

Stephen Bigelow

Curriculum Vitae

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Employment

- 2000-2002: Research Fellow, University of Melbourne
- 2002-2007: Assistant Professor, University of California at Santa Barbara
- 2007-2016: Associate Professor, University of California at Santa Barbara
- 2016-present: Professor, University of California at Santa Barbara

Education

- 1992: BSc(Hons)(First class), University of Melbourne, Australia
- 1994: MSc, University of Melbourne, Australia
- 2000: PhD., Mathematics, University of California at Berkeley
Advisor: Robion Kirby

Research Interests

- Braid groups and knot theory
- Representation theory
- Quantum topology

Teaching

- 1991: Volunteer tutor, University of Melbourne Summer School.
- 1993: Tutor at University of Melbourne, Australia.
- 1996-1999: Teaching Assistant at UC Berkeley, including work for the “Professional Development Program” for underrepresented groups.
- 2002: Lecturer at University of Melbourne. Set syllabus, homework, and grades for honours course in topology.
- 2002-: Course load of four courses per year at UCSB.

Awards

- 1993-1994: Australian Postgraduate Awards Scholarship
- 1995-2000: Fulbright Award
- 2000: Blumenthal Prize for outstanding thesis in pure mathematics
- 2001-2002: Australian Postdoctoral Research Fellowship
- 2002-2006: Sloan fellowship
- 2003-2006: NSF grant
- 2003: UCSB Junior Faculty Research Incentive Award
- 2013: Fellow of the AMS, Inaugural Class

Selected and recent conferences and talks

- 1994 Jan: Gruppentheorie (Permutationsgruppen) in Oberwolfach, “The truth about supplements of B_λ ”.

- 2000 August: KNOTS 2000 in Korea, “Does the Jones polynomial detect the unknot?”.
- 2002 August: International Congress of Mathematics, Geometric Topology satellite in Xian, “Braid groups and symmetric groups”.
- 2002 August: International Congress of Mathematics in Beijing, “Representations of braid groups”.
- 2011 March: Lazy Knots in Toronto, “An Alexander invariant of tangles”.
- 2011 March: Southern California Topology Conference at Claremont, “Algebras that count graph colorings”.
- 2013 April: Banff International Research Station, “Diagrammatic knot invariants that ought to be categorified”.
- 2013 October: DARPA and Shanks Workshop at Vanderbilt, “Diagrammatic quantum groups”.
- 2017 Jan: Isaac Newton Institute, “A diagrammatic approach to Ocneanu cells”.

Selected and recent papers

- 1998: “Supplements of bounded permutation groups”, in the Journal of Symbolic Logic.
- 2000: “Braid groups are linear”, in the Journal of the American Mathematical Society.
- 2002: “A homological definition of the Jones polynomial”, in Geometry and Topology Monographs.
- 2012: “Constructing the extended Haagerup planar algebra” in Acta Mathematica, with Emily Peters, Scott Morrison, and Noah Snyder.
- 2014: “Principal graph stability and the jellyfish algorithm” in Mathematische Annalen, with David Penneys.
- 2018: “Bowling ball representations of braid groups”, in the Journal of Knot Theory and its Ramifications.
- 2018: “An exact entangling gate using Fibonacci anyons” in Bulletin of the Australian Mathematical Society, with Claire Levaillant.