

Gábor Szabó

Personal Information

Date of birth 2nd of August, 1988
Place of birth Dunaújváros, Hungary
Citizenship German

Employment

since 10/2018 BOFZAP tenure-track assistant professor at KU Leuven
09/2017–09/2018 Postdoc at the Centre for Symmetry and Deformation, Department of Mathematical Sciences, Copenhagen University
09/2016–08/2017 Postdoc (Research Fellow) at the University of Aberdeen
08/2015–08/2016 Postdoc (wissenschaftlicher Mitarbeiter) at the Mathematics department and SFB 878 Groups, Geometry and Actions of WWU Münster
09/2012–07/2015 Doctoral student at the Mathematics department and SFB 878 Groups, Geometry and Actions of WWU Münster
04/2009–03/2012 Student teaching assistant at WWU Münster

Education

09/2012–07/2015 **Doctorate in mathematics** (Dr. rer. nat.) with Prof. Dr. Wilhelm Winter, at WWU Münster, Germany. With grade **summa cum laude**.
Rokhlin dimension and topological dynamics
04/2011–08/2012 **Master of Science Mathematics** with Prof. Dr. Wilhelm Winter, at WWU Münster, Germany. With distinction.
 \mathcal{Z} -stability of AH Algebras of Bounded Dimension
10/2008–02/2011 **Bachelor of Science Mathematics** with Prof. Dr. Dr. h.c. Joachim Cuntz, at WWU Münster, Germany. With distinction.
Spectra of Maximal Commutative Subalgebras of Certain Simple C^ -Algebras*

Publications

- [1] G. Szabó: On a categorical framework for classifying C^* -dynamics up to cocycle conjugacy. 56 pages. URL <https://arxiv.org/abs/1907.02388>.
- [2] G. Szabó: Equivariant property (SI) revisited. 32 pages. URL <https://arxiv.org/abs/1904.10897>.
- [3] G. Szabó: The classification of Rokhlin flows on C^* -algebras. 55 pages. URL <https://arxiv.org/abs/1706.09276>.

- [4] S. Barlak, G. Szabó: Approaching the UCT problem via crossed products of the Razak–Jacelon algebra. 11 pages. To appear in *Groups. Geom. Dyn.*, URL <https://arxiv.org/abs/1712.00823>.
- [5] S. Barlak, G. Szabó: On diagonal quasi-free automorphisms of purely infinite simple graph C^* -algebras. 17 pages. To appear in *Math. Scand.*, URL <https://arxiv.org/abs/1708.08258>.
- [6] D. Kerr, G. Szabó: Almost finiteness and the small boundary property. 31 pages. To appear in *Comm. Math. Phys.*, URL <https://doi.org/10.1007/s00220-019-03519-z>.
- [7] G. Szabó: Actions of certain torsion-free elementary amenable groups on strongly self-absorbing C^* -algebras. *Comm. Math. Phys.* **371** (2019), no. 1, pp. 267–284.
- [8] G. Szabó, J. Wu, J. Zacharias: Rokhlin dimension for actions of residually finite groups. *Ergodic Theory Dynam. Systems* **39** (2019), no. 8, pp. 2248–2304.
- [9] G. Szabó: Rokhlin dimension: absorption of model actions. *Anal. PDE* **12** (2019), no. 5, pp. 1357–1396.
- [10] G. Szabó: Equivariant Kirchberg–Phillips-type absorption for amenable group actions. *Comm. Math. Phys.* **361** (2018), no. 3, pp. 1115–1154.
- [11] Y. Gutman, Y. Qiao, G. Szabó: The embedding problem in topological dynamics and Takens’ theorem. *Nonlinearity* **31** (2018), no. 2, pp. 597–620.
- [12] G. Szabó: Strongly self-absorbing C^* -dynamical systems, III. *Adv. Math.* **316** (2017), no. 20, pp. 356–380.
- [13] G. Szabó: Strongly self-absorbing C^* -dynamical systems, II. *J. Noncomm. Geom.* **12** (2018), no. 1, pp. 369–406.
- [14] G. Szabó: Strongly self-absorbing C^* -dynamical systems. *Trans. Amer. Math. Soc.* **370** (2018), pp. 99–130.
- [15] S. Barlak, G. Szabó, C. Voigt: The spatial Rokhlin property for actions of compact quantum groups. *J. Funct. Anal.* **272** (2017), no. 6, pp. 2308–2360.
- [16] G. Szabó: On the nuclear dimension of strongly purely infinite C^* -algebras. *Adv. Math.* **306** (2017), pp. 1262–1268.
- [17] I. Hirshberg, G. Szabó, W. Winter, J. Wu: Rokhlin dimension for flows. *Comm. Math. Phys.* **353** (2017), no. 1, pp. 253–316.
- [18] G. Szabó: Appendix to *The nuclear dimension of C^* -algebras associated to homeomorphisms* by I. Hirshberg and J. Wu. *Adv. Math.* **304** (2017), pp. 56–89.
- [19] S. Barlak, G. Szabó: Rokhlin actions of finite groups on UHF-absorbing C^* -algebras. *Trans. Amer. Math. Soc.* **369** (2017), pp. 833–859.
- [20] S. Barlak, G. Szabó: Sequentially split $*$ -homomorphisms between C^* -algebras. *Internat. J. Math* **27** (2016), no. 12, 48 pages.
- [21] S. Barlak, D. Enders, H. Matui, G. Szabó, W. Winter: The Rokhlin property vs. Rokhlin dimension 1 on unital Kirchberg algebras. *J. Noncommut. Geom.* **9** (2015), no. 4, 1383–1393.

- [22] G. Szabó: A short note on the continuous Rokhlin property and the universal coefficient theorem in E -theory. *Canad. Math. Bull.* **58** (2015), no. 2, 374–380.
- [23] G. Szabó: The Rokhlin dimension of topological \mathbb{Z}^m -actions. *Proc. Lond. Math. Soc.* (3) **110** (2015), no. 3, 673–694.
- [24] A. Sims, G. Szabó, D.P. Williams: Operator algebras and dynamics: groupoids, crossed products, and Rokhlin dimension. To be published in *Advanced Courses in Mathematics - CRM Barcelona*. (Expository)

Selected invited talks

- 09/2019 *The stable uniqueness theorem for equivariant Kasparov theory*, Workshop Topology and Measure in Dynamics and Operator Algebras, BIRS, Banff, Canada.
- 08/2019 *The stable uniqueness theorem for equivariant Kasparov theory*, Workshop C^* -Algebras, Oberwolfach, Germany.
- 12/2018 *Classification of C^* -algebras and their dynamics*. Colloquium talk, Mathematisches Institut, Universität Göttingen.
- 11/2018 Mini-course *Introduction to C^* -algebras*, Workshop on Model theory and Operator Algebras, BIRS, Banff. (3 hours)
- 11/2018 *The cocycle category and intertwining*. Operator Algebra seminar, Fields institute, Toronto.
- 05/2018 Mini-course *Introduction to the classification of group actions on C^* -algebras*, Sixteenth Annual Spring Institute on Noncommutative Geometry and Operator Algebras, Münster. (3 hours)
- 04/2018 *Multiflows on strongly self-absorbing Kirchberg algebras*, Spring Program on Operator Algebras, ECNU, Shanghai.
- 09/2017 *Approaching the UCT problem via crossed products* (2 talks). Mini-workshop on MASAs and automorphisms of C^* -algebras, Oberwolfach.
- 09/2017 *The classification of Rokhlin flows on C^* -algebras*. Future targets in the classification program for amenable C^* -algebras, BIRS, Banff.
- 07/2017 *An Ornstein–Weiss–Rokhlin lemma for free actions with the small boundary property*. Mean Dimension and Sofic Entropy Meet Dynamical Systems, Geometric Analysis and Information Theory, BIRS, Banff.
- 06/2017 *Rokhlin dimension and topological dynamics*. Workshop on Ergodic Theory and Operator Algebras, Texas A&M.
- 05/2017 *On the classification of Rokhlin flows*. Fifteenth Annual Spring Institute on Noncommutative Geometry and Operator Algebras, Nashville.
- 03/2017 Lecture series *Rokhlin dimension*, CRM, Barcelona. (5 hours)
- 01–02/2017 *On the classification problem for Rokhlin flows*. Delivered at Operator Algebra Seminars in Copenhagen, Odense, Trondheim.

- 11/2016 *Ocneanu-type uniqueness for certain group actions on strongly self-absorbing C^* -algebras.* Workshop on Structure and Classification of C^* -algebras, IMPAN, Warsaw.
- 08/2016 *Equivariant Kirchberg–Phillips-type absorption for amenable group actions.* Workshop C^* -algebras, Oberwolfach.
- 01/2016–06/2016 *Strongly self-absorbing C^* -dynamical systems.* Delivered at: Kyoto Operator Algebra Seminar, RIMS, Kyoto; Mittag-Leffler institute, Stockholm; Operator Algebra Seminar, Leuven.
- 11/2015 *On the nuclear dimension of strongly purely infinite C^* -algebras.* Workshop on Noncommutative Dimension Theories, Honolulu.
- 04/2015 *Sequentially split $*$ -homomorphisms, Part I.* Workshop on Structure and Classification of C^* -Algebras, Münster.
- 03/2015 *Rokhlin dimension of topological \mathbb{Z}^m -actions.* Noncommutative Geometry Seminar and Dynamical Systems Seminar, IMPAN, Warsaw.
- 07/2014 *Finite group actions and the UCT problem.* Workshop on Model Theory and Operator Algebras, Münster.
- 06/2014–10/2014 *Rokhlin dimension for actions of residually finite groups.* Delivered at: Workshop on C^* -Algebras and Dynamical Systems, Fields Institute, Toronto; CSTAR Conference, Glasgow; Dynamics and C^* -Algebras: Amenability and Soficity, BIRS, Banff.
- 03/2013–02/2014 *Rokhlin dimension of topological \mathbb{Z}^m -actions.* Delivered at: Workshop on C^* -Algebras and Noncommutative Dynamics, Sde Boker, Israel; Workshop on the structure and classification of nuclear C^* -algebras, ICMS, Edinburgh; Oberseminar C^* -Algebren, Münster; Theme Week on Noncommutative Geometry and Dynamical Systems, Fields Institute, Toronto; Analysis Seminar, Glasgow.

Research visits

- 09/2019 Fields Institute, Toronto. (1 week)
- 11/2018 Fields Institute, Toronto. (1 week)
- 05/2017–06/2017 Texas A&M, USA. (2 weeks)
- 04/2017–05/2017 PennState, USA. (4 weeks)
- 03/2017 Research program *Operator Algebras: Dynamics and Interactions.* Centre de Recerca Matemàtica, Barcelona. (3 weeks)
- 01/2016–03/2016 Research program *Classification of Operator Algebras: Complexity, Rigidity, and Dynamics,* Mittag-Leffler Institute, Stockholm. (8 weeks)
- 01/2016 University of Kyoto. (2 weeks)
- 03/2015 IMPAN, Warsaw. (3 weeks)
- 02/2014 University of Glasgow. (1 week)

Teaching

- Winter 2019 Master course *Probability and Measure*

Summer 2019 Master course *Spectral theory and Operator Algebras*.
 Spring 2018 Taught and marked for *Introduction to Operator Algebras*
 Winter 2016 Undergraduate course *Analysis I*
 Summer 2016 Taught and marked for *Operator Algebras II* (in German)
 Winter 2014 Taught and marked for *Operator Algebras* (in German)
 Winter 2013 Taught and marked for *Functional Analysis* (in German)
 Winter 2011 Taught and marked for *K-Theory for Operator Algebras* (in German)
 Summer 2011 Taught and marked for *Functional Analysis* (in German)
 Winter 2010 Taught and marked for *Operator Algebras* (in German)
 Summer 2010 Taught and marked for *Operator Algebras* (in German)
 Winter 2009 Taught and marked for *Analysis I* (in German)
 Summer 2009 Taught and marked for *Real and Complex Analysis* (in German)

Awards and funding

10/2019–09/2023 Internal C1 project “Classification of C^* -dynamics: noncommutative symmetry and time evolution” granted by the research council of KU Leuven (€243.200)
 10/2018 BOFZAP start-up grant. (€100.000)
 01/2018 Marie Skłodowska Curie fellowship *Structure and Classification of C^* -Dynamics* (c. €200.000)
 2016 Oberwolfach Leibniz Graduate grant for the Workshop *C^* -algebras* (€200)
 2016 Mittag-Leffler postdoctoral fellowship (SEK 40.000)
 2015 IMPAN guest grant (PLN 6.600)
 2013 Oberwolfach Leibniz Graduate grant for the Workshop *Noncommutative Geometry* (€200)
 2009–2010 WWU Münster *Pro Talent* stipend (€3.600)

Supervision

10/2020–09/2012 François Thilmany (postdoc)
 (upcoming)
 09/2019–08/2023 Lise Wouters (PhD)
 01/2019–01/2023 Baukje Debets (PhD)

Professional Activity & Service

External reader/examiner for 2 PhD students
 Internal reader/examiner for 2 PhD students at KU Leuven
 since 11/2018 Member of PhD supervisory committee for Bram Verjans
 10/2017 Co-organizer for *Applications of the UCT for C^* -algebras*, Copenhagen.
 (approximately 40 participants)
 06/2017 9-month PhD Assessor for Ruaridh Gardner at the University of Aberdeen.

- 07/2016 Co-organizer of the conference *Young Mathematicians in C^* -algebras* (YMC*A), Münster. (approximately 120 participants)
- 2013/2016 Coordinator for Oberwolfach Reports *Noncommutative Geometry* (joint with Selçuk Barlak) and *C^* -algebras* (joint with Hannes Thiel).
- Refereed for: Annals of Mathematics, Crelle's Journal, Mathematische Annalen, Transactions of the American Mathematical Society, Ergodic Theory and Dynamical Systems, International Mathematics Research Notices, Proceedings of the London Mathematical Society, Journal of Noncommutative Geometry, Journal of Functional Analysis, Münster Journal of Mathematics, Documenta Mathematica, Abel Symposia, Proceedings of the American Mathematical Society, International Journal of Mathematics, Journal of Operator Theory, Canadian Journal of Mathematics, Proceedings A of the Royal Society of Edinburgh, Proceedings of the Edinburgh Mathematical Society, Glasgow Mathematical Journal, Journal of Mathematical Analysis and Applications, Advances in Operator Theory, Mathematical Society of Japan
- since 2016 Reviewer for Mathematical Reviews (10+ reviews)