Paul McKenney

CONTACT INFORMATION

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RESEARCH INTERESTS

Combinatorial set theory and its applications to operator algebras – especially forcing axioms and principles that hold in the constructible universe, and their various influences on corona algebras and ultrapowers of C*-algebras.

EDUCATION

Carnegie Mellon University

Ph.D. Candidate, Mathematics (expected May 2013)

- Dissertation Topic: Set theory and corona algebras
- Advisor: Ernest Schimmerling

B.S. in Mathematics and Computer Science, May 2008

- Minor in Physics

PUBLICATIONS

Endomorphisms of the Calkin Algebra.
In preparation.

Reduced products of UHF algebras under forcing axioms.
Submitted, available at arXiv:1303.5037 [math.LO].

Homeomorphisms of Čech-Stone remainders: the zero-dimensional case (with I. Farah).
Submitted, available at arXiv:1211.4765 [math.LO].

Some Calkin algebras have outer automorphisms (with I. Farah and E. Schimmerling).
Accepted for publication in the Archive for Mathematical Logic.

WORKSHOP AND CONFERENCE TALKS

Automorphisms of corona algebras, workshop on applications to operator algebras, the Fields Institute for Research in Mathematical Sciences. (September 2012)

Automorphisms of Calkin algebras, set theory seminar, the Fields Institute for Research in Mathematical Sciences. (March 2012)

SEMINAR TALKS

Forcing axioms and rigidity of corona algebras I, II, and II, logic seminar, Carnegie Mellon University. (March 2013)

Definable automorphisms of $\mathscr{P}(\omega)/fin$, student set theory and topology seminar, the University of Toronto. (October 2012)

Automorphisms of Calkin algebras, sogic seminar, Carnegie Mellon University. (February 2012)

Automorphisms of $\mathscr{P}(\omega)/fin$ I and II, logic seminar, Carnegie Mellon University. (September 2010)

C-algebras and set theory I-V*, logic seminar, Carnegie Mellon University. (January – February 2010)

Automorphisms of the Calkin algebra, Institut Mittag-Leffler. (September 2009)

Extended Professional Travel

Fall	2012	Thematic Program on Forcing and its Applications, the Fields Institute, Toronto, Canada
Fall	2009	Semester on Model Theory and Set Theory, Institute Mittag-Leffler, Stockholm, Sweden

Other Skills

Programming experience in C/C++, Perl, SML

Teaching Experience

Spring	2013	Teaching Assistant, Vector Analysis
Summer	2012	Lecturer, Matrices and Linear Transformations
Fall	2011	Teaching Assistant, Matrix Theory
Fall	2011	Grader, Measure and Integration
Spring	2011	Teaching Assistant, Analysis II
Spring	2011	Grader, Principles of Real Analysis II
Fall	2010	Teaching Assistant, Analysis I
Fall	2010	Grader, Measure and Integration
Summer	2009	Lecturer, Calculus II
Spring	2009	Teaching Assistant, Matrix Algebra
Fall	2008	Teaching Assistant, Calculus II
	2006-2008	Tutor in Mathematics and Computer Science