

# Julian Kranz

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## EDUCATION

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- **University of Münster** Germany  
*PhD in Mathematics, summa cum laude* *Oct 2020 - Jul 2023*  
Thesis: *Amenable actions on  $C^*$ -algebras.*
- **University of Münster** Germany  
*Master of Science in Mathematics, with honors* *Oct 2018 - Jun 2020*  
Thesis: *An identification of the Baum-Connes and Davis-Lück assembly maps.*
- **University of Münster** Germany  
*Bachelor of Science in Mathematics, with honors* *Oct 2015 - Sep 2018*  
Thesis:  *$K$ -theory for  $C^*$ -algebras.*

## RESEARCH INTERESTS

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$C^*$ -algebras, crossed products, amenable actions, groupoids,  $K$ -theory, interactions with algebraic topology and geometric group theory.

## TALKS

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- **Apr 2023:** South Atlantic Noncommutative Geometry seminar (online)
- **Apr 2023:** SDU Operator Algebras Seminar, Odense
- **Jan 2023:** 5th Conference of Settat on Operator Algebras and Applications, Marrakech
- **Nov 2022:** Operator Algebras Workshop, Gothenburg
- **Nov 2022:** Lie Group Seminar, Erlangen
- **Oct 2022:** Oberseminar Global Analysis and Geometry, Regensburg
- **Sep 2022:** New York City noncommutative geometry seminar (online)
- **Jun 2022:** Analysis Seminar, Glasgow
- **Jun 2022:** Functional Analysis Seminar, Oxford
- **May 2022:**  $C^*$ -algebras: Structure and Dynamics, Sde Boker
- **Apr 2022:** Oberseminar Operatoralgebren, Münster
- **Apr 2022:** Seminar on  $C^*$ -algebras of groupoids, Gothenburg (online)
- **Mar 2022:** Noncommutativity in the North, Gothenburg
- **Mar 2022:** Analysis and Probability Seminar, Gothenburg
- **Oct 2021:** Oberseminar Operatoralgebren, Münster
- **Oct 2021:** Quantum Groups Seminar, Copenhagen (online)
- **Jul 2021:** Young Topologist Meeting, Stockholm University (online)
- **May 2021:** GPOTS, Washington University in St. Louis (online)
- **Apr 2021:**  $C^*$ -Web-Seminar, Florianopolis (online)
- **Nov 2020:** AG Seminar, Regensburg (online)
- **Jun 2020:** Mathematisches Forschungsinstitut Oberwolfach (short talk)
- **Apr 2020:** Oberseminar Operatoralgebren, Münster (online)

## ATTENDED CONFERENCES

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- **Aug 2023:** YMC\*A, Leuven
- **Jul 2023:** Conference in honour of Eberhard Kirchberg, Münster
- **Feb 2023:** Young Geometric Group Theory, Münster
- **Feb 2023:** Workshop on Reflection groups, Magdeburg
- **Jan 2023:** 5th Conference of Settat on Operator Algebras and Applications, Marrakech
- **Sep 2022:** Workshop on Cuntz Semigroups, Kiel
- **Aug 2022:** YMC\*A, Oslo
- **May 2022:**  $C^*$ -algebras: Structure and Dynamics, Sde Boker
- **Mar 2022:** Noncommutativity in the North, Gothenburg
- **Oct 2021:** Seminaire Kevaire on the Baum-Connes Conjecture, Les Diablerets
- **Oct 2021:** Automorphisms and Invariants of Operator Algebras, Copenhagen
- **Aug 2021:** Noncommutative Geometry meets Topological Recursion, Münster
- **Aug 2021:** YMC\*A, Münster

- **Jul 2021:** Summer school on K-Theory and Representation Theory, LMS-INI-Bath (online)
- **Jul 2021:** Young Topologist Meeting, Stockholm University (online)
- **Jun 2021:** Groups meet C\*-algebras, Münster
- **Jun 2021:** Workshop on Interactions between Expanders, Groups and Operator Algebras, Münster
- **May 2021:** GPOTS, Washington University in St. Louis (online)
- **Feb 2021:** IPM Workshop on Operator Algebras and their applications (online)
- **Sep 2020:** WSU-IPM Joint workshop on Operator Algebras (online)
- **Jun 2020:** Workshop on Noncommutative Geometry and Cyclic Homology, Oberwolfach
- **Aug 2019:** YMC\*A, Copenhagen
- **Jun 2019:** Opening Colloquium, Münster

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## RESERCH VISITS

- **Nov 2022:** FAU Erlangen (one week)
- **Aug 2022 - Dec 2022:** Chalmers, Gothenburg (four months)
- **Jun 2022:** KU Leuven (one week)
- **Mar 2022:** Chalmers, Gothenburg (one week)

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## TEACHING EXPERIENCE AT UNIVERSITY OF MÜNSTER

- **Repetitorium *Mathematics for Economists* (Jul 2023):** Preparation and lecturing of a one-week intensive course for exam preparation.
- **Assistant for Introduction to Analysis, Topology and Geometry (Apr 2022 - Oct 2023):** Coordination of homework and exercise sessions.
- **Assistant for Complex Analysis (Oct 2022 - Mar 2023):** Coordination of homework and exercise sessions.
- **Cantor Minimal Systems Seminar (Apr 2022 - Oct 2022):** Joint organization of a learning seminar with Rafaela Gesing, Grigoris Kopsacheilis and Petr Naryshkin.
- **Supervisor of the *Propädeutikum* (Oct 2021 - Mar 2022):** Assistance and feedback for third-year student teachers tutoring first-year students.
- **Tutor for the *Learning Center Mathematik* (Apr 2019 - Oct 2020):** Organization of a mathematical help desk and several workshops for first-year students.
- **Teaching assistant (Apr 2017 - Oct 2021):** Grading of homework and presentation of solutions for several lectures, including Analysis, Linear Algebra, Operator Algebras, Number Theory, Algebraic Topology, and  $K$ -theory for Operator Algebras.

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## MISCELLANEOUS

- **Organization:** YMC\*A Conference in Münster (Aug 2021).
- **Tech Support:** Technical Support for many hybrid seminars and conferences (2021 - 2022).
- **Member of online research network:** Representation Theory and Noncommutative Geometry, AIM (2021 - current).

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## PUBLICATIONS AND PREPRINTS

- [1] E. Gardella, S. Geffen, J. Kranz, P. Naryshkin, and A. Vaccaro. Tracially amenable actions and purely infinite crossed products. *arXiv:2211.16872*, 2022.
- [2] S. Chakraborty, S. Echterhoff, J. Kranz, and S. Nishikawa.  $K$ -theory of non-commutative Bernoulli Shifts. *Math. Ann.*, 2023.
- [3] J. Kranz and S. Nishikawa.  $K$ -theory of Bernoulli shifts of finite groups on UHF-algebras. *arXiv:2210.00061*, 2022.
- [4] J. Kranz. Amenability for actions of étale groupoids on  $C^*$ -algebras and Fell bundles. *Trans. Amer. Math. Soc.*, 2023.
- [5] E. Gardella, S. Geffen, J. Kranz, and P. Naryshkin. Classifiability of crossed products by nonamenable groups. *J. Reine Angew. Math.*, 2023(797):285–312, 2023.
- [6] J. Kranz and T. Siebenand. Partial tensor-product functors and crossed-product functors. *Proc. Amer. Math. Soc.*, 150(12):5359–5367, 2022.
- [7] J. Kranz. The weak containment problem for étale groupoids which are strongly amenable at infinity. *J. Oper. Theory*, 89(2):349–360, 2023.
- [8] J. Kranz. An identification of the Baum-Connes and Davis-Lück assembly maps. *Münster J. of Math.*, 14(2):509–536, 2021.