

Curriculum Vitae of György Pál Gehér

Contact information

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Employment history

- 10/2016 – 3/2018 **Post-doctoral Research Assistant**, Department of Mathematics and Statistics, University of Reading, Reading, UK
- 10/2015 – 9/2016 **Post-doctoral Research Assistant**, MTA-SZTE Analysis and Stochastics Research Group, Bolyai Institute, University of Szeged, Szeged, Hungary
- 7/2013 – 9/2015 **Research Assistant** (part-time employment), MTA-DE 'Lendület' Functional Analysis Research Group, University of Debrecen, Debrecen, Hungary
- 7/2015 – 9/2015 **Assistant Professor**, Bolyai Institute, University of Szeged, Szeged, Hungary (after three months I was offered a better position which I accepted)
- 9/2013 – 6/2015 **Research Assistant**, Bolyai Institute, University of Szeged, Szeged, Hungary

Education

- 2015 **PhD degree** in Mathematics, University of Szeged, Szeged, Hungary
Supervisor: László Kérchy
Thesis: Asymptotic behaviour of Hilbert space operators with applications
- 2010 **Master's degree** in Mathematics, University of Szeged, Szeged, Hungary
Supervisor: László Kérchy
Thesis: On the commutant of asymptotically non-vanishing contractions

Awards, distinctions, scholarships

- 2018 'Lump Sum Award' for teaching excellence (awarded by the University of Reading)
- 2017 '2016 JMAA Ames Award' for the best paper in pure mathematics (awarded by the Editorial Board of the Journal of Mathematical Analysis and Applications)
<https://www.journals.elsevier.com/journal-of-mathematical-analysis-and-applications/news/winner-of-2016-jmaa-ames-award-announced>
- 2015 'Grünwald Géza Award' (awarded by the János Bolyai Mathematical Society)
- 2015 'Problems and Recent Methods in Operator Theory Workshop Poster Award' (awarded by the University of Memphis)
- 2015 'Pro Laudanda Promotio Award' for Excellent PhD defense (awarded by the University of Szeged)
- 2015 'National Outstanding Researcher Award' for carrying out an outstanding research programme under the framework of Jedlik Ányos Predoctoral Scholarship (awarded by the National Excellence Program)
- 2014 Jedlik Ányos Predoctoral Scholarship (awarded by the National Excellence Program)
- 2013 Apáczai Csere János PhD Scholarship (awarded by the National Excellence Program)
- 2011 1st Prize, National Conference of the Scientific Students' Associations
- 2010 'Outstanding Student of the Faculty Award' (awarded by the University of Szeged)

List of publications

- [1] (with T. Titkos) A characterisation of isometries with respect to the Lévy-Prokhorov metric, *Annali della Scuola Normale Superiore di Pisa - Classe di Scienze*, accepted for publication
- [2] Wigner's theorem on Grassmann spaces, *Journal of Functional Analysis* **273** (2017), 2994–3001
- [3] (with H.Y. Chen, C.N. Liu, L. Molnár, D. Viosztek and N.C. Wong) Generalised isometries of the positive definite cone with respect to the quantum χ_α^2 -divergences, *Letters in Mathematical Physics* **107** (2017), 2267–2290
- [4] Surjective Kuiper isometries, *Houston Journal of Mathematics* (2018), accepted for publication
- [5] On n -norm preservers and the Aleksandrov conservative n -distance problem, *Aequationes Mathematicae* **91** (2017), 933–943
- [6] Bilateral weighted shift operators similar to normal operators, *Operators and Matrices* **10** (2016) 419–423
- [7] Asymptotic behaviour and cyclic properties of weighted shifts on directed trees, *Journal of Mathematical Analysis and Applications* **440** (2016), 14–32
- [8] (with P. Šemrl) Isometries of Grassmann spaces, *Journal of Functional Analysis* **270** (2016), 1585–1601
- [9] Is it possible to determine a point lying in a simplex if we know the distances from the vertices?, *Journal of Mathematical Analysis and Applications* **439** (2016) 651–663 (*JMAA Ames Award*)
- [10] Asymptotic limits of operators similar to normal operators, *Proceedings of the American Mathematical Society* **143** (2015) 4823–4834
- [11] A contribution to the Aleksandrov conservative distance problem in two dimensions, *Linear Algebra and its Applications* **481** (2015), 280–287
- [12] Characterization of Cesáro- and L -asymptotic limits of matrices, *Linear and Multilinear Algebra* **63** (2015), 788–805
- [13] Maps on real Hilbert spaces preserving the area of parallelograms and a preserver problem on self-adjoint operators, *Journal of Mathematical Analysis and Applications* **422** (2015), 1402–1413
- [14] (with G. Nagy) Maps on classes of Hilbert space operators preserving measure of commutativity, *Linear Algebra and its Applications* **463** (2014), 205–227
- [15] An elementary proof for the non-bijective version of Wigner's theorem, *Physics Letters A* **378** (2014), 2054–2057
- [16] Positive operators arising asymptotically from contractions, *Acta Scientiarum Mathematicarum (Szeged)* **79** (2013), 273–287
- [17] (with L. Kérchy) On the commutant of asymptotically non-vanishing contractions, *Periodica Mathematica Hungarica* **63** (2011), 191–203

Organising activities

- 24 – 28/7/2017 **Organiser** of the mini-symposium 'Toeplitz Matrices and Riemann-Hilbert Problems' at the '2017 Meeting of the International Linear Algebra Society' (ILAS 2017), (Ames, Iowa, US)
- 19 – 23/6/2017 **Organiser** of the international conference 'Preservers Everywhere' (Szeged, Hungary), webpage: <http://www.math.u-szeged.hu/~gehergy/conference.html>
- 11 – 15/7/2016 **Organiser** of the mini-symposium 'Recent Developments in Non-linear Preservers' at the '20th Conference of the International Linear Algebra Society' (ILAS 2016), (Leuven, Belgium)
- 9 – 10/4/2016 **Organiser** of the Hungarian conference 'Functional Analysis Meets Linear Algebra' (Szeged, Hungary), webpage of the event:

- 9/2014 – 5/2016 **Organiser** of the PhD Weekly Seminar at the Bolyai Institute, University of Szeged (Szeged, Hungary)
- 24 – 28/6/2013 **Assistant organiser** of the 'Szőkefalvi-Nagy Centennial Conference' (Szeged, Hungary)

Participations in projects

- 30/6 – 7/7/2017 **Principal Investigator**, London Mathematical Society Grant, Research in Pairs (Scheme 4), Support of collaborative research with Professor Peter Šemrl (Reference No.: 41642)
- 10/2016 – 12/2017 **Researcher**, Grant from the Engineering and Physical Sciences Research Council (EPSRC, EP/M024784/1).
Principal Investigator: Jani Virtanen (University of Reading, Reading, UK)
- 7/2015 – 6/2019 **Researcher**, Grant from the Hungarian National Research, Development and Innovation Office (NKFIH, K115383).
Principal Investigator: Lajos Molnár (University of Szeged, Szeged, Hungary)
- 10/2015 – 9/2016 **Research Assistant**, MTA-SZTE Analysis and Stochastics Research Group (funded by the Hungarian Academy of Sciences)
Principal Investigator: Vilmos Totik (University of Szeged, Szeged, Hungary)
- 7/2013 – 9/2015 **Research Assistant**, MTA-DE „Lendület” Functional Analysis Research Group (funded by the Hungarian Academy of Sciences)
Principal Investigator: Lajos Molnár (University of Debrecen, Debrecen, Hungary)
- 1/2015 – 12/2016 **Researcher**, 'HAS-MOST Hungarian-Taiwanese bilateral research project'.
Principal Investigators: Ngai-Ching Wong (National Sun Yat-sen University, Kaohsiung, Taiwan) and Lajos Molnár (University of Szeged, Szeged, Hungary)
- 1/2011 – 12/2012 **Researcher**, Hungarian-Romanian Cross-border Research on Functional Analysis and Differential Equations (HURO/1001/264/2.2.3.).
Principal Investigators: Dan Popovici (West University of Timisoara, Timisoara, Romania), László Kérchy (University of Szeged, Szeged, Hungary) and Gergely Röst (University of Szeged, Szeged, Hungary)

Selected list of conference talks and poster presentations

- 14 – 18/8/2017 International Workshop on Operator Theory and its Applications (IWOTA), (Chemnitz, Germany)
- 24 – 28/7/2017 **Invited speaker**, 2017 Meeting of the International Linear Algebra Society (ILAS), 'Linear Algebra and Geometry' mini-symposium (Ames, Iowa, US)
- 15 – 16/8/2016 **Invited speaker**, Operator Theory Workshop (Reading, UK)
- 11 – 15/7/2016 20th Conference of the International Linear Algebra Society (ILAS), (Leuven, Belgium)
- 27 – 29/5/2016 **Invited speaker**, International Workshop on Applied Analysis and Optimization (Taichung, Taiwan)
- 17 – 18/10/2015 AMS Sectional Meeting – Fall South-Eastern Sectional Meeting, (Memphis, Tennessee, US)
- 15 – 16/10/2015 **Poster presentation**, Problems and Recent Methods in Operator Theory Workshop, (Memphis, Tennessee, US)
- 7 – 11/9/2015 Mat Triad 2015 (Coimbra, Portugal)
- 3 – 5/9/2014 International Workshop on Operator Theory 2014 (Belfast, UK)
- 4 – 12/6/2014 The 7th Linear Algebra Workshop (Ljubljana, Slovenia)
- 16 – 20/12/2013 International Workshop on Operator Theory and its Applications (IWOTA), (Bangalore, India)

29/7 – 4/8/2013	Banach Algebras and Applications (Göteborg, Sweden)
20 – 24/5/2013	Hilbert Function Spaces (Gargnano, Italy)
27 – 31/8/2012	Spectral Theory and Differential Operators (Graz, Austria)
2 – 7/7/2012	24 th International Conference on Operator Theory (Timisoara, Romania)

Academic visits

1/4 – 6/4/2017	Alexander Its, Indiana University–Purdue University Indianapolis (Indianapolis, US)
27/11 – 2/12/2016	Maria Cristina Câmara, Instituto Superior Técnico, Universidade de Lisboa (Lisbon, Portugal)
16 – 26/5/2016	Ngai-Ching Wong, National Sun Yat-sen University (Kaohsiung, Taiwan)
11 – 15/4/2016	Paul Busch, University of York (York, UK)
17 – 22/5/2015	Peter Šemrl, University of Ljubljana (Ljubljana, Slovenia)
11 – 15/10/2014	Bojan Kuzma, University of Primorska (Koper, Slovenia)
5 – 11/10/2014	Peter Šemrl, University of Ljubljana (Ljubljana, Slovenia)
27 – 29/3/2013	Lajos Molnár, University of Debrecen (Debrecen, Hungary)
1 – 8/2/2013	Rupert H. Levene, University College Dublin (Dublin, Ireland)

Selected list of seminar talks

4/4/2017	Indiana University–Purdue University Indianapolis (Indianapolis, US), ‘Mathematical Physics Seminar’
7/2/2017	Oxford University (Oxford, UK), ‘Functional Analysis Seminar’
29/11/2016	Instituto Superior Técnico, Universidade de Lisboa (Lisbon, Portugal), ‘Analysis, Geometry, and Dynamical Systems Seminar’
12/4/2016	University of York (York, UK), ‘Quantum Information Seminar’
16/3/2016	Budapest University of Technology and Economics (Budapest, Hungary), ‘Analysis Seminar’
21/5/2015	University of Ljubljana (Ljubljana, Slovenia), ‘Linear Algebra Seminar’
13/5/2015	Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences (Budapest, Hungary), ‘Functional Analysis Seminar’
10/10/2014	University of Ljubljana (Ljubljana, Slovenia), ‘Linear Algebra Seminar’
5/2/2013	University College Dublin (Dublin, Ireland), ‘Analysis Seminar’

Academic service

I am a reviewer of MathSciNet

I have been a referee for papers submitted to the following journals: *Aequationes Mathematicae*, *Acta Mathematica Hungarica*, *Acta Scientiarum Mathematicarum*, *Houston Journal of Mathematics*, *Mathematica Slovaca*, *Mediterranean Journal of Mathematics*, *Monatshefte für Mathematik*, *Linear Algebra and its Applications*, *Linear and Multilinear Algebra*, *Periodica Mathematica Hungarica*, *Special Matrices*, *Taiwanese Journal of Mathematics*.

Teaching activities

I led several tutorials since 2007.

So far I taught the following lecture/seminar courses since 2012:

- Undergraduate Seminar (for *talented/well-motivated* 1st-4th year Mathematics students), University of Reading, 2017 autumn and 2018 spring terms
- Operator Theory (4th year MMATH students), University of Reading, 2017 spring term, with J.A. Virtanen
- Interesting Problems in Analysis Seminar (for *talented/well-motivated* Mathematics BSc students), University of Szeged, 2016 spring term
- Functions of Several Variables: an Introduction (Mathematics BSc students), University of Szeged, 2015 autumn term
- Differential and Integral Calculus (Mathematics BSc students), University of Szeged, 2015 spring term
- Calculus for Physics 1 (Physics BSc students), University of Szeged, 2014 autumn term
- Introduction to Analysis (Mathematics BSc students), University of Szeged, 2014 autumn term
- Calculus for Physics 2 (Physics BSc students), University of Szeged, 2014 spring term
- Introduction to Numerical Analysis (Physics BSc students), University of Szeged, 2014 spring term
- Mathematics 1 (Chemistry BSc students), University of Szeged, 2012-2013 autumn terms
- Problem Solving Seminar (for *talented/well-motivated* Mathematics BSc students), University of Szeged, 2012 autumn term
- Functional Analysis (Physics BSc students), University of Szeged, 2012 spring term

So far I have supervised the following students:

- Harry Venables, 3rd year project, 2017-2018 academic year
- Sarah Venkatesh, 3rd year project, 2017-2018 academic year
- Eleanor Day, 3rd year project, 2017-2018 academic year
- Jacob Whitestone, MMATH project, 2016-2017 academic year, co-supervisor: J.A. Virtanen

Outreach activities

11/2017 – present	STEM Ambassador
2017	Pontpozícionálás távolságméréssel (English translation: Point positioning by measuring distances), science popularising article in the 'ERINTŐ' Hungarian electronic journal, submitted
28/1/2015	Mathematics popularising lecture, Kossuth Lajos Secondary School, Cegléd, Hungary
28/4/2012	Mathematics popularising lecture, 'Egyetemi Tavasz', University of Szeged, Szeged, Hungary
24/4/2010	Organiser , Mathematics session of the 'Egyetemi Tavasz' (Spring at the University) science popularising event-series for secondary school students, University of Szeged, Szeged, Hungary