

Mona Merling

BASIC INFORMATION	University of Pennsylvania Department of Mathematics 209 South 33rd Street Philadelphia, PA 19104-6395	<i>Email:</i> mmerling@upenn.edu <i>Webpage:</i> math.upenn.edu/~mmerling <i>Citizenship:</i> Romania <i>Date of birth:</i> 5 January 1986
RESEARCH INTERESTS	Algebraic topology. In particular, algebraic K-theory and equivariant stable homotopy theory.	
ACADEMIC APPOINTMENTS	University of Pennsylvania , Philadelphia, PA Assistant Professor, July 2018 - present Johns Hopkins University , Baltimore, MD J.J. Sylvester Assistant Professor, July 2014 - June 2018	
EDUCATION	University of Chicago , Chicago, IL Ph.D. in Mathematics, June 2014 Advisor: Peter May M.S. in Mathematics, June 2010 Bard College , Annandale, NY B.A. in Mathematics, May 2009	
ACADEMIC VISITS	Max Planck Institute for Mathematics , Bonn, Germany Research Guest, July-November 2018 Isaac Newton Institute , Cambridge, UK Homotopy Harnessing Higher Structures Program Guest, July 2018 (2 weeks) Hausdorff Institute for Mathematics , Bonn, Germany Junior Trimester Program Guest, September-October 2016 University of Copenhagen , Denmark Invited Visitor, August 2013 (2 weeks)	
GRANTS AND AWARDS	Principal Investigator, NSF grant DMS-1709461 “Groups, manifolds, and stable homotopy theory”	2017-0
	Co-Principal Investigator, NSF grant DMS-1619569 “Mid-Atlantic Topology Symposium: New Directions” <i>Conference grant</i>	2016
	AMS-Simons Travel Grant	2015-7
	Lawrence and Josephine Graves Prize, University of Chicago <i>Excellence in undergraduate teaching</i>	2013
	Distinguished Scientist Scholarship, Bard College <i>Full tuition scholarship</i>	2004-9

	M. Susan Richman Senior Project Award in Mathematics, Bard College <i>Senior student exhibiting the most mathematical creativity</i>	2009
	7 other prizes for mathematics, scholarship, and community service, Bard College	2007-9
VOLUMES	New directions in homotopy theory, (co-edited with N. Kitchloo, J. Morava, E. Riehl, W. S. Wilson), <i>Contemporary Mathematics</i> , Volume 707, (2018).	
RESEARCH PUBLICATIONS & PREPRINTS	Equivariant infinite loop space theory II. The multiplicative Segal machine, (with B. Guillou, J.P. May and A. Osorno), arXiv:1711.09183 , submitted.	
	Equivariant infinite loop space theory, I. The space level story, (with J.P. May and A. Osorno), arXiv:1704.03413 , submitted.	
	Equivariant A -theory, (with C. Malkiewich), arXiv:1609.03429 , submitted.	
	Motivic homotopical Galois extensions, (with A. Beaudry, K. Hess, M. Kedziorek, and V. Stojanoska), <i>Topology and its Applications</i> , Volume 235 (2017), 290–338, arXiv:1611.00382 .	
	Categorical models for equivariant classifying spaces, (with B. Guillou and J.P. May), <i>Algebraic and Geometric Topology</i> , 17-5 (2017), pages 2565–2602, arXiv:1201.5178 .	
	Equivariant algebraic K -theory of G -rings, <i>Mathematische Zeitschrift</i> , 285(3), (2017), pages 1205–1248, arXiv:1505.07562 .	
	Unbased calculus for functors to chain complexes, (with M. Basterra, K. Bauer, A. Beaudry, R. Eldred, B. Johnson and S. Yeakel), <i>Contemporary Mathematics</i> , Vol. 641 (2015), pages 29–48, arXiv:1409.1553v2 .	
	Function fields with class number indivisible by a prime l , (with M. Daub, J. Lang, A. Pacelli, N. Pitiwan, M. Rosen), <i>Acta Arithmetica</i> , 150 (2011), pages 339–359, arXiv:0906.3728 .	
	Gassmann equivalent dessins, (with R. Perlis), <i>Communications in Algebra</i> , Vol. 38, Issue 6 (2010), pages 2129–2137.	
(IN PREPARATION)	The equivariant stable parametrized h -cobordism theorem, (with C. Malkiewich)	
	Equivariant infinite loop space theory III. The additive categorical story, (with B. Guillou, J.P. May and A. Osorno)	
	Equivariant infinite loop space theory IV. The multiplicative categorical story, (with B. Guillou, J.P. May and A. Osorno)	
OTHER PUBLICATIONS	G -manifolds and algebraic K -theory, <i>Oberwolfach reports</i> , Report No. 31, (2018), pages 37-40.	
	The User’s Guide Project: Giving Experiential Context to Research Papers, (with C. Malkiewich, D. White, L. Wolcott, and C. Yarnall), <i>Journal of Humanistic Mathematics</i> , Volume 5 Issue 2 (July 2015), pages 186–188.	
TEACHING EXPERIENCE	University of Pennsylvania , Instructor	

Spring 2019 math 619 Algebraic Topology III (graduate)
Spring 2019 math 401 Abstract Algebra

Johns Hopkins University, Instructor

Spring 2018 math 106 Calculus I for biology
Fall 2017 math 727 Topics in Algebraic Topology (graduate)
Fall 2017 math 615 Algebraic Topology I (graduate)

Spring 2017 math 422 Representation Theory
Spring 2017 math 616 Algebraic Topology II (graduate)
Spring 2016 math 422 Representation Theory
Spring 2016 math 401 Advanced Algebra
Fall 2015 math 401 Advanced Algebra
Fall 2015 math 328 Non-Euclidean geometry (inquiry based learning style)
Spring 2015 math 107 Calculus II for biology
Fall 2014 math 328 Non-Euclidean geometry (inquiry based learning style)

University of Chicago, Instructor

Winter 2014 math 176 Geometry IBL (co-taught with John Boller)
Spring 2013 math 112 Studies in mathematics
Winter 2013 math 153 Calculus III
Fall 2012 math 152 Calculus II
Spring 2012 math 112 Studies in mathematics
Winter 2012 math 106 Precalculus II
Fall 2011 math 105 Precalculus I

University of Chicago, College Fellow

Spring 2011 math 256 Basic Algebra III (mentor: Liang Xiao)
Winter 2011 math 255 Basic Algebra II (mentor: Rina Anno)
Fall 2010 math 254 Basic Algebra I (mentor: David Constantine)

Bard College, mathematics tutor

PRESENTATIONS

Conferences and Colloquia

Equivariant and Motivic Homotopy Conference (Homotopy Harnessing Higher Structures Program), Isaac Newton Institute, Cambridge, August 2018

Topologie, Oberwolfach, July 2018

Equivariant Homotopy Theory and K-theory, FU Berlin, June 2018

AMS Sectional Meeting, Special Session on Homotopy Theory, Vanderbilt University, Nashville, April 2018

Tetrahedral Geometry and Topology Seminar, Lancaster, April 2018

AMS Sectional Meeting, Special Session on Homotopy Theory, Ohio State University, Columbus, March 2108

Midwest Topology Seminar, Northwestern, Evanston, March 2018

Colloquium, Florida State University, December 2017

Colloquium, University of Pennsylvania, December 2017

Colloquium, Notre Dame University, December 2017

Colloquium, University of Melbourne, November 2017

Lloyd Roeling Conference, University of Louisiana, Lafayette, November 2017

AMS Sectional Meeting, Special Session on Algebraic Topology, Buffalo, September 2017

Cascade Topology Conference, University of British Columbia, Vancouver, May 2017

Colloquium, Reed, Portland, November 2016

Operations in Highly Structured Homology Theories, Banff, Canada, May 2016

Equivariant Derived Algebraic Geometry, Banff, Canada, February 2016

Faculty talk at Undergraduate Conference on Geometry and Topology, University of Texas, Austin, February 2016

Trace Methods Summer School, Regensburg, August 2015

Equivariant and Motivic Homotopy Theory, Reed, Portland, May 2015

AMW Workshop at AMS Joint Meetings, San Antonio, January 2015

Young Topologists Meeting, Copenhagen, June 2014 (contributed talk)

MSRI Connections for Women Workshop, MSRI, Berkeley, January 2014

AMS Joint Meetings, Special Session on Homotopy Theory, Baltimore, January 2014

AMS Special Session on Homotopy Theory and Algebraic K-theory, Riverside, November 2013

Graduate Student Topology Conference, Notre Dame, April 2013 (contributed talk)

AMS Joint meetings, Washington DC, January 2009 (contributed talk)

AMS Joint meetings, San Diego, January 2008 (contributed talk)

AMS Joint meetings, New Orleans, January 2007 (contributed talk)

Seminars

University of Münster Topology Seminar, November 2018 (upcoming)

University of Copenhagen Topology Seminar, September 2018 (upcoming)

University of Regensburg Topology Seminar, July 2018

Penn State Altoona Topology Seminar, October 2017
Notre Dame Topology Seminar, March 2017
Maryland University Topology Seminar, January 2017
Wayne State Topology Seminar, November 2016
Rochester Topology Seminar, October 2016
Hausdorff Institute for Mathematics Seminar, Bonn, September 2016
University of Virginia Topology Seminar, October 2015
UIUC Topology Seminar, May 2015
UCSD Number Theory/Topology Seminar, March 2015
Johns Hopkins Topology Seminar, March 2015
MIT Topology Seminar, December 2014
Penn State Altoona Topology Seminar, May 2014
Northwestern Topology Seminar, December 2013
UIUC Topology Seminar, February 2013

SERVICE

NSF panelist, topology panel
Founder and organizer, Directed Reading Program, Johns Hopkins, 2017-2018
Future Scholars Program (wrote yearly exam and selected the Baltimore high schoolers who can take math classes at JHU as part of the program), Johns Hopkins, 2016&2017
Volunteer, John Rurah Middle School Math Lab, Baltimore, Spring 2017
Co-organizer, Second Mid-Atlantic Topology Conference, Johns Hopkins, March 2016
Organizer, Johns Hopkins Algebraic Topology Seminar, Johns Hopkins, 2015-present
Co-organizer, Johns Hopkins Algebraic Topology Seminar, Johns Hopkins, 2014-2015
Speaker in the University of Chicago REU, (2 talks on *Social choice and topology*), July 2016
Author and co-editor in *The User's Guide Project: Giving Experiential Context to Research Papers*
Committee member and mentor for the Directed Reading Program, University of Chicago, 2012-2014
Co-organizer, Algebraic K-theory Student Seminar, University of Chicago, spring 2013

LANGUAGES

English, Spanish, German (Abitur 2005), French (proficient in reading), and Romanian (native language).