Andrew McKee

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Education

Queen's University Belfast
MSci, Mathematics, 2013.
PhD, Mathematics, 2017. Thesis: Multipliers of dynamical systems.

Employment

University of Saskatchewan
Postdoctoral Fellow, September 2017–August 2018.

Chalmers University of Technology and the University of Gothenburg
Postdoctoral Fellow, September 2018–September 2020.

University of Białystok
Assistant professor, November 2020–present

Awards

Royal Irish Academy, Hamilton award in Mathematics, 2011.
Queen's University Belfast, Burgess prize for Topology, 2013.
Queen's University Belfast, A. C. Dixon prize, 2013.

Experience

Teaching
Lecturer, Calculus 1, University of Saskatchewan, May 2018.
Lecturer, Calculus 2, University of Saskatchewan, summer 2018.
Supervisor, Bachelor's project: The Banach–Tarski Paradox, Chalmers University of Technology and the University of Gothenburg, spring 2020.
Lecturer, The Banach–Tarski Paradox, University of Białystok, winter 2020.
Lecturer, Master Seminar 1, University of Białystok, winter 2020.
Lecturer, Quantum Information Theory, University of Białystok, spring 2021.
Lecturer, New trends in mathematics: multipliers, University of Białystok, spring 2021.
Lecturer, Scholarly English, University of Białystok, spring 2021.
Lecturer, The Banach–Tarski Paradox, University of Białystok, winter 2021.
Lecturer, Basic Category Theory, University of Białystok, winter 2021.
Lecturer, Master Seminar 1, University of Białystok, winter 2021.
Supervisor, Bachelor's project: Non-local games, University of Białystok, 2021–2022.

Selected research activities
Participant, Thematic program on abstract harmonic analysis, Banach and operator algebras, Fields Institute, Toronto, March 2014.
Participant, CStar Masterclass: classification, structure and regularity, University of Glasgow, August 2014.
Organiser, Young Functional Analysts' Workshop, Queen's University Belfast, April 2016.
Participant, Workshop on Topological Dynamics and Operator Algebras, University of Glasgow, December 2016.

Research visit, Institute of Mathematics, Polish Academy of Sciences, Warsaw, March 2017.

Participant, Operator algebras: subfactors and their applications,
Isaac Newton Institute for Mathematical Sciences, Cambridge, April–May 2017,

Research visit, School of Mathematics and Statistics, Carleton University,
Ottawa, November 2017.

Participant, 2017 Canadian Mathematical Society winter meeting, operator algebras session,
University of Waterloo, December 2017.

Participant, 20th Canadian Abstract Harmonic Analysis Symposium,
Carleton University, June 2018.

Participant, Maximal subgroups and operator algebras,
Institute of Mathematics, Polish Academy of Sciences, Warsaw, September 2019.

Participant, Richard Kadison and his mathematical legacy: a memorial conference,
University of Copenhagen, November 2019.

Participant (online), Automorphisms and invariants of operator algebras,
University of Copenhagen, October 2021.

Publications

Herz–Schur multipliers of dynamical systems, *Advances in Mathematics* **331** (2018), 387–438, with I. Todorov and L. Turowska.

Positive Herz–Schur multipliers and approximation properties of crossed products,
Math. Proc. Cam. Phil. Soc. **165** (2018), 511–532, with A. Skalski, I. Todorov and L. Turowska.

Weak amenability for dynamical systems, *Studia Mathematica* **258** (2021), 53–70.

Exactness and SOAP of crossed products *via* Herz–Schur multipliers, *Journal of Mathematical Analysis and Applications*, **496** (2021), issue 2, with L. Turowska.

Multipliers and duality for group actions, to appear in *Journal of Fourier Analysis and Applications*.

Amenable and inner amenable actions and approximation properties for crossed products,
to appear in *Canadian Mathematical Bulletin*, with R. Pourshahami.

Central and convolution Herz–Schur multipliers, *New York Journal of Mathematics*, **28** (2022), with R. Pourshahami, I. Todorov and L. Turowska.

Talks

Invited

Groups and operator algebras, May 2016, Queen's University Belfast.
Title: Herz–Schur multipliers of dynamical systems.

Noncommutative Geometry Seminar, March 2017, IM PAN Warsaw.
Title: Herz–Schur multipliers and approximation properties.

Operator algebras: subfactors and their applications, April 2017, Newton Institute, Cambridge.
Title: Herz–Schur multipliers and approximation properties.

Analysis seminar, November 2017, Carleton University.
Title: Approximation properties of groups and crossed products.

Analysis seminar and colloquium, November 2017, University of Regina.
Title (seminar): Schur multiplication and matrices of operators.
Title (colloquium): Herz–Schur multipliers and approximation properties of crossed products.

20th Canadian Abstract Harmonic Analysis Symposium, June 2018, Carleton University, Canada.
Title: Multipliers of Actions and Dual Coactions.

Workshop on Operator Algebras and their Applications, January 2020, IPM Tehran, Iran.
Title: Approximation properties for group actions via multipliers.

Workshop on Geometric Methods in Physics, June 2021, Białowieża, Poland.
Title: Crossed product operator algebras.

Selected other talks

Young Functional Analysts' Workshop, June 2015, Queen Mary University of London.
Title: Multipliers of dynamical systems.

Young Mathematicians in C^*-algebras, August 2015, University of Copenhagen.
Title: Multipliers of dynamical systems.

Groups and operators, August 2016, Chalmers University of Technology.
Title: Schur and Herz–Schur multipliers associated to dynamical systems.

Postgraduate seminar, Queen's University Belfast, summer 2016.
Title: Amenable groups.

Young Functional Analysts' Workshop, March 2017, University of Glasgow.
Title: Multipliers and approximation properties.

Analysis seminar, University of Saskatchewan, autumn 2017.
Title: Schur multiplication and approximation properties of groups.

Analysis and probability seminar, University of Białystok, December 2020.
Title: Amenable actions and module maps.

Faculty seminar, University of Białystok, January 2021.
Title: Multipliers of operator algebras associated to groups: special cases.

Analysis and probability seminar, University of Białystok, May 2021.
Title: Idempotent multipliers.

References

Available on request.