

**Brooke E. Shipley**  
**Curriculum vitae**

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RESEARCH INTERESTS

Algebraic Topology and Homological Algebra

EXPERIENCE

**UNIVERSITY OF ILLINOIS AT CHICAGO**

Associate Professor, 2003-

**PURDUE UNIVERSITY**

Assistant Professor, 1998-2002, Associate Professor, 2002-2003

**UNIVERSITY OF CHICAGO**

Dickson Instructor of Mathematics, 1996-1998, 1999-2000  
NSF Postdoctoral Research Fellow, 1996-1998

**UNIVERSITY OF NOTRE DAME**

NSF Postdoctoral Research Fellow, 1995-1996

AWARDS

**Sloan Research Fellow**, 2002 to 2004 (extended through 2006)

**NSF Career Award, DMS-0134938**, June 2002 to May 2007

**2001 Purdue University School of Science Outstanding Assistant Professor**,  
for undergraduate teaching

**NSF Research Grant DMS-9971953**, August 1999 to May 2002

**NSF Postdoctoral Research Fellowship**, September 1995 to July 1998

**Alfred P. Sloan Doctoral Dissertation Fellowship**, September 1994 to May 1995

**Office of Naval Research National Defense Science and Engineering Graduate Fellowship**, September 1990 to August 1993

EDUCATION

**MASSACHUSETTS INSTITUTE OF TECHNOLOGY**

PhD in Mathematics, May 1995, Thesis advisor: Prof. Haynes R. Miller  
Thesis Title: Convergence of the homology spectral sequence of a cosimplicial space

**HARVARD COLLEGE**

A.B. in Mathematics, *magna cum laude*, Phi Beta Kappa, June 1990

## PUBLICATIONS

- [1] *Pro-isomorphisms of homology towers*, Mathematische Zeitschrift **220** (1995), 257-271.
- [2] *Convergence of the homology spectral sequence of a cosimplicial space*, Amer. J. Math. **118** (1996), 179-207.
- [3] *Symmetric spectra*, with M. Hovey and J. Smith, J. Amer. Math. Soc., **13** (2000), 149–208.
- [4] *Algebras and modules in monoidal model categories*, with S. Schwede, Proc. London Math. Soc. **80** (2000), 491-511.
- [5] *Symmetric spectra and topological Hochschild homology*, K-theory, **19** No. 2, (2000), 155–183.
- [6] *Model categories of diagram spectra*, with M. Mandell, J. P. May, and S. Schwede, Proc. London Math. Soc. **82** (2001), 441-512.
- [7] *Simplicial structures on model categories and functors*, with C. Rezk and S. Schwede, Amer. J. Math. **123** (2001), 551-575.
- [8] *Monoidal uniqueness of stable homotopy theory*, Adv. Math., **160** (2001), 217-240.
- [9] *A telescope comparison lemma for THH*, with M. Mandell, Top. Appl., **117** (2002), 161-174.
- [10] *An algebraic model for rational  $S^1$ -equivariant stable homotopy theory*, Quart. J. Math., **53** (2002), 87-110.
- [11] *A uniqueness theorem for stable homotopy theory*, with S. Schwede, Math. Zeit., **239** (2002), 803-828.
- [12] *Equivalences of monoidal model categories*, with S. Schwede, Alg. Geo. Topology, **3** (2003), 287-334.
- [13] *Stable model categories are categories of modules*, with S. Schwede, Topology, **42** (2003), 103-153.
- [14] *K-theory and derived equivalences*, with D. Dugger, Duke J. Math. **124** (2004), no. 3, 587-617.
- [15] *A convenient model category for commutative ring spectra*, Contemp. Math. **346** (2004), 473-483.
- [16] *Morita theory in stable homotopy theory*, to appear in “Handbook on tilting theory”, eds. L. Huegel, D. Happel and H. Krause, London Math. Soc. Lecture Notes Series **332** (2006), 13 pp.
- [17] *HZ-algebra spectra are differential graded algebras*, to appear in Amer. J. Math., 22 pp.

PREPRINTS AND WORK IN PROGRESS Preprints available at <http://www.math.uic.edu/~bshipley>

- [18] *Algebraic models for rational torus-equivariant cohomology theories*, with J. P. C. Greenlees. Preprint submitted in 2004, 42 pp.
- [19] *Enrichments of additive model categories*, with D. Dugger. Preprint submitted in 2006, 30 pp.
- [20] *Topological equivalences of differential graded rings*, with D. Dugger. Preprint submitted in 2006, 22 pp.
- [21] *Postnikov extensions of ring spectra*, with D. Dugger. Preprint submitted in 2006, 31 pp.
- [22] *Stable module categories and differential graded rings*, with D. Dugger. Work in progress.

## CONFERENCE TALKS

Wolfson Lecture Series, (five lectures), Manchester, England, January 2006  
Midwest Topology Seminar, Purdue, October 2004; UIC, February 2002; U.Chicago, May 1996  
Conference on Algebraic Topology, Arolla, Switzerland, August 2004; August 1999  
Invited hour address, AMS Regional Meeting, Boulder, CO, October 2003  
Commutative Algebra: Interactions with Homological Algebra and Representation Theory, MSRI, CA, February 2003  
Barcelona Conference on Algebraic Topology, Barcelona, Spain, July 2002; June 1998; June 1994  
AMS Regional Meetings: Ann Arbor, MI, March 2002; Notre Dame, IN, April 2000; Wayne State, Detroit, MI, May 1997; Kent State University, Kent, OH, November 1995  
Ontario Topology Seminar/Conference, London, Canada, October 2001  
Union College Mathematics Conference, principal speaker, Schenectady, NY, September 2001  
Recent Progress in Homotopy Theory, Johns Hopkins University, Baltimore, MD, March 2000  
AMS Summer Research Conferences, Boulder, CO, June 1999; Seattle, WA, July 1996  
Workshop on Stable Homotopy and Algebraic K-theory, Bielefeld, Germany, February 1999  
AMS Joint Mathematical Meetings, Baltimore, MD, January 1998; San Diego, CA, January 1997  
Homotopy Theory Symposium, CMS Winter Meeting, Victoria, Canada, December 1997  
Conference on Algebraic Topology, Kazimierz, Poland, June 1997  
Localization and Periodicity Summer School, CRM, Barcelona, Spain, September 1996  
Fields Institute Stable Homotopy Emphasis Session, Toronto, Canada, January 1996  
CMS Winter Meeting, Simon-Fraser University, Vancouver, Canada, December 1995  
AWM Workshop, AMS Joint Mathematical Meetings, poster, San Francisco, CA, January 1995

## COLLOQUIA

Northwestern University, April 2003; University of Sheffield, England, October 2002; University of Illinois at Chicago, February 2002; Wayne State University, September 2000; Purdue University, January 1997 and August 2000; Brown University, February 1995; University of Kentucky, February 1995; University of Illinois, Urbana-Champaign, January 1995

## RESEARCH INSTITUTE VISITS (ONE MONTH EACH)

Fields Institute for Research in Mathematical Sciences, Toronto, Canada, January 1996  
Isaac Newton Institute for Mathematical Sciences, Cambridge, UK, October 2002  
Institut Mittag-Leffler, Stockholm, Sweden, May 2006

## TOPOLOGY SEMINAR TALKS

CRM, Barcelona, Spain, June 1998; Indiana University, March 1999; MIT, April 1994, March 1995, April 1996, September 1997; Newton Institute, Cambridge, England, October 2002; Northwestern University, November 1996, May 1998, May 1999, November 1999; Purdue University, April 1996, November 1997, October 1998, May 1999; Universität Bielefeld, Bielefeld, Germany, August 1996; University of Chicago, November 1996, February 1998, April 2000; University of Illinois at Chicago, November 1999; University of Illinois at Urbana-Champaign, March 1998, September 2002; University of Manchester/MIST, Manchester, England, October 2002; University of Notre Dame, September 1995; University of Washington, December 1995

#### UNIVERSITY AND DEPARTMENTAL SERVICE

MSCS Hiring Committee	2004-2005
MSCS Statistics Hiring Committee	2005-2006
MSCS Graduate Colloquium Co-chair	2004-2005
MSCS Colloquium Co-chair	2005-2006
UIC-Association for Women in Mathematics Co-chair	2003-
WISEST (Women in Science and Engineering System Transformation) campus-wide executive committee	2004-2005
UIC Accelerator Plan (ACE/Sloan Faculty Career Flexibility grant proposal) campus-wide ad-hoc advisory group	May 2006
Chancellor's Committee on the Status of Women, Academic and Curricular Affairs, Co-chair	2005-

#### OTHER PROFESSIONAL TALKS

<i>How to get into graduate school and pay for it!</i> , WISE, UIC	September 2005
<i>Women in science and engineering</i> , Harvard Club of Chicago	November 2005
<i>Women: Building a career in science</i> , panel member, WISE, UIC	March 2006

#### PROFESSIONAL SERVICE

Editor <i>Interactions between homotopy theory and algebra</i> , conference proceedings	
Editorial board member <i>Theory and Applications of Categories</i>	2005-
Editorial board member <i>Topology and its Applications</i>	2003-
AMS Joint Summer Research Conferences Committee	2004-
AMS CAFTES (Committee on Academic Freedom, Tenure and Employment Security)	2003-
Mathematical Reviews for American Mathematical Society	1999-
Served on NSF review panels (three panels), referee for NSF grant proposals, Swiss NSF grant proposal, <i>Adv. Math.</i> , <i>Alg. Geo. Topology</i> , <i>Amer. Math. Monthly</i> , <i>Duke J. Math.</i> , <i>Homology, Homotopy and Applications</i> , <i>Inventiones</i> , <i>Geo. Topology</i> , <i>J. Pure and App. Algebra</i> , <i>London Math Soc.</i> , <i>Math. Zeit.</i> , <i>Theory and App. Categories</i> , <i>Topology</i> , <i>Trans. Amer. Math. Soc.</i> , and various conference proceedings.	
Organized Topology seminar at University of Chicago 1996-97 and at Purdue 1998-1999.	

#### CONFERENCES CO-ORGANIZED

Midwest Topology Conference, Purdue University	November 2001
Workshop on Topological Modular Forms, Munster, Germany (70 international attendees, <a href="http://wwwmath.uni-muenster.de/u/sschwede/TMF/">http://wwwmath.uni-muenster.de/u/sschwede/TMF/</a> )	October 13 - 17, 2003
AMS Homotopy theory special session, Boulder, CO	October 2003
"Interactions between homotopy theory and algebra" Summer school, Chicago, IL (Chair of committee, 70 international attendees, supported by my Career grant, <a href="http://jdc.math.uwo.ca/summerschool/">http://jdc.math.uwo.ca/summerschool/</a> )	July 26 - August 6, 2004
AMS Homotopy theory special session, Evanston, IL	October 2004