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CURRICULUM VITAE OF KEVIN AGUYAR BRIX

PERSONAL INFORMATION:

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EMPLOYMENT AND AFFILIATION:

Mar 2022 – present: *Postdoc*, University of Glasgow, United Kingdom
Funded by Independent Research Fund Denmark;
Mar 2021 – Feb 2022: *Postdoc*, University of Glasgow, United Kingdom
Funded by a Carlsberg Foundation Internationalisation Fellowship;
Feb 2020 – Feb 2021: *Postdoc*, University of Wollongong, Australia
Funded by a Carlsberg Foundation Internationalisation Fellowship;
Sep 2019 – Jan 2020: *External lecturer*, University of Copenhagen, Denmark
Temporary teaching position.

EDUCATION:

Sep 2019: Doctor of philosophy in Mathematics, University of Copenhagen
Title: *Topological dynamics, groupoids and C^*-algebras*,
Supervisor: Professor Søren Eilers;
May 2016: Master of Science in Mathematics, University of Copenhagen;
Feb 2014: Bachelor of Science in Mathematics, University of Copenhagen.

PUBLICATIONS AND (SUBMITTED) PREPRINTS:

Authors are listed alphabetically.

- **K.A. Brix**, A. Mundey, and A. Rennie, *Splittings for C*-correspondences and strong shift equivalence*, (arXiv:2305.01917).
- **K.A. Brix**, T.M. Carlsen, and A. Sims, *Ideal structure of C*-algebras of commuting local homeomorphisms*, (arXiv:2303.02313).
- **K.A. Brix**, *Invertible and noninvertible symbolic dynamics and their C*-algebras*, (arXiv:2212.11188).
- **K.A. Brix** and Pete Gautam, *On strong shift equivalence for row-finite graphs and C^*-algebras*, Involve, a Journal of Mathematics, to appear. (arXiv:2212.05481).

- **K.A. Brix**, Toke Meier Carlsen, and Aidan Sims: *Some results regarding the ideal structure of C^*-algebras of étale groupoids*, (arXiv:2211.06126).
- **K.A. Brix**: *Sturmian subshifts and their C^*-algebras*, Journal of Operator Theory, to appear.
- B. Armstrong, **K.A. Brix**, T.M. Carlsen, and S. Eilers: *Conjugacy of local homeomorphisms via groupoids and C^*-algebras*, Ergodic Theory and Dynamical Systems, 1–22, doi:10.1017/etds.2022.50.
- **K.A. Brix**: *Balanced strong shift equivalence, balanced in-split, and eventual conjugacy*, Ergodic Theory and Dynamical Systems (2020), doi:10.1017/etds.2020.126.
- **K.A. Brix** and T.M. Carlsen: *C^*-algebras, groupoids and covers of shift spaces*, Transactions of the American Mathematical Society, Series B **7** (2020), 134–185.
- **K.A. Brix** and E. Scarparo: *C^*-simplicity and representations of topological full groups of groupoids*, Journal of Functional Analysis **227** (2019), no. 9, 2981–2996.
- **K.A. Brix** and T.M. Carlsen: *Cuntz-Krieger algebras and one-sided conjugacy of shifts of finite type and their groupoids*, Journal of the Australian Mathematical Society **109** (2020), no. 3, 289–298.

PERSONAL GRANTS:

Mar 2022 – Mar 2024: International postdoctoral grant, Independent Research Fund Denmark, Hosted by University of Glasgow, United Kingdom (1303000 DKK).
Mar 2021 – Mar 2022: Carlsberg Foundation Internationalisation Fellowship, Hosted by University of Glasgow, United Kingdom (410727 DKK).
Feb 2020 – Feb 2021: Carlsberg Foundation Internationalisation Fellowship, Hosted by University of Wollongong, Australia (350000 DKK).

OTHER GRANTS:

2022 — London Mathematical Society, Scheme 2 (£1500)
To support Ruy Exel's visit to University of Glasgow
(with Chris Bruce and Eduardo Scarparo).

2022 — London Mathematical Society (£900),
Undergraduate Research Bursary (URB-2022-42)
To support summer research project with student Pete Gautam.

2022 — Glasgow Mathematical Journal Trust (£3000)
To support international workshop in Glasgow, I was the named applicant
(with Chris Bruce, Xin Li, and Alistair Miller).

2022 — Edinburgh Mathematical Society (£1500)
To support international workshop in Glasgow

	(with Chris Bruce, Xin Li, and Alistair Miller).
2022	London Mathematical Society, Scheme 6 Workshop Grant (£3600) To support international workshop in Glasgow (with Chris Bruce, Xin Li, and Alistair Miller).
2021	Julie Damms Studiefond (5000 DKK).

INVITED TALKS:

Jun 2023:	(scheduled) Algebra, Geometry and C^*-algebras, ICMS, Edinburgh, Scotland.
May 2023:	Seminar, University of Southern Denmark, Denmark.
Apr 2023:	Seminar, Lund University, Sweden.
Apr 2023:	Analysis and Probability seminar, University of Gothenburg, Sweden.
Dec 2022:	GAPT seminar, University of Cardiff, Wales.
Nov 2022:	Mathematical Sciences Research Centre, Queen's University Belfast, Northern Ireland.
Oct 2022:	Groups and operator algebras seminar, University of Copenhagen, Denmark.
Jun 2022:	Analysis seminar, University of Oxford, England.
May 2022:	Operator Algebra and Noncommutative Geometry seminar (virtual), University of Wollongong, Australia.
May 2022:	AMS Sectional Meeting (virtual), United States.
Mar 2022:	Aberdeen Algebra Seminar, University of Aberdeen, Scotland.
Mar 2022:	Operator Algebra Seminar, University of Southern Denmark, Denmark.
Sep 2021:	Seminar, Research Center for Operator Algebras (virtual), East China Normal University, China.
Sep 2021:	New York Noncommutative Geometry Seminar (virtual),
Apr 2021:	Operator Algebra and Noncommutative Geometry seminar (virtual), University of Wollongong, Australia.
Mar 2021:	United Kingdom Operator Algebras seminar (virtual), United Kingdom.
Feb 2021:	Operator Algebras seminar (virtual), Copenhagen/Odense, Denmark.
Jun 2020:	Abend seminar (virtual), University of Western Sydney, Australia.
Nov 2019:	Seminar, Queen Mary University, London, England.
Nov 2019:	Oberseminar, WWU Münster, Germany.
Oct 2019:	Analysis seminar, KU Leuven, Belgium.
Jan 2019:	Analysis seminar, University of Glasgow, Scotland.
Dec 2018:	Danish Operator Algebra Seminar, University of Southern Denmark, Denmark.
Jun 2018:	Workshop in operator algebras and dynamics, University of the Faroe Islands, the Faroe Islands.
Feb 2018:	Operator Algebra and Noncommutative Geometry seminar, University of Wollongong, Australia.
Jan 2018:	Seminar, University of Western Sydney, Australia.
May 2017:	CRM, Universitat Autónoma de Barcelona, Spain.
Sep 2016:	PhD seminar, University of Copenhagen, Denmark.

SERVICE TO THE PROFESSION AND COMMUNITY:

- I am a co-organiser of the Glasgow Analysis Seminar.
- I organised the Operator Algebra and NonCommutative Geometry seminar in 2020 at the University of Wollongong, Australia.
- I write reviews for MathSciNet and I have worked as referee for various journals including *Transaction of the American Mathematical Society*, *Canadian Journal of Mathematics*, *Journal of Mathematical Analysis and Applications*, *Mathematica Scandinavica*, *Proceedings of the Royal Society of Edinburgh. Section A*, and *Studia Mathematica*.
- I helped organise the following conferences/workshops:
  - *Glasgow Late August Symbolic Dynamics, Groups, and Operators Workshop*, August 2022, University of Glasgow;
  - *Young Mathematicians in C^*-Algebra* (YMC^*A), 2017 and 2019, University of Copenhagen;
  - *Rigidity of C^*-algebras associated to dynamics*, 2017, University of Copenhagen;
  - *Danske Unge C^*-algebraikers Symposium* (DUC^*S), 2017, University of Aarhus.
- I helped restart and organise the *What is . . . seminar* at the University of Copenhagen (2019).
- I was the Ph.D and Postdoc representative for the Local Collaboration Committee (lokal samarbejdsudvalg, LSU), January 2017 to January 2019, Department of Mathematical Sciences at the University of Copenhagen.

TEACHING EXPERIENCE:

Here I outline my teaching experience divided into course work, student supervision, and my time as a student working as a teaching assistant (TA).

Course work:

Below is a list of courses I have tought as a **PhD student and postdoc**.

2023:	*Functional Analysis* (Glasgow) Lecturer (course responsible), tutorials, writing and marking exams.
2020:	*General mathematics* (Wollongong, online) Lecturer, office hours, recording videos, marking exams.
2019:	*Mathematical modelling* (Copenhagen) Exercise sessions, Maple.
2018, 19:	*Introduction to numerical analysis* (Copenhagen)

Exercises sessions, Python.
2018: *Functional analysis* (Copenhagen)
Exercise sessions, occasional lectures.
2017, 18: *Differential equations an optimal control* (Copenhagen Business School)
Exercise sessions, marking hand-ins and exams.

As a **student** at the University of Copenhagen, I worked most of the time as a **teaching assistant** in the following courses (some of them several times) in charge of exercise sessions with occasional weekly marking of hand-ins and occasionally assisting with marking exams:

Introduction to mathematics,
Linear algebra,
Discrete mathematics,
Analysis 0,1, and 2 (ε-δ, Fourier series, metric spaces, Hilbert space),
Measure and integration,
Mathematics for biology (Department of biology, first year students),
Philosophy of science (for mathematicians).

Student supervision:

I have (co-)supervised three projects. For the graduate and master projects, I met with the student once a week on average and maybe twice a week close to submission. For the summer project, I met with the student twice a week, one time online and one time in-person for the period of 8 weeks.

2022: Summer project (8 weeks), main supervisor.
2018: Master project (30 ECTS), w. Søren Eilers.
2017: Graduate project (15 ECTS), w. Søren Eilers.

Other:

After high-school, I worked one year (2009–2010) as a **substitute teacher** at Kornmod Realskole (an elementary school) teaching classes in any subject and at all ages.

Pedagogical training:

- *Introduction to University Pedagogy*, University of Copenhagen 2018, 3 ECTS. A four day course on university pedagogy with lectures, plenum and group discussions, and ending with a presentation in which implemented the theory we learned (certificate attached).
- *Teaching mentoring program*, University of Copenhagen 2018. Regular meetings in a group of three junior staff with a senior staff as mentor. We overlooked each other's classes and discussed specific aims and difficulties (certificate attached).

Miscellaneous:

- Continuous *informal meetings* with colleagues discussing various aspects of teaching successes and difficulties at the institutions where I have been based.
- In 2011 and 2012, I volunteered as a *mentor* (rusvejleder) for new students in mathematics at the University of Copenhagen. This was an informative experience where we in a group of 20 students worked to prepare the best possible introduction into university life for the new cohort of diverse mathematics students. This was a very practical learning experience into organisation and leadership as well chaos control. We dealt with students with many different kinds of extra needs (e.g. mental disorders, hearing impairment, as well as cultural and linguistic barriers).