

Peter Bonventre, Ph.D.

CONTACT INFORMATION	372A St. Mary's Hall 37th and O Streets, NW Washington, DC 20057	Email: peterbonventre@gmail.com Phone: (518) 928-9271 Web: https://petejb88.github.io
RESEARCH INTERESTS	Algebraic topology, equivariant stable homotopy theory and categorical algebra: equivariant operads, dendroidal sets, model categories, structured ring spectra, power operads, Gamma-homology	
ACADEMIC APPOINTMENTS	Georgetown University , Washington, DC Assistant Teaching Professor, Mathematics	August 2021 – present
	College of the Holy Cross , Worcester, MA Visiting Assistant Professor, Mathematics	September 2020 – May 2021
	University of Kentucky , Lexington, KY Postdoctoral Scholar, Mathematics	August 2017 – June 2020
EDUCATION	University of Virginia , Charlottesville, VA Ph.D., Mathematics. Thesis: <i>Comparison of Models for Equivariant Operads</i> Advisor: Michael Hill	May 2017
	Union College , Schenectady, NY B.S. in Mathematics and Physics, <i>summa cum laude</i>	June 2011
PUBLICATIONS	Equivariant dendroidal sets and simplicial operads (with L. Pereira) To appear in <i>Journal of Topology</i> . arXiv:1911.06399	
	On the homotopy theory of equivariant colored operads (with L. Pereira) To appear in <i>Algebraic & Geometric Topology</i> . arXiv:2004.01352	
	Homotopy theory of equivariant operads with fixed colors (with L. Pereira) To appear in <i>Tunisian Journal of Mathematics</i> . arXiv:1908.05440	
	Rigidification of dendroidal infinity-operads (with L. Pereira) <i>Homology, Homotopy, and Applications</i> , 23 (2021), no. 2, 349–372. arXiv:2004.12296	
	Genuine equivariant operads (with L. Pereira) <i>Advances in Mathematics</i> , 381 (2021), 107502. arXiv:1707.02226	
	Equivariant dendroidal Segal spaces and G-∞-operads (with L. Pereira) <i>Algebraic & Geometric Topology</i> , 20 (2020), no. 6, 2687–2778. arXiv:1801.02110	
	The genuine operadic nerve <i>Theory and Application of Categories</i> , 34 (2019), 736–780. arXiv:1904.01465	
	Estimating Energy Expenditure during Level, Uphill, and Downhill Walking D. Looney, W. Santee, E. Hansen, P. Bonventre, C. Chalmers, A. Potter <i>Medicine & Science in Sports & Exercise</i> , 2019, Vol.51(9), pp. 1954–1960	
	Nonfreezing Interfacial Layers of Cyclohexane in Nanoporous Silica S. Amanuel, H. Bauer, P. Bonventre, D. Lasher. <i>Journal of Physical Chemistry C</i> , 2009, 113(44), 18983–18986	

PREPRINTS	Additive power operations in equivariant cohomology (with B. Guillou and N. Stapleton) arXiv:2001.11078 , submitted
GRANTS	Learning Technologies Incubator grant, “An Experiment in Flipped-Classroom Calculus Instruction,” University of Virginia, 2016–2017 Travel support for Young Topologists Meeting, 2016 Dean’s Dissertation Completion Fellowship, University of Virginia, 2015–2017 Travel support for GSTGC, 2016
AWARDS	Outstanding All-Campus GTA, Honorable Mention, University of Virginia, 2017 Outstanding Mathematics GTA, University of Virginia, 2016 COMAP Mathematical Contest in Modeling, Meritorious Designation, 2009,2010,2011 Martin Terry Resch Prize, Mathematics Department, Union College, 2011 Barry M. Goldwater Scholarship, 2010
MENTORSHIP ROLES	Math Club Faculty Advisor, Georgetown University, 2021–present Group leader, University of Kentucky MathLab, <i>3D Visualization</i> , 2019–2020 Math Club Faculty Advisor, University of Kentucky, 2017–2020 Math Outreach Ambassador, University of Virginia, 2014–2016 Graduate Teaching Mentor, University of Virginia, 2014–2016
SERVICE	Referee for several mathematics journals Co-organizer, Midwest Topology Conference, University of Kentucky, Fall 2018 Co-organizer, Student Seminar in Homotopy Theory, University of Virginia, Fall 2015 Academic Opportunities Program Tutor, Union College, 2007–2008
INVITED TALKS	<i>Rigidification of dendroidal infinity-operads</i> , Ohio State, Homotopy Theory Seminar, March 2021 <i>Additive power operations in equivariant cohomology</i> , Vanderbilt University, Topology Seminar, March 2020 (cancelled, COVID-19) <i>Additive power operations in equivariant cohomology</i> , AMS Sectional Meeting, Special Session on Homotopy Theory, University of Virginia, March 2020 (cancelled, COVID-19) <i>Power operations and transfers in equivariant cohomology theory</i> , Joint Mathematics Meetings, Special Session on Categorical and Computational Methods in Homotopy Theory, January 2020 <i>Equivariant symmetric monoidal categories and K-theory</i> , UIUC, Topology Seminar, November 2019 <i>Equivariant trees and equivariant higher algebra</i> , AMS Section Meeting, Special Session on Homotopy Theory, University of Wisconsin-Madison, September 2019 <i>G-trees and equivariant higher algebra</i> , UCLA, Algebraic Topology Seminar, May 2019 <i>Generalizing composition of functions and operads</i> , Union College, Student Seminar, February 2019 <i>Symmetric monoidal Mackey functors</i> , SUNY Albany, Algebra/Topology Seminar, February 2019 <i>Models for equivariant operads</i> , AMS, Special Session on Recent Progress and New Directions in Homotopy Theory, April 2018 <i>Genuine equivariant operads</i> , Indiana University, Topology Seminar, November 2017 <i>Genuine equivariant operads</i> , Vanderbilt University, Topology Seminar, October 2017

SELECT OTHER
TALKS

Genuine equivariant operads, Johns Hopkins University, Topology Seminar, April 2017

Equivariant trees and G-dendroidal sets, 31st Summer Conference on Topology and its Applications, Algebraic Topology Special Session; Leicester, England, August 2016

Equivariant algebraic structures, Georgetown University, Colloquium, November 2021

Rigidification of infinity operads, University of Kentucky, Topology Seminar (joint with Vanderbilt University), August 2020

Generalizing composition of functions and operads, University of Kentucky, Undergraduate Math Club, February 2020

Additive power operations in equivariant cohomology, University of Kentucky, Topology Seminar, February 2020

Equivariant trees and equivariant higher algebra, University of Kentucky, Topology Seminar, September 2019

Equivariant power operations and the transfer, University of Kentucky, Topology Seminar, January 2019

Symmetric monoidal Mackey functors, University of Kentucky, Topology Seminar, September 2018

Equivariant dendroidal Segal spaces and categorical homotopy theory, University of Kentucky, Topology Seminar, January 2018

Operads and exotic multiplications, University of Kentucky, Topology Seminar, September 2017

Genuine equivariant operads, Joint Mathematics Meetings, January 2017

Genuine equivariant operads, University of Virginia, Topology Seminar, October 2016

Equivariant trees and G-dendroidal sets, Bell Talk, BIRS Operations in Highly Structured Homology Theories; Banff, Canada, May 2016

Presenting Equivariant Operads, Graduate Student Topology and Geometry Conference; Bloomington, Indiana, April 2016

Models for Equivariant Infinite Loop Spaces, University of Virginia, Graduate Student Seminar, November 2015

Presenting Equivariant Operads, University of Virginia, Topology Seminar, October 2015

G-spectra and duality, University of Virginia, Equivariant Homotopy Theory Seminar, September 2015

Flexibly Planar and Flexibly Flat Graphs, MathFest 2010, with Lydia Garcia, Alex Murray, and Sarah Rasco, August 2010

TEACHING
EXPERIENCE

Instructor of Record, Georgetown University

Calculus with Review B (inquiry-based learning), Math 032, Spring 2022

Calculus 2 (inquiry-based learning), Math 036, Spring 2022

Calculus with Review A (inquiry-based learning), Math 031, Fall 2021

Calculus 2 (inquiry-based learning), Math 036, Fall 2021

Instructor of Record, College of the Holy Cross

Modern Algebra 1 (mastery grading, online-only), Math 351, Spring 2021

Calculus 2 (inquiry-based learning, online-only), Math 136, Spring 2021

Calculus 1 (inquiry-based learning, online-only), Math 135, Fall 2020

Multivariable Calculus (online-only), Math 241, Fall 2020

Instructor of Record, University of Kentucky
 Number Theory (inquiry-based learning), MA 261, Spring 2020
 Elementary Calculus and its Applications (large lecture), MA 123, Spring 2020
 Elementary Calculus and its Applications (large lecture), MA 123, Fall 2019
 Topology II, MA 352, Spring 2019
 Independent Study in Category Theory, Spring 2019
 Topology I, MA 351, Fall 2018
 Calculus III (large lecture), MA 213, Fall 2018
 Calculus III (large lecture), MA 213, Spring 2018
 Calculus III (large lecture), MA 213, Fall 2017
 Number Theory (inquiry-based learning), MA 261, Fall 2017

Course Development Collaborator, University of Virginia, Fall 2016
 Redesigned Calculus I with a focus on active- and cooperative-learning.

Instructor of Record, University of Virginia
 Flipped-Classroom Calculus I (inquiry-based learning), MATH 1310, Spring 2017
 Calculus I, MATH 1310, Fall 2016
 Applied Calculus II, MATH 1220, Fall 2015
 Applied Calculus II, MATH 1220, Fall 2014
 Applied Calculus II, MATH 1220, Spring 2014
 Applied Calculus I, MATH 1210, Fall 2013
 Applied Calculus II, MATH 1220, Spring 2013
 Applied Calculus I, MATH 1220, Fall 2012

Graduate Teaching Assistant, University of Virginia
 Differential Equations, MATH 3250, Spring 2012
 Calculus II, MATH 1320, Spring 2012
 Calculus I, MATH 1310, Fall 2011

SELECT CONFERENCES AND WORKSHOPS ATTENDED	BIRS Equivariant Stable Homotopy Theory and p-adic Hodge Theory, Banff, Canada, March 2020 Midwest Topology Seminar, University of Chicago, October 2019 Midwest Topology Seminar, Michigan State University, May 2019 Midwest Topology Seminar, UIUC, February 2019 Upstate New York Topology Seminar, SUNY Albany, November 2018 Co-organized Midwest Topology Seminar, University of Kentucky, September 2018 Chromatic Homotopy Theory, Journey to the Frontier, University of Colorado Boulder, May 2018 Midwest Topology Seminar, University of Indiana, April 2018 Midwest Topology Seminar, Northwestern University, March 2018, Homotopy Theory Summer, Equivariant homotopy theory and K-theory, Freie Universität Berlin, Germany, June 2018 Speaker at 31st Summer Conference on Topology and its Applications, University of Leicester, England, August 2016 Invertibility and Duality in DAG and Homotopy Theory, University of Regensburg, Germany, April 2017 Young Topologists Meeting, University of Copenhagen, Denmark, July 2016 BIRS Operations in Highly Structured Homology Theories, Banff, Canada, May 2016
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Speaker at Graduate Student Topology and Geometry Conference, University of Indiana, April 2016
Mid-Atlantic Topology Conference, Johns Hopkins University, March 2016
BIRS Equivariant Derived Algebraic Geometry, Banff, Canada, February 2016
Introductory School to Homotopy theory, manifolds, and field theories, Hausdorff Institute for Mathematics, Germany, March 2015
Mid-Atlantic Topology Conference, University of Virginia, April 2015
Re-imagining the Foundations of Algebraic Topology, MSRI, April 2014
Mathfest, Pittsburg, Pennsylvania, August 2010

ACADEMIC
REFERENCES

Michael Hill
UCLA, Professor
mikehill@math.ucla.edu
(310) 825-2229

Andrew Blumberg
University of Texas at Austin, Professor
blumberg@math.utexas.edu
(512) 471-3147

Julie Bergner
University of Virginia, Professor
jeb2md@virginia.edu
(434) 924-4952

Bertrand Guillou
University of Kentucky, Associate Professor
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Erica Whitaker (teaching)
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