

# DANIEL G. DAVIS

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## EDUCATION

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- **Ph.D. Mathematics**, Northwestern University, June, 2003, Advisor: Paul G. Goerss.  
Thesis: *The Lubin-Tate Spectrum and its Homotopy Fixed Point Spectra* (106 pp.).
- **M.S. Mathematics**, University of Illinois, Urbana-Champaign, May, 1997.  
Ph.D. program, 1995 - 1999. Advisor: Randy McCarthy.
- Austin Peay State University, 1994 - 1995, studied mathematics, German, philosophy.
- **B.A. Mathematics**, *summa cum laude*, Vanderbilt University, 1990 - 1994.  
Phi Beta Kappa; College Scholar, 1990 - 1994.

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## EMPLOYMENT

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- **Assistant Professor**, University of Louisiana at Lafayette, August, 2007 - present.  
*Courses Teaching*: Topology I (1st semester of the first-year graduate course in topology);  
Applied Calculus (a one-semester course in calculus for students in business and biology).
- **Visiting Assistant Professor**, Wesleyan University, September, 2006 - June, 2007.  
*Courses Taught*: Algebraic Topology (2nd semester of the first-year graduate course in topology),  
Differential Equations, Elementary Linear Algebra (two times).
- **VIGRE Research Assistant Professor**, Purdue University, August, 2003 - May, 2006.  
*Courses Taught*: Real Analysis; Vector Calculus for Master's degree students  
in engineering; Abstract Algebra (four times; two different textbooks); Calculus III  
for advanced freshmen - an honors course for engineering students (two times).
- **Visiting Scholar**, University of Notre Dame, June - December, 2005, in association with Bill Dwyer.
- **Teaching Assistant**, Northwestern University, September, 1999 - June, 2003.  
*Courses Assisted with*: Introduction to Modern Algebra, Linear Algebra for Applications,  
Accelerated Mathematics: First Year, Multiple Integration and Vector Calculus, Calculus II/III  
for social sciences and economics, Calculus I - III, Survey of Modern Mathematics I and II.
- **Instructor**, Northwestern University Summer School, Summer 2000. *Course Taught*: Calculus III.
- **Teaching Assistant**, University of Illinois, Urbana-Champaign, 1995 - 1999.  
*Full Responsibility Instructor*: Multiple Integration and Vector Calculus, Calculus II/III  
for social sciences and economics, Calculus II (three times), Finite Mathematics, Numeracy.  
*Assisted with*: Calculus I (two sections).

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## PUBLICATIONS, SUBMISSIONS, and PAPERS IN PREPARATION

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- *Homotopy fixed points for  $L_{K(n)}(E_n \wedge X)$  using the continuous action*, Journal of Pure and Applied Algebra, 206(3): 322-354, 2006.
- *The  $E_2$ -term of the descent spectral sequence for continuous  $G$ -spectra*, New York Journal of Mathematics, 12 (2006), 183-191. Published at <http://nyjm.albany.edu/j/2006/12-11.html>.
- *The homotopy orbit spectrum for profinite groups*, submitted to Homology, Homotopy and Applications, received favorable referee's report, under revision, 13 pp., available online as arXiv:math.AT/0608262.
- *The site  $R_G^+$  for a profinite group  $G$* , submitted to Theory and Applications of Categories, received referee's report and under revision, 14 pp., available online as arXiv:math.AT/0610772.

(Publications, etc., continued)

- *Iterated homotopy fixed points for the Lubin-Tate spectrum*, submitted to *Topology and its Applications*, 18 pp., available online at <http://dgdavis.web.wesleyan.edu>.
- *Rognes's theory of Galois extensions and the continuous action of  $G_n$  on  $E_n$* , preprint, 14 pp., May, 2004, available at the Hopf Topology Archive (<http://hopf.math.purdue.edu>).
- (joint with Mark Behrens) *The homotopy fixed point spectra of profinite Galois extensions*, in preparation, 33 pp., current version available at <http://dgdavis.web.wesleyan.edu>.
- *A universal coefficient spectral sequence for discrete  $G$ -spectra*, in preparation, 28 pp.
- *Continuous  $G$ -spectra and Brown-Comenetz duality*, in preparation, 17 pp.
- *The homotopy fixed points of  $E_n$  and the Devinatz-Hopkins construction*, in preparation, 12 pp.
- *Using Postnikov towers for iterated homotopy fixed points of discrete  $G$ -spectra*, in preparation, 9 pp.
- *Some examples of totally hyperfibrant discrete  $G$ -spectra*, in preparation, 4 pp.

## RESEARCH-RELATED ACTIVITIES

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- Participation in *Algebraic Topology* program at the Mittag-Leffler Institute, Djursholm, Sweden, January 15 - February 15, 2006.
- Editor, *Journal of Homotopy and Related Structures*, October, 2005 - present; coordinating effort to set up online mirror for journal at two U.S. universities.

## TALKS

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- *Fixed points in group cohomology, topological algebra, and homotopy theory*
  - Colloquium, University of Louisiana at Lafayette, March 15, 2007.
  - Colloquium, Wesleyan University, February 22, 2007.
- *Algebraic structures, continuous cohomology, and point-set Morava modules*, Algebra Seminar, University of Connecticut, February 27, 2007.
- *The homotopy orbit spectrum for profinite groups*
  - Topology Seminar, MIT, October 16, 2006.
  - Topology Seminar, Northwestern University, May 22, 2006.
- *A homotopy orbit spectral sequence for countably based profinite groups*, Topology et al. Seminar, Wesleyan University, September 27, 2006.
- *Examples of spectra with continuous profinite group actions*, Algebraic Topology Seminar, Mittag-Leffler Institute, February 7, 2006, invited speaker.
- *Interesting examples in the theory of spectra with a continuous action by a profinite group*, Topology Seminar, University of Notre Dame, October 11, 2005.
- *The theory of spectra with a continuous action by a profinite group*, at the conference "The Arithmetic of Structured Ring Spectra," Barony Rosendal, Norway, August 24, 2005, invited speaker.
- *Iterated homotopy fixed points for the Lubin-Tate spectrum*, Topology Seminar, Purdue University, September 9, 2004.
- *The Lubin-Tate spectrum  $E_n$  as a continuous  $G_n$ -spectrum and its homotopy fixed point spectra*
  - Topology Seminar, University of Illinois, Urbana-Champaign, February 10, 2004.
  - Topology Seminar, Purdue University, April 10, 2003.
  - Algebraic Topology Seminar, University of Chicago, February 4, 2003.
  - American Mathematics Society, National Meeting, Baltimore, January 18, 2003, Homotopy Theory Session, invited speaker.
  - Topology Seminar, Northwestern University, October 31, 2002.
- *R. L. Moore: Thoughts on the Philosophy and Methods of an American Mathematical Pioneer*, Tennessee Academy of Science, November 18, 1994.
- *The R. L. Moore Experience*, Austin Peay State University's Galois Math Club, Fall, 1994.

## HONORS, ACADEMIC ACHIEVEMENTS, and SCHOLARSHIPS

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- Finalist for Math Department's T.A. Teaching Award, University of Illinois, Urbana-Champaign, May, 1999.
- 1st place (tied), Real Analysis Comprehensive Exam, University of Illinois, Urbana-Champaign, August, 1998.
- *Who's Who Among America's Teachers*, 1998.
- 1st place, Algebra Comprehensive Exam, University of Illinois, Urbana-Champaign, August, 1997.
- Included on *An Incomplete List of Teachers Ranked as Excellent By Their Students*, denoted *Outstanding*, University of Illinois, Urbana-Champaign, Spring 1996, Spring 1997, Fall 1997.
- College Cabinet Honor Scholarship, Vanderbilt University, full-tuition, 1990 - 1994.
- Scholarship for International Studies in London program of Vanderbilt University, at Birkbeck College, London, studied economics and politics, July - August, 1993.

## CONFERENCE ATTENDANCE

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- Conference on Complex Cobordism in Homotopy Theory: Its Impact and Prospects, Johns Hopkins University, March, 2007.
- MIT Topology Seminar, five times in Fall, 2006.
- Conference on the Arithmetic of Structured Ring Spectra, Rosendal, Norway, August, 2005.
- Lehigh University Geometry and Topology Conference, June, 2004.
- All-Chicago Topology Seminar, Northwestern University, May, 2004.
- Midwest Commutative Algebra and Geometry Meeting: a conference in honor of Joseph Lipman, Purdue University, May 19, 2004.
- Midwest Topology Seminar, Northwestern University, February, 2004.
- Midwest Topology Seminar, University of Wisconsin, October, 2003.
- Fields Institute Program on Homotopy Theory and its Applications, University of Western Ontario, September, 2003.
- Conference on Algebraic Topology in honor of Goro Nishida's 60th birthday, Kinoshita, Japan, July, 2003.
- American Mathematics Society, Homotopy Theory Sessions, Baltimore, January, 2003.
- Midwest Topology Seminar, University of Chicago, April, 2002.
- International Algebraic Topology Conference, Northwestern University, March, 2002.
- Midwest Topology Seminar, University of Illinois at Chicago, February, 2002.
- Ontario Topology Seminar, University of Western Ontario, October, 2001.
- Great Lakes K-Theory Conference, Evanston, April, 2001.
- Midwest Topology Seminar, University of Illinois at Chicago, February, 2001.
- Ontario Topology Seminar, University of Western Ontario, October, 2000.
- American Mathematics Society, Notre Dame, April, 2000.
- Midwest Topology Seminar, University of Chicago, February, 2000.
- Midwest Topology Seminar, Northwestern University, April, 1999.
- American Mathematics Society, Urbana, March, 1999.
- Midwest Topology Seminar, University of Michigan, October, 1998.

## PROFESSIONAL MEMBERSHIPS

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- American Mathematics Society
- Mathematical Association of America, 2003 - 2004.