

# Jonathan A. Campbell

Curriculum Vitae updated March 2019

---

CONTACT INFORMATION	Department of Mathematics Vanderbilt University 1326 Stevenson Center Lane Nashville, TN 37240	919-619-5730 <a href="mailto:jonalfcam@gmail.com">jonalfcam@gmail.com</a> <a href="http://www.jonathanacampbell.com">http://www.jonathanacampbell.com</a> Citizenship: US
APPOINTMENTS	2016 - present    Visiting Assistant Professor, Vanderbilt University 2013 - 2016      RTG Instructor, University of Texas at Austin	
DEGREES	2013    Ph.D. in Mathematics, Stanford University. Advisors: Ralph Cohen, Andrew Blumberg 2007    B.S. in Mathematics, MIT.	
VISITING POSITIONS AND RESEARCH VISITS	May - June, 2017. Simons Center for Geometry and Physics, as part of the program <i>Mathematics of Topological Phases of Matter</i> May - June, 2018. Institute for Advanced Study, as part of the <i>Summer Collaborators</i> program (with Inna Zakharevich)	
PUBLICATIONS	<ol style="list-style-type: none"><li>1. <i>The Algebraic K-Theory of Varieties</i>. To appear in <i>Transactions of the American Mathematical Society</i>. <a href="http://arxiv.org/abs/1505.03136">http://arxiv.org/abs/1505.03136</a></li><li>2. <i>A guide for computing stable homotopy groups</i>. Joint w/ Agnes Beaudry. <i>Topology and quantum theory in interaction</i>, 89â136, <i>Contemp. Math.</i>, 718, Amer. Math. Soc., Providence, RI, 2018. 55Q10 (55R40 55S10 55T15)</li><li>3. <i>Topological Hochschild Homology and Higher Characteristic</i>. Joint w/ Kate Ponto. <i>Algebr. Geom. Topol.</i> 19 (2019), no. 2, 965â1017. 16D90 (18D05 19D55 55M20 55R12)</li><li>4. <i>Derived <math>\ell</math>-adic <math>\zeta</math>-functions</i>. Joint w/ Jesse Wolfson and Inna Zakharevich. Submitted. <a href="http://arxiv.org/abs/1703.09855">http://arxiv.org/abs/1703.09855</a>.</li><li>5. <i>CGW-categories</i>. Joint w/ Inna Zakharevich. <a href="https://arxiv.org/abs/1811.08014">https://arxiv.org/abs/1811.08014</a></li><li>6. <i>Classification of Symmetry Protected Phases via Homotopy Theory</i>. Submitted. <a href="http://arxiv.org/abs/1708.04264">http://arxiv.org/abs/1708.04264</a>.</li><li>7. <i>Derived Koszul Duality and Topological Hochschild Homology</i>. Submitted. <a href="http://arxiv.org/abs/1401.5147">http://arxiv.org/abs/1401.5147</a></li><li>8. <i>(Co)Homology of Spectral Categories</i>. <a href="http://arxiv.org/abs/1512.07521">http://arxiv.org/abs/1512.07521</a>.</li></ol>	
IN PREPARATION	<ol style="list-style-type: none"><li>1. <i>Iterated Traces and Index Theory</i>. Joint w/ Kate Ponto.</li><li>2. <i>K-Theory with Squares</i>. Joint w/ Inna Zakharevich.</li><li>3. <i>Scissors Congruence and the Rank Filtration in K-theory</i>. Joint w/ Inna Zakharevich.</li><li>4. <i>Fixed Point Theory and TR</i>. Joint w/ John Lind, Cary Malkiewich, Kate Ponto, and Inna Zakharevich.</li></ol>	
INVITED TALKS	<i>Cutting and Pasting in Algebraic K-theory – AKA Combinatorial K-theory</i> , University of British Columbia <i>Topological Hochschild Homology and Higher Characters</i> , Michigan State University, November 8, 2018. <i>K-Theory and Polytopes</i> , EPFL, October 8-22, 2018. <i>Topological Hochschild Homology and Fixed Point Invariants</i> , EPFL, October 8-22, 2018. <i>Fixed Point Theory and K-Theory</i> , Cornell, October 4, 2018.	

*Fixed Point Theory and the Cyclotomic Trace*, SUNY-Albany, September 21, 2018.  
*Cutting up Space: The Dehn Invariant*, Union College, September 20, 2018.  
*Fixed Point Theory and the Cyclotomic Trace*, Indiana University, September 4, 2018.  
*Combinatorial K-Theory, Devissage and Localization*, Homotopy Theory Berlin, June 22, 2018.  
*An Introduction To, and Extension Of, Algebraic K-Theory*, University of Kentucky, April 10, 2018.  
*THH and Fixed Point Invariants*, University of Virginia, November 9, 2017.  
*Devissage for Cut and Paste K-theory*, University of Illinois, Urbana-Champaign, October 24, 2017.  
*Lifting the Zeta Function*, Johns Hopkins University, April 17, 2017.  
*A Spectral Lift of the Zeta Function*, Vanderbilt University, April 15, 2016.  
*The Algebraic K-Theory of Varieties*, Stanford University, Oct 27, 2015.  
*The Algebraic K-Theory of Varieties*, University of Kentucky, Sept 10, 2015.  
*The Algebraic K-Theory of Varieties*, University of Chicago, March 10, 2015.  
*The Algebraic K-Theory of Varieties*, University of Illinois, Feb 10, 2015.  
 MIT Topology Seminar, MIT, March 31, 2014.  
 Joint Mathematics Meetings, Baltimore MD, Jan 17, 2014.  
*Topological Hochschild Homology and Koszul Duality* University of California Riverside, November 27, 2012.  
*Topological Hochschild Homology and Koszul Duality* Johns Hopkins University, November 19, 2012.  
*Topological Hochschild Homology and Koszul Duality* University of Illinois Urbana-Champaign, November 13, 2012.  
*Topological Hochschild Homology and Koszul Duality* University of Chicago, October 30, 2012.  
*Topological Hochschild Homology and Koszul Duality* Northwestern University, October 29, 2012.

TEACHING  
 EXPERIENCE -  
 PRIMARY  
 INSTRUCTOR

At Vanderbilt University

Fall 2018 Math 1300 — Accelerated Calculus for Engineers  
 Spring 2018 Math 3200 — Introduction to Topology  
 Fall 2017 Math 2300 — Multivariable calculus  
 Spring 2017 Math 2300 — Multivariable calculus  
 Fall 2016 Math 3200 — Introduction to Topology

At UT-Austin

Fall 2015 Math 392C — Rational Homotopy Theory  
 Spring 2015 Math 361 — Complex Analysis  
 Fall 2014 Math 408C — Calculus I  
 Spring 2014 Math 408M — Multivariable Calculus  
 Fall 2013 Math 408D — Calculus II

TEACHING  
 EXPERIENCE -  
 TEACHING  
 ASSISTANT

At Vanderbilt University

Fall 2016 Math 1300 — Accelerated Single Variable Calculus

At Stanford University

Winter 2012 Math 121 — Modern Algebra II, Galois Theory  
 Fall 2012 Math 51 ACE — Multivariable calculus and linear algebra. Special two hour section, coordinated with engineering diversity program (ACE).  
 Spring 2011 Math 51 — Multivariable Caclulus and Linear Algebra  
 Winter 2011 Math 116 — Complex Analysis  
 Spring 2010 Math 151 — Differential Topology  
 Fall 2009 Math 51 — Multivariable Calculus and Linear Algebra  
 Spring 2009 Math 20 — Integral Calculus  
 Fall 2008 Math 52A — Advanced Mulivariable Calculus

CONFERENCES  
ORGANIZED

Shanks Workshop on Homotopy Theory. March 25-26, 2017, Vanderbilt University

CONFERENCES  
ATTENDED

Midwest Topology Seminar. University of Kentucky, September 6, 2018.

Homotopy Theory Summer, Berlin. June 18 - 22.

Midwest Topology Seminar. Indiana University, April 28, 2018.

Homotopy Theory on the Ecliptic. August 18-21, 2017. Reed College.

Homotopy Theory: Tools and Applications. July 17-21, 2017. University of Illinois at Urbana-Champaign.

Strongly Correlated Topological Phases of Matter. May 10 - June 10, 2017. Simons Center for Mathematics and Physics.

Cornell Topology Festival. May 12-14, 2017. Cornell University, Ithaca, NY.

Conference on Invertible Objects and Duality in Derived Algebraic Geometry and Homotopy Theory. April 3-7, 2017. Regensburg, Germany.

Midwest Topology Seminar. September 17-18, 2016 Purdue University, West Lafayette, Indiana. Reimagining the Foundations of Algebraic Topology. April 7-11, 2014. MSRI, Berkeley, California.

Introductory Workshop, Algebraic Topology. January 27-31, 2014. MSRI, Berkeley, California.

Workshop on Equivariant, Chromatic and Motivic Homotopy Theory. March 25-29, 2013. Northwestern University, Evanston, Illinois.

Midwest Topology Seminar. October 27-28, 2012. Michigan State University, East Lansing, Michigan.

The Legacy of Daniel Quillen: K-theory and Homotopical Algebra. October 6-8, 2012. Cambridge, MA.

Fourth Arolla Conference on Algebraic Topology. August 20-26, 2012. Arolla, Switzerland.

Stanford Symposium. July 23-27, 2012. Stanford, CA.

West Coast Algebraic Topology Summer School: Algebraic K-theory. July 16-20, 2012. Stanford, California.

Michigan Derived Algebraic Geometry RTG Learning Workshop. May 17- 19, 2012. Ann Arbor, Michigan.

Park City Mathematics Institute : Moduli Spaces of Riemann Surfaces. July 3- July 23 2011, Park City Utah.

Conference on Homotopy Theory and Derived Algebraic Geometry. Aug. 30 - Sept. 3 2010. Fields Institute, Toronto.

MSRI Hot Topics: The Kervaire Invariant. Oct 25-Oct 29 2010, MSRI, Berkeley, California.

West Coast Algebraic Topology Summer School: Homotopy Theory of Moduli Spaces. Aug 9-14 2010, University of Oregon, Eugene, Oregon.

Copenhagen Topology Conference 2010. Jan 8 - Jan 10, 2010, Copenhagen, Denmark.

OTHER  
EMPLOYMENT

July 2007 - Jun 2008. Quantitative Analyst at Edison Mission Marketing and Trading.

COMPUTER SKILLS

Experience with Windows, Mac, and Linux machines. Programming languages: Extensive experience with Mathematica and familiarity with Matlab, Python, Haskell, Scheme (LISP), Perl. Experience with the database program FileMaker and with SQL and Microsoft Access.