
Péter Frenkel - Curriculum Vitae

Contact

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Personal information

Born: 1978, Budapest, Hungary

Nationality: Hungarian

Degrees and Education

- 2017 Habilitation in Mathematics, ELTE
Thesis: Convergence of graphs with intermediate density
- 2008 PhD in Mathematical and Computing Sciences, Budapest University of Technology and Economics (BME)
Supervisors: Prof. András Szenes and Prof. Mátyás Domokos
Thesis: New constructions in classical invariant theory
- 2002 MSc in Mathematics, Eötvös Loránd University of Sciences, Budapest (ELTE)

Employment history

Faculty positions

- 2020– Associate Professor at the Department of Algebra and Number Theory, ELTE
- 2011 – 2020 Assistant Professor at the Department of Algebra and Number Theory, ELTE
- 2008 – 2011 Postdoctoral Assistant, Department of Mathematics, Geneva University

Research positions

- 2015 – 2023 Researcher, Rényi Institute, Budapest
- 2006 – 2008 Junior researcher, Rényi Institute, Budapest

Visiting studentships

- Warwick University, Sep – Dec 2003 hosted by Prof. Miles Reid
- University College London, Jan – Mar 2001 hosted by Prof. David Preiss

Awards, grants

Individual prizes and scholarships

- András Gács Prize, 2022
- Géza Grünwald Memorial Prize, 2008
- State scholarship for PhD students, Hungary; 2002–2006

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- Miklós Schweitzer Memorial Competition; First Prize, 1999, 2000, 2001; Second Prize, 1998; Third Prize 1997
 - International Mathematical Olympiad; First Prize, 1996, 1997

Participating researcher in grants

- Hungarian National Research, Development and Innovation Office (NKFIH) grant no. K 146380, “Mathematical problems in quantum information theory”, 2024–2027
- Hungarian National Research, Development and Innovation Office (NKFIH) grant no. KKP 139502: “Groups and Graph Convergence”, 2021–2026
- Hungarian National Research, Development and Innovation Office (NKFIH) grant no. K 124152: “Trade-off Relations and Divergences in Quantum Information Theory”, 2018–2022
- ERC-2014-CoG grant no. 648017: “Asymptotic invariants of discrete groups, sparse graphs and locally symmetric spaces”, 2015–2020
- Hungarian National Research Grant OTKA-109684: “Stochastic processes on groups and graphs”, 2014–2018
- Hungarian National Research Grant OTKA-104206: “Applications of Matrix Analysis”; 2016–2017
- Hungarian Academy of Sciences and Rényi Institute Momentum grant “Groups and Graphs”, 2012–2016
- Hungarian National Research Grant OTKA-72523: “Groups and Other Algebraic Structures”, 2008–2011
- Hungarian National Research Grant OTKA-61116: “Algebraic Geometry and Related Fields”, 2006–2010
- Hungarian National Research Grant OTKA-46365: “Symmetry and Group Actions in Algebraic Topology”, 2004–2009
- Hungarian National Research Grant OTKA-42769: “Algebraic Geometry”, 2003–2006

Research field: Quantum information theory, Algebraic inequalities, Graph limit theory.

Publications: <https://m2.mtmt.hu/gui2/?type=authors&mode=browse&sel=10021941&paging=1;50>
<https://scholar.google.hu/citations?user=U4DVYCYAAAAJ&hl=en>

Invited conference talks

- Third Kyoto Workshop on Quantum Information, Computation, and Foundation, 17–21 October 2022 (online), Kyoto University
- Second Kyoto Workshop on Quantum Information, Computation, and Foundation, 13–17 September 2021 (online), Kyoto University
- Minicourse joint with M. Weiner at the School on Advanced Topics in Quantum Information and Foundations, 1–12 February 2021 (online), Kyoto University
- Linear algebra meets functional analysis, 9–10 April 2016, Bolyai Institute, Szeged

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- Arbeitsgemeinschaft: Limits of Structures, 31 March – 5 April 2013, Oberwolfach

Other conference presentations and invited seminar talks

- Oberseminar Reelle Geometrie und Algebra, 2018, Konstanz;
- First de Brún Workshop on representations and commutative algebra, 2008, University of Galway
- International Conference on Modules and Representation Theory, Babes–Bolyai University, Cluj-Napoca, July 7–12, 2008

Community service

Referee work

- For journals: *Combinatorica*; *Journal of Functional Analysis*; *Journal of Mathematical Analysis and Applications*; *Proceedings of the AMS*; *Linear Alg. Appl.*; *Electronic Journal of Probability*; *Mathematics*; *Periodica Mathematica Hungarica*; *Studia Mathematica*; *The American Mathematical Monthly*; *Quantum*; *Rendiconti del Circolo Matematico di Palermo Series 2*
- Habilitation dissertation of Dávid Kunszenti-Kovács, 2020.
- Doctoral dissertations at the Hungarian Academy of Sciences: Balázs Szegedy (2023), Márton Elekes (2018), Jenő Szigeti (2016)

Refereeing doctoral theses

- Referee of the doctoral thesis of Ferenc Bencs, Central European University, 2020.
- Referee of the doctoral thesis of Franck Maunoury, Université Paris – Diderot, 2018.
- Referee of the doctoral thesis of Gábor Somlai, ELTE, 2014.

Student supervision

PhD Tamás Bencze, Mathematics PhD, ELTE, expected graduation 2027

MSc Lilla Kapin, Mathematics Teaching programme, ELTE, graduation June 2021
Ádám Markó, Mathematics MSc, ELTE, graduation June 2020
Ferenc Bencs, Mathematics MSc, ELTE, graduation June 2015

Scientific Students' Associations (TDK) Tran Hoang Anh, 2020
Tamás Schwarcz, 2018

New National Excellence Programme (ÚNKP) Vilmos Molnár-Szabó, 2023–2024

BSc Péter Viktor Kővári, Mathematics BSc, ELTE, graduation June 2021
Hoang Trung Hieu, Mathematics BSc, ELTE, graduation June 2020
László Koltai, Mathematics BSc, ELTE, graduation June 2019
Ádám Markó, Mathematics BSc, ELTE, graduation June 2019
Tamás Schwarcz, Mathematics BSc, ELTE, graduation June 2018
Ágnes Timea Kúsz, Mathematics BSc, ELTE, graduation June 2017
Mátyás Lajos, Mathematics BSc, ELTE, graduation June 2015
Pál Bärnkopf, Applied Mathematics BSc, ELTE, graduation June 2015
Olivér Dániel Szabó, Applied Mathematics BSc, ELTE, graduation June 2015
István András Seres, Mathematics BSc, ELTE, graduation June 2014
Andrea Bodor, Mathematics teaching BSc, ELTE, graduation June 2014
Bence Márkus, Mathematics BSc, ELTE, graduation June 2013
Anna Mándli, Applied Mathematics BSc, ELTE, graduation June 2013
Benedek Kapitány, Mathematics Teaching BSc, ELTE, graduation June 2013
Péter Horváth, Applied Mathematics BSc, ELTE, graduation January 2013

Teaching activity

University courses

ELTE: 2011–

- Lecture course on Commutative Algebra (MSc, PhD, 2013, 2017, 2019, 2021, 2023).
- Exercise sessions on Commutative algebra (MSc, 2013, 2017, 2023).
- Lecture course and exercise sessions on Fields and Algebras (BSc, 2024)
- Lecture course and exercise sessions on Groups, Rings, and Modules (BSc, 2023)
- Lecture course on Linear and abstract algebra (BSc, 2023)
- Lecture course and exercise sessions on Algebra and Number Theory (BSc, 2022)
- Lecture course and exercise sessions on Algebra, (BSc, four-semester course, 2020–2022)
- Exercise sessions on Algebra, (BSc, four-semester course, four times between 2011 and 2020)
- Lecture course and exercise sessions on Abstract Algebra for Applied Mathematics students (BSc, several times between 2011 and 2017)
- Research seminar on Algebra and Number Theory (BSc, MSc and PhD; 2011–2015 and 2016–present).
- Problem solving seminar in Algebra (BSc, MSc, several times between 2012 and 2024)
- Algebra and Number Theory exercise sessions for students in Mathematics Education (2018–2020)

Geneva University : 2008–2011

- Problem solving seminar (BSc)
- Exercise class in Diophantine Geometry (MSc).
- Exercise classes in Algebra (BSc, 2008–2009)

BME: 2002–2006,

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- Problem solving seminar for students in Mathematics (BSc, first and second semester course, 2003–2006).
 - Mathematics tutorials for students in Engineering (BSc, 2002).

ELTE: 1999–2002, three semesters

- Exercise classes in Algebra for first-year students in Mathematics (2001 autumn).
- Exercise classes in Geometry for teacher training students in Mathematics (one semester).
- Exercise classes in Combinatorics for teacher training students in Mathematics (1999 spring).

Competitions

- Jury Chair at the European Girls' Mathematical Olympiad, 2022.
- IMO team leader for Hungary (2020–2022).
- served on the Organizing Committee of the Schweitzer Competition (secretary 2004, 2012, 2014, 2016; member 2018).
- served on the Organizing Committee of the Kürschák Competition (1999–present).
- Jury Chair at the Middle European Mathematical Olympiad, 2013.
- Team Leader for ELTE at the International Competition for University Students in mathematics, Blagoevgrad, 2012.

Other

Organizer and teacher at various mathematics summer camps (1998–2020).

Language skills

Hungarian (native), English (fluent), French (intermediate)