

## Vitae for Nicholas J. Kuhn

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		<b>Nationality</b>	United States

### Education

University of Chicago, Department of Mathematics, Ph.D. 1980, M.S. 1977. *Special Area:* Algebraic Topology. *Thesis:* The structure of the James-Hopf Maps. *Advisor:* J. Peter May.

Princeton University, A.B. 1976. *Major:* Mathematics. *Honors:* magna cum laude, Phi Beta Kappa.

### Research Interests

My research is centered around **algebraic topology**, and also includes aspects of **algebraic K-theory**, **group representation theory**, **homological algebra**, and **category theory**.

My work in topology has included work on the development of a character theory for complex oriented cohomology theories, iterated loopspaces and their generalized homology, Goodwillie functor calculus, periodic homotopy, topological realization questions, stable homotopy groups, and model categories.

My algebraic work has been on group cohomology, generic representation theory of the finite general linear groups, rational cohomology, homological stability, and the development of modern Steenrod algebra technology over all finite fields.

See my website for a more detailed discussion of some of my major research projects.

### Professional Experience

Professor, Department of Mathematics, University of Virginia, 1991–.

Associate Professor, Department of Mathematics, University of Virginia, 1986–1991.

Assistant Professor, Department of Mathematics, Princeton University, 1982–1986.

Acting Assistant Professor, Department of Mathematics, University of Washington, 1980–1982.

### **Visiting Positions**

Visiting Scholar, M.S.R.I., Berkeley, winter/spring 2014.

Visiting Professor, U.Paris-Nord, Paris, France, fall 2011.

Visiting Professor, Cambridge University, Cambridge, England, winter/spring, 2006.

Visiting Professor, University of Chicago, fall, 2000.

Visiting Professor, C.N.R.S. and U.Paris-Nord, Paris, France, 1994–1995.

Visiting Scholar, M.S.R.I., Berkeley, fall 1989.

Visiting Fellow, Cambridge University, Cambridge, England, 1986–1987.

Visiting Scholar, Northwestern University, spring 1983.

Summer positions: Warwick (1985), I.H.E.S./U. Paris–Orsay (1990), and Beilefeld (1992).

### **Awards, Fellowships, Grants, Honors**

A.M.S. Postdoctoral Fellowship, 1982–1983.

N.S.F. Postdoctoral Fellowship, 1982 (declined).

Sloan Foundation Fellowship, 1985–87.

Eight standard NSF grants as sole PI, and co-PI of a recent NSF Focused Research Grant.

NSF conference funding for three conferences: Isle of Skye (2001, 2005), UVA (2012).

Foreign support: S.E.R.C.(Britain) in 1986–87, C.N.R.S.(France) in 1994–95.

M.S.R.I. funded the expenses of my 2014 visit.

60th birthday conference: Mid-Atlantic Topology Conference, UVA, April, 2015

### **Ph.D. students**

Piotr Krason (1991), Mark Winstead (1993), David Hunter (1997), Stephen Ahearn (2000), Randall Helmstutler (2004), Ryan Higginbottom (2005), Joe Johnson (2012), Jason McCarty (2012).

## Postdocs mentored at UVA

John Martino (90-93, now at W. Michigan), Michael Slack (90-92, left academics), Jim Turner (93-95, Calvin College), Geoff Powell (96-97, Angers), Andrey Lazerev (97-99, Lancaster), Stephen Theriault (99-02, Southampton), Ismar Volic (03-06, Wellesley), Michael Hill (06-09, UCLA), Lennart Meier (13–15, Bonn), Luis Pereira (13–).

## National activities

Member: American Mathematical Society, Mathematical Association of America.

Reviewer for Math Reviews (over 130 reviews).

Referee of many dozens of grant proposals for the N.S.F., N.S.A., and equivalent Canadian, British, French, and similar European funding organizations. Member of N.S.F. panels.

Referee for various journals of many articles in topology and algebra.

Official reader of about a half dozen French mathematics Ph.D. theses.

Editor, *Homology, Homotopy, and Applications*, 2005–.

A.M.S. Southeastern Section Program Committee, member, 2007–09, chair, 2008–09.

## Conferences Organized

Scientific Committee, Conference on Algebraic Topology, Angers, France, September, 1998.

Cochair, A.M.S.–M.A.A.–I.M.S. joint summer conference on ‘Homotopy Methods in Algebraic Topology’, Boulder, Colorado, June, 1999.

Organizing Committee, Conference on Pure and Applied Topology, Isle of Skye, Scotland, June, 2005.

Chair, Conference on Algebraic and Geometric Topology (in honor of Bob Stong), University of Virginia, November, 2008.

Organizing Committee, Workshop on Functor Calculus and Operads, Banff, March, 2011.

Chair, organizing committee, Virginia Conference on Algebraic Topology, Charlottesville, Virginia, June, 2012.

### Invited talks since 1993

- Topology Seminar, Johns Hopkins University, February, 1993.  
Topology Conference, Kazimierz, Poland, June 1993.  
AMS special session, Lexington KY, March, 1994  
AMS conference in Topology, Mt. Holyoke, July, 1994.  
Topology Seminar, U.Paris–Nord (two talks), October, 1994.  
Topology Conference, U.Paris–Nord, November, 1994.  
Seminar on *K-theory and MacLane homology* (three talks), I.H.E.S., France, Jan.–Mar., 1995.  
Topology Seminar, Heidelberg, Germany. February, 1995.  
Topology Seminar, Lille, France. March, 1995.  
Topology Seminar, Oxford, England. April, 1995.  
Topology Seminar, Cambridge, England. April, 1995.  
Topology Seminar, University of Paris 11, Orsay, France. May, 1995.  
Workshop on Elliptic cohomology, Max Plank Institute, Bonn, Germany. June, 1995.  
Conference in Algebraic Topology, Gargnano, Italy. June, 1995.  
Conference on stable homotopy theory, Field Institute, Toronto, January, 1996.  
Conference on unstable homotopy theory, Field Institute, Toronto, May, 1996.  
A.M.S. Research Institute on cohomology, representations, and actions of finite groups, University of Washington, Seattle, July, 1996.  
Special session on algebraic topology, Rider University, Lawrenceville, October, 1996.  
Upstate New York Topology Seminar, Syracuse U., November, 1996.  
Midwest Topology Seminar, Northwestern U., January, 1997.  
Topology Seminar, M.I.T., March, 1997.  
Conference in Algebraic Topology, Northwestern U., March, 1997.  
Special session on algebraic topology, AMS annual meeting, Baltimore, January 1998.  
Three talks, Wayne State University, February, 1998, as a ‘visiting scholar’: two in a departmental colloquium setting, and one in a topology seminar.  
Conference on Modular Representation Theory, University of Virginia, May, 1998.  
Conference on Algebraic Topology, Barcelona, Spain, May, 1998.  
Three talks, Algebraic Topology Conference, Angers, France, September, 1998. These comprised a minicourse on “The representation theoretic approach to unstable modules over the Steenrod algebra”.  
Three talks, ring theory conference on Infinite Length Modules, Bielefeld, Germany, September, 1998. These were a series on the topic “Generic Representation Theory: a survey of basic structure”.  
Conference on Algebraic Topology, Arolla, Switzerland, August, 1999.  
Midwest Topology Seminar, Purdue–Calumet, October, 1999.  
Conference on Algebraic Topology, Johns Hopkins University, March, 2000.  
Topology seminar, University of Chicago, October, 2000.  
Topology seminar, Northwestern University, November, 2000.  
Group theory seminar, University of Chicago, November, 2000.  
Topology proseminar, University of Chicago, November, 2000.

Topology seminar, Johns Hopkins University, December, 2000.  
Conference on Algebraic Topology, Gdansk, Poland, June, 2001.  
Conference on Algebraic Topology, Isle of Skye, Scotland, June 2001.  
Conference on Algebraic Topology and Category Theory, Union College, September, 2001.  
Special session on algebraic topology, AMS regional meeting, Ann Arbor, March, 2002.  
Conference on Algebraic Topology, Northwestern University, March, 2002.  
Conference on Algebraic Topology, Barcelona, July, 2002.  
Topology seminar, University of Chicago, October, 2002.  
Special session on algebraic topology, AMS national meeting, Baltimore, January, 2003.  
Colloquium, Brown University, February, 2003.  
Conference on Homotopy Theory, Oberwolfach, Germany, March, 2003.  
Conference on Algebraic Topology, Kinosaki, Japan, July, 2003.  
Series of three talks, Workshop on Algebraic Topology, Nagoya, Japan, August, 2003.  
Conference on Algebraic Topology, University of Minnesota, September, 2003.  
Topology seminar, University of Illinois at Champaign, March, 2004.  
Special session on homotopy theory, A.M.S. regional meeting, Rider University, April, 2004.  
'All Chicago' topology seminar, Northwestern University, May, 2004.  
Conference on Algebraic Topology, Hanoi, Vietnam, August, 2004.  
Workshop on Goodwillie calculus, Clay Math. Institute, Cambridge, MA, March, 2005.  
Special session on algebraic topology, AMS regional meeting, Newark, DE, April, 2005.  
Workshop on localization methods and the calculus of functors, Banff International Research Station, Banff, Canada, April, 2005. The talk was videoed by BIRS.  
Conference on the Cohomology of Finite Groups, Oberwolfach, Germany, September, 2005.  
Homotopy conference, University of Sheffield, Sheffield, England, January, 2006.  
Geometry seminar, Cambridge University, Cambridge, England, February, 2006.  
Colloquium, University of Kent, Canterbury, England, March, 2006.  
Topology seminar, University of Aberdeen, Aberdeen, Scotland, April, 2006.  
Topology seminar, University of Glasgow, Glasgow, Scotland, April, 2006.  
Two talks, Topology seminar, Auto. Univ. Barcelona, Barcelona, Spain, May, 2006.  
Geometry seminar, Cambridge University, Cambridge, England, May, 2006.  
Conference on Algebraic Topology, Johns Hopkins University, March, 2007.  
Conference on Homotopy Theory, Oberwolfach, Germany, September, 2007.  
Geometry and Topology Conference, plenary speaker, Lehigh University, October, 2007.  
International Conference on Topology, Djerba, Tunisia, October, 2007.  
Conference on Algebraic Topology, Arolla, Switzerland, August, 2008.  
Special session on algebraic topology, AMS regional meeting, Kalamazoo, MI, October, 2008.  
Topology Seminar, University of Sheffield, Sheffield, England, June, 2009.  
Conference on Algebraic Topology, Group Theory and Representation Theory, plenary speaker, Isle of Skye, Scotland, June, 2009.  
Workshop on unstable homotopy theory and chromatic phenomena, CCNY, New York, June, 2009.  
Special session on algebraic topology, AMS regional meeting, Lexington, KY, March, 2010.

Algebraic Topology Conference, three talks on “Periodic localization, Tate cohomology, and infinite loopspaces”, U.Georgia, May, 2010.  
Topology Seminar, University of Osnabruck, Osnabruck, Germany, July, 2010.  
Conference on Group Cohomology, Oberwolfach, Germany, July, 2010.  
André Memorial Conference, Lausanne, Switzerland, May, 2011.  
Topology Seminar, U.Paris–Nord, Paris, France, May, 2011.  
Conference on Homotopy Theory, Oberwolfach, Germany, September, 2011.  
Topology Seminar, U.Strasbourg, Strasbourg, France, October, 2011.  
Topology Seminar, U.Paris–Nord, Paris, France, October, 2011.  
45th William J. Spencer Lecture, Kansas State University, March, 2012.  
Conference on the cohomology of functors and applications, U. Nantes, Nantes, France, April, 2012.  
Topology Seminar, Johns Hopkins University, March, 2013.  
Conference on Algebra and Topology, U. Nantes, Nantes, France, May, 2013.  
Topology Seminar, University of Angers, Angers, France, May, 2013.  
Colloquium, University of Osnabruck, Osnabruck, Germany, May, 2013.  
Topology Seminar, two talks, Mathematical Sciences Research Institute, March, 2014.  
Topology Seminar, Stanford University, March 2014.  
Conference on Algebraic Topology, Dubrovnik, Croatia, June, 2014.  
New York Applied Algebra Colloquium, CUNY, October, 2014.  
Conference on Algebraic Topology, Princeton, March, 2015.  
Conference on Group Cohomology, Oberwolfach, Germany, May, 2015.  
Workshop on Algebraic Topology, Oxford, England, October, 2015.  
Topology Seminar, CUNY, March, 2016.  
Topology Seminar, Georgia Tech., April, 2016.  
Workshop on operations in highly structured homology theories, Banff International Research Station, Banff, Canada, May, 2016.  
Conference on group actions and algebraic combinatorics, Herstmonceux, England, July, 2016.