Peter Burton

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Current position

R.H. Bing Postdoctoral Fellow
Department of Mathematics
The University of Texas, Austin

Education

- California Institute of Technology
  Ph.D. Mathematics, 2017
  Adviser: Alexander S. Kechris
- University of Toronto
  M.Sc. Mathematics, 2012
- University of Toronto
  B.Sc. (Hons.) Mathematics, 2011

Research interests

Probability, ergodic theory, geometric group theory, operator algebras

Papers

Accepted publications

- P. Burton and K. Juschenko
  The extension problem in free harmonic analysis
  Submitted. http://arxiv.org/abs/2003.04535
- L. Bowen and P. Burton
  Flexible stability and nonsoficity
  To appear in *Transactions of the American Mathematical Society*. https://arxiv.org/abs/1906.02172
- L. Bowen and P. Burton
  Failure of the L^1 pointwise ergodic theorem for $\mathrm{PSL}_2(\mathbb{R})$
  To appear in *Geometriae Dedicata*. https://arxiv.org/abs/1901.01299
- P. Burton and A.S. Kechris
  Weak containment of measure preserving group actions
  To appear in *Ergodic theory and Dynamical Systems*. http://arxiv.org/abs/1611.07921
- T. Austin and P. Burton
  Uniform mixing and completely positive sofic entropy
  J. Anal. Math., 138(2):597?612, 2019. http://arxiv.org/abs/1603.09026
- P. Burton
  Topology and convexity in the space of actions modulo weak equivalence
  Ergodic Theory Dynam. Systems, 38(7):2508?2536, 2018. http://arxiv.org/abs/1501.04079
- P. Burton and A.S. Kechris
  Invariant random subgroups and action versus representation maximality,
  Proc. Amer. Math. Soc., 145(9):3961-3971, 2017. http://arxiv.org/abs/1608.01331

- P. Burton
  Naive entropy of dynamical systems
  Israel J. Math., 219(2):637-659, 2017. http://arxiv.org/abs/1503.06360

- P. Burton and F.D. Tall
  Productive Lindelofness and a class of spaces considered by Z. Frolik
  Topology Appl., 159(13):3097-3102, 2012.

Preprints

- P. Burton, M. Lupini and O. Tamuz.
  Weak equivalence of stationary actions and the entropy realization problem
  Preprint. http://arxiv.org/abs/1603.05013

- P. Burton.
  A topological semigroup structure on the space of actions modulo weak equivalence
  Preprint. http://arxiv.org/abs/1501.04373

Awards

Research and academics

- *Scott Russell Johnson Dissertation Prize*
  Department of Mathematics, Caltech, 2017

- *Scott Russell Johnson Award for Excellence in Graduate Research*
  Department of Mathematics, Caltech, 2015

- *Undergraduate Student Research Award*
  NSERC (Canada), 2011

- *Millennium Excellence Award*
  NSERC (Canada), 2009

Teaching

- *Scott Russell Johnson Award for Excellence in Teaching*
  Department of Mathematics, Caltech, 2015

- *Tom Apostol Award for Excellence in Teaching*
  Department of Mathematics, Caltech, 2014 and 2016

Teaching experience

- M408C (Introductory calculus): UT Austin, Fall 2018. Course instructor.
- M362 (Probability): UT Austin, Spring 2018. Course instructor.
- M341 (Linear algebra): UT Austin, Fall 2017. Course instructor.
- Math 1a (Introductory calculus): Caltech, Fall 2013, 2014, 2015, 2016. Lead TA 2015, 2016.
- Math 1c (Vector calculus): Caltech, Spring 2013, 2014, 2015, 2016. Lead TA 2015, 2016.
- Math 1d (Sequences and series): Caltech, Winter 2016. Course instructor.
- Math 1b (Linear algebra): Caltech, Winter 2014, 2015. Lead TA 2015.
- Math 2b (Probability and statistics): Caltech, Winter 2013.
- Math 2a (Differential equations): Caltech, Fall 2012.
- MAT135 (Linear algebra): University of Toronto, Spring 2012.