

# JULIA BERGNER

---

Department of Mathematics  
University of California, Riverside  
900 University Avenue, Surge 226  
Riverside, CA 92521  
tel: (951)827-3507 , fax: (951)827-7314  
<http://www.math.ucr.edu/~jbergner.html>  
[jbergner@math.ucr.edu](mailto:jbergner@math.ucr.edu)

- Employment**                      **Assistant Professor**, University of California, Riverside, beginning July 2008  
**Postdoctoral Instructor**, Kansas State University, August 2005-June 2008
- Education**                        **Ph.D. in Mathematics**, University of Notre Dame, May 2005  
Dissertation: Three models for the homotopy theory of homotopy theories  
Advisor: William Dwyer.  
**M.S. in Mathematics**, University of Notre Dame, January 2002.  
**B.S. in Mathematics, B.A. in English**, Gonzaga University, May 2000.
- Areas of Interest**                Homotopy Theory and Algebraic Topology, applications to Representation Theory
- Publications**                      Rigidification of algebras over multi-sorted theories, *Algebr. Geom. Topol.* 6 (2006) 1925-1955.  
A model category structure on the category of simplicial categories, *Trans. Amer. Math. Soc.* 359 (2007), 2043-2058.  
Three models for the homotopy theory of homotopy theories, *Topology* 46 (2007), 397-436.  
Simplicial monoids and Segal categories, *Contemp. Math.* 431 (2007) 59-83.  
A characterization of fibrant Segal categories, *Proc. Amer. Math. Soc.* 135 (2007) 4031-4037.  
Adding inverses to diagrams encoding algebraic structures, *Homology, Homotopy Appl.* 10(2), 2008, 149-174.  
Adding inverses to diagrams II: Invertible homotopy theories are spaces, *Homology, Homotopy Appl.* 10(2), 2008, 175-193.  
Complete Segal spaces arising from simplicial categories, *Trans. Amer. Math. Soc.* 361 (2009), 525-546.  
A survey of  $(\infty, 1)$ -categories, in *Towards Higher Categories*, The IMA Volumes in Mathematics and its Applications, Springer, 2010  
Homotopy fiber products of homotopy theories, to appear in *Israel J. Math.*
- Teaching Experience**            **University of California, Riverside:**  
Graduate Topology III  
Geometry  
First-Year Calculus III  
Algebraic Topology II  
Introduction to Topology II  
Advanced Calculus I  
**Kansas State University:**  
Topics in Mathematics for Secondary School Teachers (Number Patterns)  
Foundations of Geometry  
Contemporary Mathematics

**Teaching Experience,  
continued**

Topics in Mathematics for Secondary School Teachers (Connections Between Algebra and Geometry)

Algebraic Topology 2 (Topics in Homotopy Theory)

Algebraic Topology

Directed Readings in Homological Algebra

Topics in Mathematics for Secondary School Teachers (Mathematics of Finance, Probability, and Statistics, team-taught with Andrew Bennett)

History of Mathematics

Mathematics for Elementary School Teachers

**University of Notre Dame:**

Calculus B (for pre-medicine students)

Calculus II for Business

Calculus I (for math, science, and engineering students)

Elements of Calculus I (for business and arts and letters students)

**Selected Invited Talks**

“Generalized classifying space constructions,” Cascade Topology Seminar, University of Washington (November 2010)

Six talks, Workshop on the Homotopy Theory of Homotopy Theories, Caesarea, Israel (May 2010)

“To  $(\infty, 1)$ -categories and beyond,” New Contexts in Homotopy Theory, Conference in honor of Peter May’s 70th birthday, University of Chicago (October 2009)

“A modern perspective on homotopy theory,” Colloquium, Florida State University (September 2009)

“Homotopy fiber products of homotopy theories in quantum algebra,” Conference on Topological Field Theories and Related Geometry and Topology, Northwestern University (May 2009)

“Hall algebras associated to stable complete Segal spaces,” Homotopy Theory and Applications, University of Nebraska, Lincoln (April 2009)

“Thirteen ways of looking at a topological group,” Colloquium, University at Buffalo (March 2009)

“Diagrams of simplicial sets inducing algebraic structures,” SECA V, Pontevedra, Spain (September 2008)

“Algebraic applications of the homotopy theory of homotopy theories,” CATS-3, Centro di Ricerca Matematica Ennio De Giorgi, Pisa, Italy (September 2008)

“Algebraic applications of the homotopy theory of homotopy theories,” HOCAT 2008 - Homotopy Structures in Geometry and Algebra; Derived Categories, Higher Categories, Centre de Recerca Matemàtica, Barcelona, Spain (July 2008)

“Model categories equivalent to the quasi-category model structure,” Workshop on Higher Categories and Applications, Fields Institute, Toronto (January 2007)

“Thirteen ways of looking at a topological group,” AWM Workshop for Graduate Students and Recent Women Ph.D.s, Joint Mathematics Meetings, New Orleans, Louisiana (January 2007)

“Model categories, dg categories, and derived Hall algebras,” MacLane Memorial Conference, University of Chicago (April 2006)

“Using Segal categories to understand simplicial monoids and simplicial categories,” Conference on Categories in Algebra, Geometry and Mathematical Physics, Macquarie University, Australia (July 2005)

- Conferences and Seminars Organized** Special Session on Homotopy Theory and  $K$ -Theory (with Christian Haesemeyer), AMS Sectional Meeting, University of California, Los Angeles (October 2010)
- Topology Seminar and Rational Homotopy Theory Seminar (with Fred Wilhelm) (Fall 2010)
- Special Session on Homotopy Theory and Higher Algebraic Structures (with John Baez), AMS Sectional Meeting, University of California, Riverside (November 2009)
- Seminar on Cobordism and Topological Field Theories (2009-10)
- Panel Discussion on Graduate Education, Joint Mathematics Meetings (with Tara Holm and Jeremy Martin), New Orleans, Louisiana (January 2007)
- Graduate Student Topology Conference, University of Notre Dame (April 2003)
- Graduate Student Topology Seminar, University of Notre Dame (2003-2005)
- Awards** Project NExT Fellow, 2006-07.
- Clare Boothe Luce Foundation Fellowship, August 2000–May 2005.
- Outstanding Graduate Student Teacher Award, Kaneb Center for Teaching and Learning, University of Notre Dame, Spring 2003
- Striving for Excellence in Teaching Certificate, Kaneb Center for Teaching and Learning, University of Notre Dame, Spring 2003
- Teaching Well Using Technology Certificate, Kaneb Center for Teaching and Learning, University of Notre Dame, Fall 2004
- Grants** NSF Topology Award DMS-0805951
- Invited visitor at the Centre de Recerca Matemàtica, Barcelona, April 2008
- Funding to visit Fields Institute, Toronto, Spring 2007
- Kansas Mathematics and Science Partnership Grant (for Infinite Mathematics Project), Winter 2007
- Other Professional Activities** Instructor for the George Washington University Summer Program for Women in Mathematics (June-July 2009 and 2010)
- Panelist, "What I Wish I Knew When Looking for a Job," Joint Mathematics Meetings, San Francisco, January 2010
- Reviewer for Mathematical Reviews (since 2006)
- Reviewer for Zentralblatt Math (since 2010)
- Fellow of the Center for Quantitative Education at Kansas State University, working with the KSU-PDS Partnership Project (June 2005-June 2008)
- Sessions for the Girls Researching Our World (GROW) program for middle school girls at Kansas State University (2007 and 2008)
- Team guide for International Mathematics Olympiad (July 2001)
- Participant in the George Washington University Summer Program for Women in Mathematics (June-August 1998)
- Professional Memberships** American Mathematical Society
- Mathematics Association of America
- Association for Women in Mathematics