff Geometry of Polynomials and Polynomial Sequences Conference*, Stockholm, SE, May 2018.

Approx. **15 seminars** including
- *Analysis group seminar at Stockholm University*, SE, January 2023.
- *Analysis and Probability seminar at King's College London*, UK, April 2022.
- *Analysis & PDE Seminar at Durham University*, UK, February 2022.
- *Queen's University Belfast Colloquium*, UK, September 2018.
- *Analysis group seminar at Stockholm University*, SE, November 2016.

REFEREE ACTIVITY

Reviews for more than **22 international journals** including
- Advances in Mathematical Physics; Analysis and Applications; Analysis and Mathematical Physics; Applied Mathematics and Computation; Computational and Applied Mathematics; Constructive Approximations; Integral Equations and Operator Theory; Journal of Approximation Theory; Journal of Difference Equations and Applications; Journal of Mathematical Analysis and Applications; Linear Algebra and its Applications; Methods of Functional Analysis and Topology; Operators and Matrices; Operator Theory: Advances and Applications; Results in Mathematics; Symmetry, Integrability and Geometry: Methods and Applications (SIGMA); The Ramanujan Journal.

19 reports for Mathematical Reviews of the American Mathematical Society.

TEACHING EXPERIENCE

Approx. **15 years** of teaching experience.
Supervision:
- 5 BSc. students finished; currently 1 Ph.D., 2, MSc. and 1 BSc. students supervised.
Lectures:
- Analysis 4 (Measure & Integration Theory)
- Analysis 3 (Function Series, Topology, Functions of Several Variables)
- Linear Algebra
- Selected Mathematical Methods
Exercises:
- Advanced Real Analysis
- Equations in Mathematical Physics
- Quantum Physics
- Calculus 1-4
- Linear Algebra
- Introduction to Algebra and Number Theory
- Probability and Statistics