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Gábor Szabó

Personal Information

Date of birth	2nd of August, 1988
Place of birth	Dunaújváros, Hungary
Citizenship	German
ORCID ID	0000-0001-7963-8493

Language skills

(CEFR scale)	German (native), Hungarian (native), English (C1+), Dutch (C1)

Employment

since 10/2018	BOFZAP tenure-track assistant professor, KU Leuven.
09/2017–09/2018	Postdoc at Copenhagen University, Denmark.
09/2016–08/2017	Postdoc (Research Fellow) at the University of Aberdeen, UK.
08/2015–08/2016	Postdoc (wissenschaftlicher Mitarbeiter) at WWU Münster, Germany.
09/2012–07/2015	Doctoral student at WWU Münster, Germany.
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, 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, 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, WWU Münster, Germany. With distinction. *Spectra of Maximal Commutative Subalgebras of Certain Simple C*-Algebras*

Teaching

since 2019	Yearly master course *Probability and Measure* and biyearly master course *Operator Algebras* at KU Leuven.
Winter 2019	Design and supervision of bachelor research project *Kaplansky's direct finiteness conjecture for sofic groups* (5 students), KU Leuven.
Spring 2018	TA for *Introduction to Operator Algebras*, Copenhagen University.

Winter 2016	Course instructor for *Analysis I*, University of Aberdeen.
2009–2016	TA for courses at WWU Münster: *Real and Complex Analysis, Analysis I, Functional Analysis (2×), Operator Algebras (3×), Operator Algebras II, K-Theory for Operator Algebras*.

Awards and funding

01/2020–12/2023	FWO research project "Classification of C^*-dynamics: noncommutative symmetry and time evolution" (EUR 458.445)
10/2019–09/2023	BOF project "Classification of C^*-dynamics: noncommutative symmetry and time evolution" granted by the research council of KU Leuven (EUR 243.200)
10/2018–09/2020	BOFZAP start-up grant. (EUR 100.000)
01/2018	Marie Skłodowska Curie fellowship (c. EUR 200.000)
2016	Mittag-Leffler postdoctoral fellowship (SEK 40.000)
2015	IMPAN guest grant (PLN 6.600)
2013/2016	Oberwolfach Leibniz Graduate grant for the Workshops *Noncommutative Geometry* and *C^*-algebras* (EUR 200 each)
2009-2010	WWU Münster *Pro Talent* stipend (EUR 3.600)

Supervision

11/2022–10/2025	Se Jin Kim (postdoc).
since 09/2022	Paul Meunier (PhD student).
11/2021–10/2024	Ali Imad Raad (postdoc).
10/2021–09/2022	Shirly Geffen (postdoc, Schmidt Israeli postdoc fellow).
11/2020–10/2021	Kang Li (postdoc).
10/2020–09/2022	François Thilmany (postdoc, FWO fellow).
since 09/2020	Matteo Pagliero (PhD student).
09/2020–06/2021	Emiel Lanckriet (Master thesis).
since 09/2019	Lise Wouters (PhD student, FWO fellow).
09/2019–06/2020	Ben Bouwen (Master thesis).
01/2019–09/2022	Baukje Debets (PhD student)

Professional Activity & Service

since 2018	Member of 7 PhD supervisory committees and member of additional 4 PhD examination committees at KU Leuven (excluding own students).
2019	External PhD thesis reviewer/examiner for Andrea Vaccaro (University of Pisa, Italy) and for Luke John Ito (University of Glasgow, United Kingdom).
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).

Regular reviewer for Mathematical Reviews and zbMATH Open.

Refereed for: Annals of Mathematics, Inventiones Mathematicae, Journal of the EMS, Crelle's Journal, American Journal of Mathematics, Annales de l'ENS, Communications in Mathematical Physics, Analysis & PDE, Mathematische Annalen, Transactions/Proceedings/Memoirs of the AMS, IMRN, Proceedings/Journal of the LMS, Advances in Mathematics, Compositio Mathematica, Selecta Mathematica, Journal of Noncommutative Geometry, Journal of Functional Analysis, Ergodic Theory and Dynamical Systems, Münster Journal of Mathematics, Journal of Mathematical Physics, Journal of Geometry and Physics, Documenta Mathematica, Abel Symposia, International Journal of Mathematics, Indiana University Mathematics Journal, Journal of Operator Theory, Canadian Journal of Mathematics, Proceedings A of the Royal Society of Edinburgh, Proceedings of the Edinburgh Mathematical Society, Groups Geometry & Dynamics, Glasgow Mathematical Journal, Journal of Mathematical Analysis and Applications, Advances in Operator Theory, Mathematical Society of Japan, Annals of K-Theory, Journal of the Koran Mathematical Society.

Publications

[1] G. Szabó, L. Wouters: Equivariant property Gamma and the tracial local-to-global principle for C^*-dynamics. 44 pages. arxiv:2301.12846.

[2] G. Szabó, L. Wouters: Dynamical McDuff-type properties for group actions on von Neumann algebras. 33 pages. arxiv:2301.11748.

[3] J. Gabe, G. Szabó: The dynamical Kirchberg–Phillips theorem. 57 pages. arxiv:2205.04933.

[4] J. Gabe, G. Szabó: The stable uniqueness theorem for equivariant Kasparov theory. 42 pages. arxiv:2202.09809.

[5] E. Lanckriet, G. Szabó: On embeddings of extensions of almost finite actions into cubical shifts. 10 pages. arxiv:2202.10198.

[6] J. Castillejos, K. Li, G. Szabó: On tracial $\mathcal{Z}$-stability of simple non-unital C^*-algebras. 19 pages. arxiv:2108.08742.

[7] G. Szabó: On a categorical framework for classifying C^*-dynamics up to cocycle conjugacy. J. Funct. Anal. **280** (2021), no. 8, article 108927. 56 pages.

[8] G. Szabó: The classification of Rokhlin flows on C^*-algebras. Comm. Math. Phys. **382** (2021), pp. 2015–2070.

[9] G. Szabó: Equivariant property (SI) revisited. Anal. PDE. **14** (2021), no. 4, pp. 1199–1232.

[10] D. Kerr, G. Szabó: Almost finiteness and the small boundary property. Comm. Math. Phys. **374** (2020), pp. 1–31.

[11] S. Barlak, G. Szabó: Approaching the UCT problem via crossed products of the Razak–Jacelon algebra. Groups. Geom. Dyn. **14** (2020), no. 1, pp. 137–149.

[12] S. Barlak, G. Szabó: On diagonal quasi-free automorphisms of purely infinite simple graph C^*-algebras. 17 pages. Math. Scand. **125** (2019), no. 2, pp. 210–226.

[13] 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.

[14] 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.

[15] G. Szabó: Rokhlin dimension: absorption of model actions. Anal. PDE **12** (2019), no. 5, pp. 1357–1396.

[16] G. Szabó: Equivariant Kirchberg–Phillips-type absorption for amenable group actions. Comm. Math. Phys. **361** (2018), no. 3, pp. 1115–1154.

[17] Y. Gutman, Y. Qiao, G. Szabó: The embedding problem in topological dynamics and Takens' theorem. Nonlinearity **31** (2018), no. 2, pp. 597–620.

[18] G. Szabó: Strongly self-absorbing C^*-dynamical systems, III. Adv. Math. **316** (2017), no. 20, pp. 356–380.

[19] G. Szabó: Strongly self-absorbing C^*-dynamical systems, II. J. Noncomm. Geom. **12** (2018), no. 1, pp. 369–406.

[20] G. Szabó: Strongly self-absorbing C^*-dynamical systems. Trans. Amer. Math. Soc. **370** (2018), pp. 99–130. Corrigendum published in: Trans. Amer. Math. Soc. **373** (2020), pp. 7527–7531.

[21] 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.

[22] G. Szabó: On the nuclear dimension of strongly purely infinite C^*-algebras. Adv. Math. **306** (2017), pp. 1262–1268.

[23] I. Hirshberg, G. Szabó, W. Winter, J. Wu: Rokhlin dimension for flows. Comm. Math. Phys. **353** (2017), no. 1, pp. 253–316.

[24] 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.

[25] S. Barlak, G. Szabó: Rokhlin actions of finite groups on UHF-absorbing C^*-algebras. Trans. Amer. Math. Soc. **369** (2017), pp. 833–859.

[26] S. Barlak, G. Szabó: Sequentially split $*$-homomorphisms between C^*-algebras. Internat. J. Math **27** (2016), no. 12, 48 pages.

[27] 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.

[28] 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.

[29] G. Szabó: The Rokhlin dimension of topological $\mathbb{Z}^m$-actions. Proc. Lond. Math. Soc. (3) **110** (2015), no. 3, 673–694.

[30] G. Szabó: Introduction to C^*-algebras. To appear as a chapter in the volume "Model Theory of Operator Algebras". (Expository)

[31] A. Sims, G. Szabó, D.P. Williams: Operator algebras and dynamics: groupoids, crossed products, and Rokhlin dimension. *Advanced Courses in Mathematics - CRM Barcelona*, Birkhäuser, 2020. (Expository)

Research visits

02/2020	Copenhagen University, Denmark. (1 week)
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)

Selected invited talks

11/2023 (upcoming)	Mini-course *C^*-algebras, classification and group actions*, Twinned Conference on C^*-Algebras and Tensor Categories, ICMS, Edinburgh. (3 hours)
08/2022	*The dynamical Kirchberg–Phillips theorem*, Workshop C^*-algebras, Oberwolfach.
06/2021	*The stable uniqueness theorem for equivariant Kasparov theory* (online), Minisymposium Operator Algebras, 8th European Congress of Mathematics.
01/2021	Minicourse *Classification of group actions on C^*-algebras* (online), Workshop Actions of Tensor Categories on C^*-algebras, IPAM, UCLA.
01-02/2020	*Equivariant property (SI) for C^*-dynamical systems*. Operator Algebra seminar at Copenhagen University and NTNU, Trondheim.
09/2019	*The stable uniqueness theorem for equivariant Kasparov theory*, Workshop Topology and Measure in Dynamics and Operator Algebras, BIRS, Banff.
08/2019	*The stable uniqueness theorem for equivariant Kasparov theory*, Workshop C^*-Algebras, Oberwolfach.

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, WWU 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.

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.

03/2013–03/2015 *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; Noncommutative Geometry Seminar and Dynamical Systems Seminar, IMPAN, Warsaw.