Daniel K. Dugger

Curriculum Vita

Work Address
Department of Mathematics
University of Oregon
Eugene, OR 97403

Phone/Computer
Work: (541) 346-4790
Home: (541) 338-8599
email: ddugger@math.uoregon.edu
web: math.uoregon.edu/∼ddugger

Research Interests: Algebraic topology, K-theory, commutative algebra.

Employment

University of Oregon — Paul Olum Research Assistant Professor, September 2002 to present.

Purdue University — Research Assistant Professor, August 1999 to May 2002.

Education

Massachusetts Institute of Technology — September 1994 to May 1999.
PhD in Mathematics, May 1999.
Thesis title: A Postnikov Tower for Algebraic K-theory.
Thesis supervisor: Michael J. Hopkins.

University of Michigan — September 1990 to August 1994.
B.A. in Mathematics, August 1994.

Publications

K-theory and derived equivalences, joint with B. Shipley, Duke Jour. Math, 22 pages, to appear.

Hypercovers and simplicial presheaves, joint with S. Hollander and D. Isaksen, Math. Proc. Camb. Phil. Soc., 43 pages, to appear.

Topological hypercovers and A^1-realizations, joint with D. Isaksen, Math. Zeit., 21 pages, to appear.

Weak equivalences of simplicial presheaves, joint with D. Isaksen, Proceedings of the Conference in Algebraic Topology (Evanston, 2002), 17 pages, to appear.

Combinatorial model categories have presentations, Adv. Math. **164** (2001), 177–201.

Universal homotopy theories, Adv. Math. **164** (2001), 144–176.

Replacing model categories by simplicial ones, Trans. Amer. Math. Soc., vol. **353** (2001), no. 12, 5003–5027.

Betti numbers of almost complete intersections, Illinois. J. Math. **44** (2000), no. 3, 531–541.

Preprints

Motivic cell structures, joint with D. Isaksen, 2003. 25 pages.

The Hopf condition for bilinear forms over an arbitrary field, joint with D. Isaksen, 2003. 18 pages.

Multiplicative structures on homotopy spectral sequences I, II, 2003. 49 pages.

An Atiyah-Hirzebruch spectral sequence for KR-theory, 2003. 37 pages, submitted to K-theory.

(Preprints available at http://math.uoregon.edu/∼ddugger).

Papers in progress

Topological equivalences for DGAs, joint with B. Shipley.

Homotopy endomorphism spectra.

Teaching experience

University of Oregon:

Homological Algebra—fall 2003.

Multivariable calculus II—spring 2003.

Multivariable calculus I—winter 2003.

Linear algebra II—winter 2003.

Linear algebra I—fall 2002.

Purdue University:

Geometry (for High School Teachers)—spring 2002.

Ordinary Differential Equations—spring 2000, 2002.

Introduction to Linear Algebra—fall 1999, 2000, and 2001.

Introduction to Discrete Mathematics—fall 2000, 2001.

Honors Multi-Variable Calculus—spring 2000.

Business Calculus—spring 2001.

Massachusetts Institute of Technology:

Lecturer for Mathematical Methods for Engineers—August 1998.

Recitation Instructor for Complex Analysis—spring 1998.

Recitation Instructor for Multivariable Calculus—fall 1997.

Mentor for the Research Science Institute—summer 1996.

Instructor for M.I.T.'s Experimental Studies Group (teaching multivariable calculus)—fall 1995.

Awards

Alfred P. Sloan Dissertation Fellowship, held at M.I.T. September 1998 to May 1999.

National Science Foundation Graduate Fellowship, held at M.I.T. Sept. 1994 to Aug. 1997.

Invited addresses

"Composition formulas for quadratic forms in characteristic p." Special session on homotopy theory at the AMS Regional Meeting in Boulder, CO, October 2003.

"Motivic cell decompositions." Cascade Topology Seminar, Spring 2003, Portland State University.

"Voevodsky theory (Homotopy Theory of Schemes)" (3 lectures). Minimal Varieties in Geometry and Physics (A Conference on the Occasion of Blaine Lawson's 60th Birthday), June 2002, SUNY at Stony Brook.

"Topological equivalences for DGAs." Special session on algebraic topology at the AMS Regional Meeting in Ann Arbor, MI, Spring 2002.

"Equivariant cycles and KR-theory." Midwest Topology Seminar, Spring 2001, Univerity of Illinois at Chicago.

"Universal homotopy theories, with applications." Ontario Topology Seminar, Fall 2000, University of Western Ontario.

"Betti numbers of almost complete intersections." Special session on commutative algebra at the American Mathematical Society annual meeting, San Francisco, CA, January 1995.

Selected seminar talks

"Topological methods in characteristic p algebra." MIT, September 2003.

"Topological equivalences for DGAs." University of Washington, April 2003.

"Homotopy endomorphism spectra and DGAs." University of Chicago, December 2002.

"Motivic cohomology for the masses." Colloquium, University of Oregon, February 2002.

"Hypercovers and simplicial presheaves." MIT, Fall 2001.

"Computing the motivic Steenrod algebra." University of Notre Dame, Spring 2001.

"A motivic spectral sequence for Atiyah's KR-theory." University of Illinois at Urbana-Champaign, Spring 2000.

"An introduction to motivic topology", Instituto Superior Técnico (Lisbon), June 2000.

"Some connections between K-theory and motivic cohomology." Texas A&M University, October 1999.

"Adventure and romance in the homotopy theory of schemes." M.I.T. Summer Topology Seminar, 1997.

"Cohomology of finite group schemes over a field, after Friedlander and Suslin." M.I.T. Summer Topology Seminar, 1996

Service

Have refereed papers for Advances in Math., Trans. Amer. Math. Soc., K-theory, Doc. Math., J. Pure Appl. Alg.

Organized, with B. Shipley, the Special Session on Homotopy Theory at the AMS Regional Meeting in Boulder, CO, October 2003.