Curriculum Vitae
Peter Bubenik

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	Gainesville, FL 32611–8105	Date of CV:	January 2018

Education/Employment

2015 –		Associate Professor of Mathematics, University of Florida
2010 – 2015		Associate Professor of Mathematics, Cleveland State University
2005 – 2010		Assistant Professor of Mathematics, Cleveland State University
2003 – 2005		Postdoctoral Fellow, Swiss Federal Institute of Technology at Lausanne (EPFL)
2003	Ph.D.	University of Toronto, Mathematics (advisor: Paul Selick)
1997	M.Sc.	University of Toronto, Mathematics (advisor: Stephen Halperin)
1996	B.Sc	University of Guelph, Guelph, ON, Canada, Mathematics and Physics (with Honors)

Appointments / Visiting positions

2014 – 2017	Founding Director, Applied Algebraic Topology Research Network, funded by the IMA
2007	Scientific Researcher, Fields Institute, Geometric Applications of Homotopy Theory
2006	General Member, MSRI, Computational Applications of Algebraic Topology

Scientific/Academic honors, grants

2017 – 2018	UFII SEED Fund, Robust Hyperspectral Image Analysis via Computational Topology ($40,000)
2013 – 2016	AFOSR Research Award FA9550-13-1-0115, Statistical Inferences from the Topology of Complex Networks ($279,430)
2011 – 2013	CSU Faculty Scholarship Initiative Award ($4,943)
2009	NSF Award DMS-0834140, CBMS Regional Conference in the Mathematical Sciences, Algebraic Topology in Applied Mathematics, ($34,108)
2008 – 2011	CSU Faculty Research Development Program Award, ($9,282)
2000 – 2001	Ontario Graduate Scholarship in Science and Technology ($15,000)
1998 – 2000	NSERC Post-Graduate Scholarship B ($34,800)
1996 – 1998	NSERC Post-Graduate Scholarship A ($31,200)
1992 – 1996	Canada Scholarship ($10,000)

Research interests

Topological data analysis and applied topology. More broadly: topology, statistics, category theory, algebra, algorithms, geometry, machine learning, biology and other applications

Publications (with hyperlinks in electronic version)

Submitted journal articles

3. (with Vic Patrengenaru, Robert L. Paige, and Daniel Osborne) *Topological Data Analysis on Object Spaces*, 12pp.
2. (with Vin de Silva and Jonathan Scott) *Categorification of Gromov-Hausdorff Distance and Interleaving of Functors*, 34pp. arXiv:1707.06288 [math.CT]
1. (with Paul Bendich and Alexander Wagner) *Stabilizing the unstable output of persistent homology computations*, 22pp. arXiv:1512.01700 [cs.CG]

Peer-reviewed research articles

2017 21. (with Vin de Silva and Vidit Nanda) *Higher interpolation and extension of persistence modules*, SIAM Journal on Applied Algebra and Geometry **1** (2017), 272–284. doi:10.1137/16M1100472 arXiv:1603.07406 [math.AT]

20. (with Pawel Dlotko) *A persistence landscapes toolbox for topological statistics*, Journal of Symbolic Computation **78** (2017), 91–114. doi:10.1016/j.jsc.2016.03.009 arXiv:1501.00179 [cs.CG]

2016 19. (with Violeta Kovacev-Nikolic, Dragan Nikolic, and Giseon Heo) *Using persistent homology and dynamical distances to analyze protein binding*, Statistical Applications in Genetics and Molecular Biology **15** (2016) no. 1, 19–38. doi:10.1515/sagmb-2015-0057 arXiv:1412.1394 [stat.ME]

2015 18. (with Vin de Silva and Jonathan Scott) *Metrics for generalized persistence modules*, Foundations of Computational Mathematics **15** (2015), no. 6, 1501–1531. doi:10.1007/s10208-014-9229-5 arXiv:1312.3829 [math.AT]

17. *Statistical topological data analysis using persistence landscapes*, Journal of Machine Learning Research **16** (2015), 77–102. arXiv:1207.6437 [math.AT]

16. (with Jonathan A. Scott) *Categorification of persistent homology*, Discrete and Computational Geometry **51** (2014), no. 3, 600–627. doi:10.1007/s00454-014-9573-x arXiv:1205.3669 [math.AT]

2014 15. (with Yuliy Baryshnikov and Matthew Kahle) *Min-Type Morse Theory for Configuration Spaces of Hard Spheres*, International Mathematical Research Notices **2014** (2014), no. 9, 2577–2592. doi:10.1093/imrn/rnt012 arXiv:1108.3061 [math.AT]

2012 14. *A comment to "A microbiology primer for pyrosequencing"*, Quantitative Bio-Science **31** (2012), no. 2, 85–86.

13. *Simplicial models for concurrency*, Electronic Notes in Theoretical Computer Science **283** (2012), 3–12. doi:10.1016/j.entcs.2012.05.002 arXiv:1011.6599 [cs.DC]

2011 12. (with Leah H. Gold) *Graph products of spheres, associative graded algebras and Hilbert series*, Mathematische Zeitschrift **268** (2011), no. 3–4, 821–836. doi:10.1007/s00209-010-0697-2 arXiv:0901.4493 [math.AT]

2010 11. (with Gunnar Carlsson, Peter T. Kim, and Zhiming Luo) *Statistical topology via Morse theory, persistence, and nonparametric estimation*, Algebraic Methods in Statistics and Probability II, Contemporary Mathematics **516** (2010), 75–92. doi:10.1090/conm/516/10167 arXiv:0908.3668 [math.ST]

2009 10. (with Moo K. Chung and Peter T. Kim) *Persistence diagrams of cortical surface data*, in Information Processing in Medical Imaging 2009, Lecture Notes in Computer Science **5636** (2009), 386–397. doi:10.1007/978-3-642-02498-6_32

9. *Models and van Kampen theorems for directed homotopy theory*, Homology, Homotopy and Applications **11** (2009), no. 1, 185–202. euclid.hha/1251832565 arXiv:0810.4164 [math.AT]

8. *Context for models of concurrency*, Electronic Notes in Theoretical Computer Science **230** (2009), 3–21. doi:10.1016/j.entcs.2009.02.014 arXiv:math/0608733 [math.AT]

2008 7. (with George A. Bubenik) *Palmated antlers of moose may serve as a parabolic reflector of sounds*, European Journal of Wildlife Research **54** (2008), 533–535. doi:10.1007/s10344-007-0165-4

6. *Separated Lie models and the homotopy Lie algebra*, Journal of Pure and Applied Algebra **212** (2008), no. 2, 350–369. doi:10.1016/j.jpaa.2007.05.018 arXiv:math/0406405 [math.AT]

2007 5. (with Peter T. Kim) *A statistical approach to persistent homology*, Homology, Homotopy and Applications **9** (2007), no. 2, 337–362. euclid.hha/1201127341 arXiv:math/0607634 [math.AT]

4. (with John A.R. Holbrook) *Densities for random balanced sampling*, Journal of Multivariate Analysis **98** (2007), no. 2, 350–369. doi:10.1016/j.jmva.2006.01.007 arXiv:math/0608737 [math.ST]

2006 3. (with Krzysztof Worytkiewicz) *A model category for local po-spaces*, Homology, Homotopy and Applications **8** (2006), no. 1, 263–292. doi:10.4310/HHA.2006.v8.n1.a10 arXiv:math/0506352 [math.AT]

2005 2. *Free and semi-inert cell attachments*, Transactions of the American Mathematical Society **357** (2005), no. 11, 4533–4553. doi:10.1090/S0002-9947-05-03989-9 arXiv:math/0312387 [math.AT]

2003 1. *Cell attachments and the homology of loop spaces and differential graded algebras*, Ph.D. thesis, University of Toronto (2003), v+108pp. arXiv:math/0601421 [math.AT]

Conference abstracts (peer-reviewed and/or invited)

2015 3. *Persistent homology and Hilbert spaces*, in *Computational Geometric and Algebraic Topology*, abstracts from 11 October – 17 October 2015, organized by Benjamin Burton, Herbert Edelsbrunner, Jeff Erickson, and Stephan Tillmann. Oberwolfach Report No. 45 (2015), draft 41–43. preliminary_OWR_2015

2008 2. *Statistical persistent homology*, in *Computational Algebraic Topology*, abstracts from June 29th – July 5th, 2008, organized by Gunnar Carlsson and Dmitry Kozlov, Oberwolfach Report No. 29 (2008), 1611–1613. 10.4171/OWR/2008/29

2004 1. *Context for models of concurrency*, in *Proceedings of the Workshop on Geometry and Topology in Concurrency and Distributed Computing*, Amsterdam, The Netherlands, BRICS Notes Series (2004), no. 2 33–49. NS-04-2

Other publications

2003 3. (with Zhi-Ming Luo and Peter T. Kim. *Closed model categories for presheaves of simplicial groupoids and presheaves of 2–groupoids*, 17pp. arXiv:math/0301045 [math.AT]

1997 2. *A quasi-isomorphism for* $\tilde{C}_*(X)$. Master's Thesis, University of Toronto (1997), 9pp.

1994 1. (with J.J. Simpson, A. Frumkin, H. Schwarcz, and D.C. Ford) *U-series dating of speleothems by gamma spectrometry.* Manuscript # $(GWP)^2$-NP94-03, (1994), 5pp.

Lecture series, lectures, and presentations (124 total)

Lecture series

2017 Jan. Mexico City, Mexico, (CIMAT): Topological Data Analysis [12 hours of lectures and workshops]

2016 June Brookings, South Dakota (MAA Summer Seminar): Topological Data Analysis [2 hours of lectures and a 3 hour workshop]

2015 Dec. Queretaro, Mexico (CIMAT): Topological Data Analysis [3 hours of lectures]

—— Feb. Sendai, Japan (Tohoku Univ.): Topological Data Analysis [3 hours of lectures]

Invited (international audience)

2017 Aug. Banff, Canada (BIRS): A pictorial approach to persistent homology

—— July Barcelona, Spain (FoCM 2017): Stabilizing the unstable output of persistent homology computations

—— May Bonn, Germany (HIM): Stabilizing the unstable output of persistent homology computations

—— Jan. Atlanta, GA (AMS National Meeting): An Introduction to Topological Data Analysis

—— Jan. Atlanta, GA (AMS National Meeting): Discovering Geometry using Topological Data Analysis

2016 Nov. Montreal, Canada (CRM): Probabilistic Persistent Homology

—— Sept. Columbus, OH (MBI): Topological analysis of biological data using persistence landscapes

—— July Toronto, Canada (World Congress in Probability and Statistics): An Introduction to Topological Data Analysis

—— May Columbus, OH: Higher Interpolation and Extension for Persistence Modules

—— Apr. Oxford, UK: Topological Data Analysis

2015 Oct. Oberwolfach, Germany: Persistent homology and Hilbert spaces
—— Aug. Victoria, Canada: Topological Data Analysis and Machine Learning
—— June Toronto, Canada (Fields): Topological Data Analysis and Representation Theory
2014 Nov. Copenhagen, Denmark: Statistical Topological Data Analysis
—— Oct. Applied Algebraic Topology Research Network: Statistical Topological Data Analysis
—— Oct. Halifax, Canada: Category theory in Topological Data Analysis
—— May Vancouver, Canada: Generalized persistence modules, stability and generalized factors
—— May Toronto, Canada (Fields): Statistical topological data analysis using persistence landscapes
—— Feb Research Triangle Park, NC (SAMSI): Statistical topological data analysis
2013 July Bedlewo, Poland: Persistent homology, metrics on diagrams and metric space valued functions
—— July Bremen, Germany: Metrics on diagrams and persistent homology
2012 Oct. Banff, Canada (BIRS): Inference using a new topological statistic, the persistence landscape
—— May Columbus, OH (MBI): Toward statistical topology
—— Jan. U. Pennsylvania Applied Topology Seminar: Persistence landscapes and categorification
—— Jan. Boston, MA (AMS National Meeting): Persistent homology and statistical inference
2010 Jan. Aalborg, Denmark: Cubes, simplices, horns and necklaces: concurrency and quasi-categories
2009 Aug. Cleveland State U. (NSF/CBMS): Algebraic topology and statistics
—— Mar. Banff, Canada (BIRS): Persistent homology and nonparametric regression
—— Jan. Washington, DC (AMS National Meeting): Estimating the topology of functions on manifolds
2008 June Oberwolfach, Germany: Statistical persistent homology
2006 Sept. Berkeley, CA (MSRI): A statistical approach to persistent homology
—— May London, Canada (SSC Annual Meeting): A statistical approach to persistent homology
2005 Mar. Montpellier, France: Using context and model categories to define directed homotopies
—— Feb. Ottawa, Canada: Persistent homology and the analysis of high dimensional data (two talks given on behalf of Gunnar Carlsson)
2004 July London, Canada: Towards a model category for local po-spaces

Contributed (international audience)

2008 July Paris, France: Extremal models of concurrent systems, and directed van Kampen theorems
2006 Oct. Berkeley, CA (MSRI): Quillen and concurrency
2005 Feb. Ottawa, Canada: Persistent homology and directional statistics
2004 Oct. Amsterdam, Netherlands: Context for models of concurrency

Invited (domestic audience; not including seminars)

2017 Dec. Brown U. (NSF TRIPODS workshop) Topological Data Analysis for Geometry not Topology
—— Oct. Florida State U. (math colloquium) Topological Data Analysis
—— Feb. U. Florida: Persistent Homology
2014 Nov. Arlington, VA (AFOSR): Statistical Topological Data Analysis
—— June U. Florida (math colloquium): Toplogical Data Analysis
2013 Dec. Arlington, VA (AFOSR): Statistical inferences from the topology of complex networks
—— Feb Ohio State U. (math colloquium): Categorification in applied topology
2012 Feb. Incline Village, NV (DARPA): Categorification of applied topology
2010 Nov. Case Western Reserve U. (math colloquium) Topology, statistics and brain imaging
—— Oct. U. Virginia (stats colloquium): Nonparametric regression for topology, and brain imaging
2008 Oct. Kalamazoo, MI (AMS sectional meeting): An introduction to directed homotopy theory
—— Apr. U. Akron (math colloquium): Directed and concurrent computing
2005 Feb. Cleveland State U. (math colloquium): A mathematical model for concurrent systems
1996 May Winnipeg, Canada: Random balanced samples

Seminars and other specialized topics talks

2017 Sept. U. Florida Topology and Dynamics: Topological spaces of persistence modules (2 talks)
2016 Feb. U. Florida Topology and Dynamics: Interpolation and Extension of Persistence Modules
2016 Feb. U. Florida Topology and Dynamics: Interleaving, Gromov-Hausdorff, and dynamical systems
2015 Sept. U. Florida Comp. Inf. Sci. & Eng. Algorithms and Theory: Learning the shape of data
—— Sept. U. Florida Topology and Dynamics: Persistent homology (2 talks)
2014 Fall Cleveland State U. Topology-Geometry-Algebra: Representations and persistence (5 talks)
—— Spr. Cleveland State U. Topology-Geometry-Algebra: Random simplicial complexes (3 talks)
2013 Nov. Ohio State U. Topology, Geometry, Data: A central limit theorem for topology
—— Nov. IAS/Penn/Rutgers Workshop on Topology: A central limit theorem for topology
—— Spr. Cleveland State U. Topology-Geometry-Algebra: Polynomial differential forms (5 talks)
2011 Spr. Cleveland State U. Topology-Geometry-Algebra: Discrete Morse Theory (6 talks)
2010 Feb. Ohio State U. Geometry Topology Data: Assembling geometric data, statistics & topology
2009 Apr. Penn State U. Altoona Topology: Directed homotopy theory
—— Apr. Wayne State U. Topology: Directed homotopy theory
2008 Nov. Duke U. Probability: Estimating the topology of functions on manifolds from noisy samples
—— Nov. U. Oregon Topology: An introduction to directed homotopy theory
—— Mar. John Carroll U. Geometry/Topology: Directed van Kampen theorems (2 talks)
2007 Nov. John Carroll U. Geometry/Topology: Directed topology and concurrent systems (2 talks)
—— Aug. U. Guelph Mathematics and Computer Science: A mathematical model for parallel computing
2005 Oct. John Carroll U. Geometry/Topology: The geometry and topology of point cloud data
—— May EPFL Statistics: A statistical approach to algebraic topology
—— Feb. Stanford U. Applied Topology: A statistical approach to persistent homology
2004 Nov. U. Guelph Mathematics: A mathematical model for concurrent systems

Outreach talks, panels, and other presentations

2017 Mar. U. Florida Graduate Mathematics Association Colloquium: Geometry, Algebra, Topology and Data
—— Jan. National Intelligence University, Advanced Data Analytics Curriculum Development Workshop
2015 Sept. U. Florida Graduate Mathematics Association Colloquium: Topological Data Analysis
2014 July NASA Glenn Research Center (Summer intern seminar): An introduction to computational topology and topological data analysis
2012 Feb. Cleveland State U. Undergraduate Student Seminar: Surfaces using paper, scissors and tape
2011 Mar. Cleveland State U. Undergraduate Student Seminar: Hands-on knot theory
2010 Sept. Cleveland State U. Undergraduate Student Seminar: Hands-on knot theory

Organizing activities (conferences, meetings, etc.)

2018 Aug. Organizer (with Ryan Budney and Michael Lesnick): CMO/BIRS workshop on Multiparameter Persistent Homology at Casa Matematica Oaxaca (CMO), Mexico.
2018 June Scientific Committee Member (with Ulrich Bauer, Paul Bendich, Benjamin Burton, Tamal Dey, Michael Lesnick, Frank Lutz, and Amit Patel): Algebraic Topology: Methods, Computation and Science, IST Austria.
2018 May Scientific Committee (with Larry Wasserman): TRIPODS Center Workshop on Theory and Foundations of Topology Geometry and Data Analysis, Columbus, OH.
2017 Feb. Organizer (with Phil Boyland): UF/FSU Topology and Dynamics Conference, Gainesville, FL
2017 Jan. Organizer: Applied Algebraic Topology Research Network Seminar Series (6 speakers)
2016 Sept. Organizer: Applied Algebraic Topology Research Network Seminar Series (6 speakers)

2016 Jul. Scientific Committee Member (with Omer Bobrowski, Jacek Brodzki, Massimo Ferri, Elizabeth Munch, Giovanni Petri, Radmila Sazdanovic, Francesco Vaccarino, and Dhandapani Yogeshwaran): Conference on Applied Topology: Computation, Methods, and Science, Turin, Italy
2016 Jan. Organizer: Applied Algebraic Topology Research Network Seminar Series (8 speakers)
2015 Oct. Organizer: Applied Algebraic Topology Research Network Seminar Series (5 speakers)
2015 Jan. Organizer: Applied Algebraic Topology Research Network Seminar Series (12 speakers)
2014 Sept. Organizer: Applied Algebraic Topology Research Network Seminar Series (9 speakers)
2013 Aug. Organizer (with Dmitriy Morozov and Mikael Vejdemo Johansson): SIAM Mini-symposium on Applied and Computational Topology at the Conference on Applied Algebraic Geometry, Fort Collins, CO
2012 Oct. Lead Organizer (with Matthew Kahle): Special Session on Applied Topology at the AMS Sectional Meeting, Akron, OH
2009 Aug. Lead Organizer (with John Oprea): NSF/CBMS conference on Algebraic Topology in Applied Mathematics at Cleveland State University

NSF DMS-0834140: $34,108 (lead PI)

2009 Mar. Lead Organizer (with Gunnar Carlsson and Peter T. Kim): BIRS Workshop on Data Analysis using Computational Topology & Geometric Statistics at Banff, Canada

Editorial activities

2016 – Associate Editor, SIAM Journal on Applied Algebra and Geometry (SIAGA)

Referee and review activities

Journals refereed (38 total)

Algebraic and Geometric Topology
Annals of Applied Statistics
Applicable Algebra in Engineering, Communication and Computing
Bernoulli Journal
Bulletin of Mathematical Biology
Discrete and Computational Geometry
European Journal of Applied Mathematics
Foundations of Computational Mathematics
Glasgow Mathematical Journal
Homology, Homotopy and Applications
IEEE Transactions on Network Science and Engineering
Inverse Problems
Journal of Applied and Computational Topology
Journal of Computational Geometry
Journal of Homotopy and Related Structures
Journal of Mathematics and Music
Journal of Multivariate Analysis
Journal of Pure and Applied Algebra
Mathematical Methods in the Applied Sciences
Physica D
Proceedings of the American Mathematical Society
Proceedings of the National Academy of Sciences
Theoretical Computer Science
Theory and Applications of Categories
Topological Methods in Nonlinear Analysis
Topology Proceedings

Conferences refereed

Algebraic Topology: Computation, Methods and Science (ATMCS)
Symposium on Computational Geometry (SOCG)

Granting agencies refereed

Air Force Office of Scientific Research (AFOSR)
Banff International Research Station (BIRS)
Department of Energy (DOE)
National Science Foundation (NSF)
National Sciences and Engineering Research Council of Canada (NSERC)

Books refereed

Cambridge University Press
Springer, SpringerBriefs in Mathematics

Miscellaneous review activities

- External M.Sc. thesis review (for Violeta Kovacev-Nikolic, student of Giseon Heo, University of Alberta, 2012)
- *AMS Mathematical Reviews* reviewer (25 reviews)

Teaching activities

Course development at Florida

2017	Special Topics in Mathematics: Topological Data Analysis (MAT 4930) I developed a new course to introduce our undergraduate students to topology and how it can be used in applications, and also to introduce some of the most important tools in modern data science.
2017	Advanced Topics in Topology 2 (MAT 6932) I have developed a course to introduce our graduate students to some powerful mathematical tools for organizing mathematical structures and computations: category theory, homological algebra and spectral sequences.
2016	Advanced Topics in Topology (MTG 7396) I have developed a course to introduce our graduate students to new areas of current research in topology and their connections with other ares of mathematics and the sciences.

Course development at Cleveland State

2015	Special Topics in Mathematics – Topology (MTH 493/593) I developed a new course in Topological Data Analysis, accessible to students without prior knowledge of topology, in which they spent half of their class time in a computer lab learning to use Matlab to analyze data with topological tools.
2008–2013	Real Analysis (MTH 381 and MTH 415/515) This course had not been taught in many years. I redeveloped it and led the creation of a new cross-listed course accessible to undergraduate and graduate students to help ensure its viability.

Courses taught at Florida

2018	Spring	Elements of/Introduction to Topology 2 (MTG 4303/5317)
2017	Fall	Elements of/Introduction to Topology 1 (MTG 4302/5316)
2017	Fall	Special Topics – Topological Data Analysis (MAT 4930)
2017	Spring	Advanced Topics in Topology 2 (MAT 6932)
2016	Fall	Advanced Topics in Topology (MTG 7396)

2016 Spring Topology 2 (MTG 6347)
2015 Fall Topology 1 (MTG 6346)

Courses taught at Cleveland State

2015 Spring Special Topics in Mathematics – Topology (MTH 493/593)
2014 Spring Calculus 2 (MTH 182)
2013 Fall Real Analysis (MTH 415/515)
2013 Spring Junior Seminar (MTH 396)
2013 Spring Calculus 1 (MTH 181)
2012 Fall Linear Algebra/Functions of Several Variables (MTH 514)
2012 Fall Calculus 1 (MTH 181)
2011 Summer Calculus 1 (MTH 181)
2011 Summer Precalculus 1 (MTH 167)
2011 Spring Calculus 1 (MTH 181)
2011 Spring Precalculus 2 (MTH 168)
2010 Fall Special Topics - Topology (MTH 493/593)
2010 Fall Statistical Methods (MTH 323)
2010 Spring Junior Seminar (MTH 396
2010 Spring Precalculus 2 (MTH 168)
2009 Fall Geometry (MTH 333)
2009 Fall Multivariable Calculus (MTH 281)
2009 Spring Differential Geometry (MTH 434/534)
2009 Spring Junior Seminar (MTH 396)
2009 Spring Precalculus 1 (MTH 167)
2008 Fall Honors Calculus 2 (MTH 182H)
2008 Spring Analysis (MTH 381)
2008 Spring Honors Calculus 2 (MTH 182H)
2007 Fall Geometry (MTH 333)
2007 Fall Honors Calculus 2 (MTH 182H)
2007 Spring Geometry (MTH 333)
2007 Spring Honors Calculus 2 (MTH 182H)
2006 Spring Honors Calculus 2 (MTH 182H)
2006 Spring Calculus 2 (MTH 182)
2005 Fall Calculus 1 (MTH 181)

Courses taught at Toronto

2001 Fall Calculus 1 (MAT 186)

Seminars organized at Florida

2016 Spring Student Applied Topology Seminar: I started this new weekly seminar in which eight students gave talks.

Mentoring activities

Postdocs mentored at Florida

2016– Michael Catanzaro

Ph.D. students advised at Florida

2016– Alexander Wagner

2016– Leo Betthauser
2016– Parker Edwards
2017– Nikola Milicevic
2017– Alexander Elcheson
2017– Dhruv Patel

Visiting Researchers at Florida

2016–2017 Tane Vergili (Ege University, İzmir, Turkey)

Graduate student independent study supervised at Florida

2016 Nicolas Sizemore: Representation Theory of Quivers
2016 Leo Betthauser: Persistence Theory
2015 Alexander Gruber: Persistence Landscapes

Masters students advised at Cleveland State

2013–2014 Luo Yixi: Persistent homology of random polynomials
2011–2012 Brian Feister: Topology, geometry and brain imaging

Visiting Masters students mentored

2013–2014 Coralie Spahn (EPFL, Switzerland; at Cleveland State)

Undergraduate students supervised at Florida

2016– Samuel Rizzo
2016–2017 Dhruv Patel: Persistent Homology and Curvature
2015– Benjamin Whittle: Persistent Homology and Curvature

Undergraduate students supervised at Cleveland State

2014 Zachary McCarthy: Color theory and matrix groups
2014 Kelton Anderson: Knot theory
2013–2014 Matthew McDonald: Moiré patterns
2010–2011 Arlist Hunter: Complex analysis
2010–2011 Eden Kovacik: Knot theory
2010–2011 Daniel Limeer: Probability theory and graphs

University service

University committees at Cleveland State

2012 – 2014 College Budget and Planning
2011 – 2014 University Research Council
2010 – 2014 Graduate Council

Departmental service

Departmental committees at Florida

2017 – Faculty Search Committee
2017 – Steering (Speaker)
2016 Steering
2016 – Hiring Plan

2015 – Colloquium, Conferences, Visitors & Travel
2015 – PhD Topology Exam
2015 – First-Year Topology Exam

Departmental committees at Cleveland State

2013 – 2014 Appointments (chair)
2013 – 2014 Graduate Program
2010 – 2011 Appointments (chair)
2010 – 2011 Graduate Program
2009 – 2010 Graduate Program (chair)
2009 – 2010 Colloquium (chair)
2007 – 2011 Appointments
2007 – 2010 Undergraduate Advising
2007 – 2010 Library
2007 – 2008 Computer Needs and Math Lab
2005 – 2006 Graduate Program

Departmental committees at Toronto

2000 – 2001 Graduate
1998 – 1999 Graduate

Dissertation committees

Alexander Gruber (in progress, Florida, Mathematics)
Lacey Johnson (in progress, Florida, Mathematics)
Joshua Hiller (2017, Florida, Mathematics)
Ryan Madden (2016, Cleveland State, Mechanical Engineering)

Publicity

Publicity at Florida

2016 Feb. Article in the Feb/Mar 2016 issue of the MAA Focus magazine advertising the MAA Summer School for which I was the keynote speaker.

Publicity at Cleveland State

2014 Mar. Article in Engaged, CSU eDigest, on my persistence landscape.
2014 Apr. CSU Office of Research: Featured Researcher video
2013 Apr. Cleveland Stater: Front page article on AFOSR grant
2013 Mar. Engaged, CSU blog: Article on geometry of complex data
2008 Mar. Plain Dealer (Cleveland daily): Front page article on antlers and sound
2008 Mar. NPR/CBC As it happens: National broadcast on antlers and sound
2008 Mar. Ottawa Citizen (daily newspaper): Article on antlers and sound
2008 Mar. National Post (Canadian daily): Article on antlers and sound
2008 Mar. The Guardian: Article on antlers and sound
2008 Mar. The Independent: Article on antlers and sound
2008 Mar. BBC: Article on antlers and sound