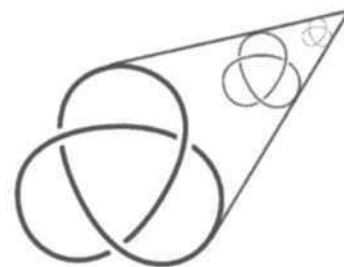


Greg Friedman

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<http://faculty.tcu.edu/gfriedman>
Updated May 14, 2021



RESEARCH AREAS: Geometric and algebraic topology, particularly stratified spaces, intersection homology theory, stratified knot theory, and disk knot theory

RESEARCH AND TEACHING APPOINTMENTS

Department of Mathematics, Texas Christian University, Fort Worth, TX

Assistant Professor: 7/05-4/10

Associate Professor (tenured): 4/10-4/16

Professor (tenured): 4/16-present

Graduate Faculty: 7/05-present

Past courses taught: Elementary Statistics (4x), Precalculus with Trigonometry, Applied Calculus (2x), Calculus I (7x), Calculus II (6x), Calculus III (6x), Differential Equations (9x), Discrete Mathematics I (3x), Discrete Mathematics II (2x), Statistics (3x), Survey of Mathematical Problems I, Topology of Spaces and Knots, Abstract Algebra I (3x), Abstract Algebra II (2x), Complex Analysis, Algebraic Topology I (2x), Algebraic Topology II, Topology (independent study), Topics in Algebraic Topology, Advanced Topics in Algebraic Topology (2x), Dissertation Research

Department of Mathematics, Vanderbilt University, Nashville, TN

NSF-RTG Assistant Professor (non-tenure-track): 7/05 -7/06

Courses Taught: Linear Algebra, Introduction to Abstract Algebra

Department of Mathematics, Yale University, New Haven, CT

Gibbs Assistant Professor (non-tenure-track): 6/04-7/05

NSF VIGRE/Gibbs Instructor (non-tenure-track): 5/01-6/04

Courses Taught: Calculus of Functions of One Variable II; Calculus of Functions of Several Variables; Vector Calculus and Linear Algebra (two semesters, three times each); Introduction to Complex Analysis; Intersection Homology and Related Topics (graduate course)

Organizer and Lecturer: Yale University 2003 Summer Topology Seminar

Creator and Organizer: Yale University Graduate Student Summer Mathematics Colloquium

Courant Institute of Mathematical Sciences, New York University, New York, NY

Graduate Assistant: 9/96-7/01

Courses Taught: Calculus I (twice), Mathematical Thinking, Business Calculus, Discrete Mathematics

Teaching Assistant: Calculus II (twice), Pre-calculus (twice), Business Calculus, Advanced Calculus (graduate)

Morse Academic Plan of the College of Arts and Sciences, New York University, New York, NY

Preceptor: 9/00-12/00

Laboratory Instructor: Quantitative Reasoning - Math and the Computer

Stevens Institute of Technology, Hoboken, NJ

Instructor - Stevens Technical Enrichment Program: 6/99-7/99

Courses taught: Calculus

NSF-Research Experience for Undergraduates at Indiana University, Bloomington, IN

Researcher: Summer, 1995

Research Project: "Wavelets and their applications to the approximation of simple functions and data using Mathematica" (advisor: Prof. Joseph Stampfli)

VISITING POSITIONS

Departments of Mathematics, Université Lille 1 and Université Artois, France

Visitor: 5/19/13-5/25/13 (Lille), 5/25/13-5/31/13 (Artois-Lens)

Course taught: An introduction to intersection homology (10 hrs)

Einstein Institute of Mathematics, Hebrew University, Jerusalem, Israel

Visitor: 6/05

EDUCATION

Courant Institute of Mathematical Sciences, New York University, New York, NY

Ph.D. - Mathematics, 5/01 - MS - Mathematics, 9/98

4.0/4.0 GPA

Dissertation: "Polynomial invariants of non-locally-flat knots" (advisor: Prof. Sylvain Cappell)

Honors: Perfect Score on Written Comprehensive Examination

Brown University, Providence, RI

Sc.B. Magna Cum Laude - Mathematics and Math-Physics (each with honors), 5/96

3.97/4.0 GPA

PH.D. STUDENTS

Kyle Matthews, Ph.D. 2016, *Universal Poincaré Duality for Branched and Partial Coverings of Pseudomanifolds*

HONORS AND AWARDS

- TCU Deans' Award for Research and Creativity, 2020
- David Howell Premium for Outstanding Achievement in Mathematics, Brown University, 5/96
- Phi Beta Kappa Honor Society, 4/96 (elected)
- Sigma Xi Science Honor Society, 4/96 (elected)
- Valedictorian, Madison Central High School, Old Bridge, NJ, 6/92
- Star Ledger Scholar for Middlesex County – 1992

PROFESSIONAL AFFILIATIONS

American Mathematical Society – member since 1997

PUBLICATIONS (All papers available at <http://faculty.tcu.edu/gfriedman>)

- Greg Friedman, Topological invariance of torsion sensitive intersection homology, submitted
- Greg Friedman, Two short proofs of the topological invariance of intersection homology, to appear in **Proceedings of the 16th International Workshop on Real and Complex Singularities**
- Greg Friedman, **Singular Intersection Homology**, New Mathematical Monographs Vol. 33, Cambridge University Press, 2020, 298+xxiii pages
- Greg Friedman and James E. McClure, *Intersection homology duality and pairings: singular, PL, and sheaf-theoretic*, to appear in **Algebraic and Geometric Topology**
- Greg Friedman, *Generalizations of intersection homology and perverse sheaves with duality over the integers*, **Michigan Mathematical Journal** 68 (2019), 675-726
- Greg Friedman, *The chain-level intersection pairing for PL pseudomanifolds revisited*, **Journal of Singularities** 17 (2018), 330-367

- Greg Friedman and Efton Park, *Unitary equivalence of normal matrices over topological spaces*, **Journal of Topology and Analysis** 8 (2016), 313-348
- Greg Friedman, *Stratified and unstratified bordism of pseudomanifolds*, **Topology and Its Applications** 194 (2015), 51-92
- Robert S. Doran, Greg Friedman, and Scott Nollet (editors), **Hodge Theory, Complex Geometry, and Representation Theory**, Contemporary Mathematics Vol. 608, American Mathematical Society, 2014
- Greg Friedman and James McClure, *The symmetric signature of a Witt space* – **Journal of Topology and Analysis** 5 (2013), 121-159
- Greg Friedman and James McClure, *Cup and cap product in intersection (co)homology* – **Advances in Mathematics** 240 (2013), 383-426
- Greg Friedman and Eugénie Hunsicker, *Additivity and non-additivity for perverse signatures* – **Journal für die reine und angewandte Mathematik (Crelle's Journal)** 676 (2013), 51-95
- Greg Friedman, *K-Witt bordism in characteristic 2*, **Archiv der Mathematik** 100 (2013), 381-387
- Greg Friedman, *Corrigendum to "Intersection homology with field coefficients: K-Witt spaces and K-Witt bordism"*, **Communications on Pure and Applied Mathematics** 65 (2012), 1639-1640
- Greg Friedman, *An elementary illustrated introduction to simplicial sets*, **Rocky Mountain Journal of Mathematics** 42 (2012), 353-424
- Greg Friedman, Eugénie Hunsicker, Anatoly Libgober, Laurentiu Maxim (editors), **Topology of Stratified Spaces**, Mathematical Sciences Research Institute Publications 58, Cambridge University Press 2011
- Greg Friedman, *An introduction to intersection homology with general perversity functions*, in **Topology of Stratified Spaces**, Greg Friedman, Eugénie Hunsicker, Anatoly Libgober, Laurentiu Maxim (editors), Mathematical Sciences Research Institute Publications 58, Cambridge University Press 2011, 177-222
- Robert Doran, Greg Friedman, and Jonathan Rosenberg (editors), **Superstrings, Geometry, Topology, and C* Algebras**, Proceedings of Symposia in Pure Mathematics 81, Providence: American Mathematical Society, 2010
- Greg Friedman, *Intersection homology with general perversities*, **Geometriae Dedicata** 148 (2010), 103-135
- Greg Friedman, *Intersection homology with field coefficients: K-Witt spaces and K-Witt bordism*, **Communications on Pure and Applied Mathematics** 62 (2009), 1265-1292
- Greg Friedman, *On the chain-level intersection pairing for PL pseudomanifolds*, **Homology, Homotopy and Applications** 11 (2009), 261-314
- Greg Friedman, *Intersection homology and Poincare duality on homotopically stratified spaces*, **Geometry and Topology** 13 (2009), 2163-2204
- Greg Friedman, *Intersection homology Künneth theorems*, **Mathematische Annalen** 343 (2009), 371-395
- Greg Friedman, *Cobordism of disk knots*, **Israel Journal of Mathematics** 163 (2008), 139-188
- Greg Friedman, *Intersection homology of stratified fibrations and neighborhoods*, **Advances in Mathematics** 215 (2007), 24-65
- Greg Friedman, *There exist non-trivial PL knots whose complements are homotopy circles*, **Fundamenta Mathematicae** 193 (2007), 1-6
- Greg Friedman and Gil Kalai, *A multiperversity generalization of intersection homology*, **Pure and Applied Mathematics Quarterly** 3 (2007), Special Issue: In honor of Robert MacPherson, Part 3 of 3, 205-224
- Greg Friedman, *Singular chain intersection homology for traditional and super-perversities*, **Transactions of the American Mathematical Society** 359 (2007), 1977-2019.
- Greg Friedman, *Superperverse intersection cohomology: stratification (in)dependence*, **Mathematische Zeitschrift** 252 (2006), 49-70
- Greg Friedman, *Spinning constructions for higher-dimensional knots*, Chapter 4 of the **Handbook of Knot Theory** (Menasco and Thistlethwaite eds.), Amsterdam: Elsevier, 2005
- Greg Friedman, *Intersection homology of regular and cylindrical neighborhoods*, **Topology and Its Applications** 149 (2005), 97-148
- Greg Friedman, *Groups of locally-flat disk knots and non-locally-flat sphere knots*, **Journal of Knot Theory and Its Ramifications** 14 (2005), 189-215
- Greg Friedman, *Intersection Alexander polynomials*, **Topology** 43 (2004), 71-117
- Greg Friedman, *All frame-spun knots are slice*, **Proceedings of the American Mathematical Society** 132 (2004), 3103-3109
- Markus Banagl and Greg Friedman, *Triangulations of 3-dimensional pseudomanifolds with an application to state-sum invariants*, **Algebraic and Geometric Topology** 4 (2004), 521-542
- Greg Friedman, *Alexander polynomials of non-locally-flat knots*, **Indiana University Mathematics Journal** 52 (2003), 1479-1578
- Greg Friedman, *Stratified fibrations and the intersection homology of the regular neighborhoods of bottom strata*, **Topology and Its Applications** 134 (2003), 69-109

SELECTED TALKS

- Spring Topology and Dynamics Conference – Online – 5/21
- TCU Silver Frogs Lifelong Learning Institute lecture course – Fort Worth, TX – 10/19
- Geometric Topology Workshop – Milwaukee, WI – 5/19
- Geometric Topology Workshop – Grand Rapids, MI – 6/18
- Workshop on Noncommutative geometry and index theory for group actions and singular spaces – College Station, TX – 05/18
- Topology Day – University of Colorado – Boulder, CO – 2/18
- Topology Seminar – Texas State University – San Marcos, TX – 10/17
- Geometric Topology Workshop – Provo, UT – 6/17
- Topology and Dynamical Systems Seminar – University of Texas at Dallas – Richardson, TX – 4/17
- Spring Topology and Dynamics Conference – Jersey City, NJ – 3/17
- Five-hour mini-course at the Topology, Stratified Spaces and Particle Physics Summer School as part of the Focus Program on Topology, Stratified Spaces and Particle Physics at The Fields Institute for Research in Mathematical Sciences – Toronto, Canada – 8/16
- Geometric Topology Workshop – Colorado Springs, CO – 6/16
- Mathematics Colloquium at Sam Houston State University – Huntsville, TX – 4/16
- Mathematics Seminar at Université du Québec à Montréal– Montreal, Canada – 4/16
- Spring Topology and Dynamics Conference – Waco, TX – 3/16
- Silver Frogs Lecture Course – Fort Worth, TX – 3/16
- Spring Topology and Dynamics Conference – Bowling Green, OH – 5/15
- Knot Theory and Its Applications to Physics and Quantum Computing – Richardson, TX – 1/15
- Public lecture in TCU’s Faculty Favorite Lecture Series on “The 85 Ways to Tie a Tie” - 10/15/14
- Geometric Topology Workshop – Milwaukee, WI – 6/14
- Geometric Topology Workshop – Grand Rapids, MI – 6/13
- Ten-hour Course on Intersection Homology – Lille, France – 5/13
- Geometric Topology Workshop – Corvallis, OR – 6/12
- Topology Seminar – University of Oregon – Eugene, OR – 5/12
- Geometry and Topology Seminar - University of Wisconsin, Madison - Madison, WI – 4/12
- Stratified Spaces: Joining Analysis, Topology and Geometry – Oberwolfach, Germany – 12/11 (joint work presented by collaborator while in attendance)
- Public lecture in the TCU Department of Mathematics on The 85 Ways to Tie a Tie - 10/11
- Topology and Analysis in Interaction – Cortona, Italy – 6/11
- Geometric Topology Workshop – Park City, UT – 5/11
- Spring Topology and Dynamical Systems Conference – Tyler, TX - 3/11
- Dartmouth College Topology Seminar – Hanover, NH - 12/10
- Dartmouth College Mathematics Colloquium – Hanover, NH – 12/10
- Geometric Topology Workshop – Colorado Springs, CO - 6/10
- Purdue University Topology Seminar – West Lafayette, IN - 4/10
- Midwest Topology Seminar – West Lafayette, IN – 2/09
- NSF-CBMS Conference on Knots and Topological Quantum Computing - Edmond, OK - 7/08
- Singularities in Geometry and Topology in honor of the 60th birthday of Sylvain Cappell – New York, NY - 3/08
- Rice University Topology Seminar - Houston, TX - 11/07
- Spring Topology and Dynamics Conference - Rolla, MO - 3/07
- Texas Geometry and Topology Conference - Fort Worth, TX - 3/07
- Purdue University Topology Seminar – West Lafayette, IN - 10/06
- Frank Stone Research Lecture at TCU – Fort Worth, TX - 9/06
- Courant Institute of Mathematical Sciences at NYU - New York, NY - 4/06
- Vanderbilt University Math Club - Nashville, TN - 3/06
- Union College Mathematics Conference - Schenectady, NY - 12/05, 11/03
- Vanderbilt University Topology and Group Theory Seminar - Nashville, TN - 12/05, 11/05, 10/05, 11/04, 12/03
- Tennessee State University Mathematics Seminar - Nashville, TN - 11/05
- Hebrew University Topology Seminar - Jerusalem, Israel - 6/05
- Bowdoin College Mathematics Seminar - Brunswick, ME - 4/05
- Conference on "Submanifolds, Singular Varieties, and Stratified Spaces" - New York, NY - 3/05
- University of Waterloo Mathematics Colloquium - Waterloo, Ontario, Canada - 2/05
- North Dakota State University Mathematics Colloquium - Fargo, ND - 2/05
- Cleveland State University Mathematics Colloquium - Cleveland, OH - 2/05

- United States Naval Academy Mathematics Colloquium - Annapolis, MD - 2/05
- Texas Christian University Mathematics Colloquium - Fort Worth, TX - 2/05
- Vanderbilt University Mathematics Colloquium - Nashville, TN - 1/05
- Yale University Topology Seminar - New Haven, CT - 9/04, 9/03, 10/02, 11/01, 10/01
- Lehigh Geometry/Topology Conference - Bethlehem, PA - 6/03 and 6/04
- Valley Geometry Seminar - University of Massachusetts - Amherst, MA - 4/04
- Wesleyan University Topology Seminar - Middletown, CT - 4/04
- Workshop on Topology of Manifolds and Homotopy Theory - Banff International Research Station, Banff, Canada - 3/04
- Kansas State University Mathematics Colloquium - Manhattan, KS - 12/03
- Northeastern University Geometry-Algebra-Singularities-Combinatorics Seminar - Boston, MA - 11/03
- AMS Special Session on Singularities of Complex Hypersurfaces - New York, NY - 5/03
- Brandeis University Topology Seminar - Waltham, MA - 4/02
- University of Wisconsin Topology Seminar - Madison, WI - 3/02
- Workshop on Topology of Manifolds and Group Actions - Centre de Recherches Mathématiques, Montréal, Quebec, Canada - 8/01

GRANT SUPPORT

- TCU Research and Creative Activities Fund (RCAF) grant, Manifold Algebras via Intersections, \$4500, 2020-2021
- Proposal (with Markus Banagl, Robert Young, and Shmuel Weinberger) accepted by Simons Foundation to fund and host Singularities: Geometric, Topological, and Analytic Aspects - a conference in honor of Sylvain Cappell on his 70th birthday, held at the Simons Foundation, New York, NY, in August 13-17, 2018
- NSF Grant DMS-1764311 (with Craig Guilbault, Molly Moran, Nathan Sunukjian, Eric Swenson) for Workshops in Geometric Topology, \$50,000, 2018-2021
- NSF Grant DMS-1741730 (with Jose Carrion, Eric Hanson, Scott Nollet, Efton Park) for NSF/CBMS Regional Conference in the Mathematical Sciences on Applications of Polynomial Systems, June 4-8, 2018, Fort Worth, TX, \$35,000
- NSF Grant DMS-1461385 (with Craig Guilbault, Eric Swenson, Fred Tinsley, and Gerard Venema) for Workshops in Geometric Topology, \$50,166, 2015-2018
- TCU Research Leave – Fall, 2014
- NSF Grant DMS-1308306: Homological Invariants of Manifolds and Stratified Spaces, \$165,000, 2013-2016 (extended to 2017)
- NSF Grant DMS-1137952 (with Bob Doran and Scott Nollet) for NSF/CBMS Regional Conference in the Mathematical Sciences on Hodge Theory, Complex Geometry, and Representation Theory, June 18-22, 2012, Fort Worth, TX, \$34,997
- Simons Foundation: Mathematics Collaboration Grant, Topology of Stratified Spaces, \$35,000, 2011-2016
- NSF Grant DMS-0735233 (with Bob Doran) for NSF/CBMS Conference on Topology, C* Algebras, and String Theory, May 18-22, 2009, Fort Worth, TX, \$33,088
- MSRI Award (with Eugénie Hunsicker, Anatoly Libgober, and Laurentiu Maxim) for Workshop on the Topology of Stratified Spaces, September 8-12, 2008, Berkeley, CA
- NSF-RTG Assistant Professorship at Vanderbilt University: 7/05 -7/06
- NSF VIGRE Instructorship at Yale University: 5/01-6/04

PROFESSIONAL CONSULTING ACTIVITIES

- Panelist for review of National Science Foundation (NSF) grant proposals submitted to the Division of Mathematical Sciences (2014)
- Calculus textbook consultant for Cengage publishing (2012)
- Figure proofreader for Briggs-Cochran calculus book for Pearson publishing (2009)
- Chapter class-tester for Briggs-Cochran calculus book for Pearson publishing (2009)
- Editor and proofreader for **Algorithms in Real Algebraic Geometry** by Saugata Basu, Richard Pollack, and Marie-Francoise Roy, Springer, Berlin (2003)
- Textbook Reviewer - **Multivariable Mathematics** by Theodore Shifrin, John Wiley & Sons, Inc.

SELECTED ACADEMIC PROFESSIONAL ACTIVITIES

Ongoing

- Chair, TCU Department of Mathematics – 2019-present
- TCU Chairs Council – 2018-present
- TCU Pi Mu Epsilon Honor Society advisor – 2020-present
- Steering Committee Member (elected) – Spring Topology and Dynamics Conference - 2012-present (3 terms)
- Organizing Committee Member – Geometric Topology Workshops - 2014-present
- TCU Faculty Senator - 2008 – present (four terms)
- Administrative Secretary of the TCU Faculty Senate (previously called Assistant Secretary) – 2016-present
- TCU Academic Appeals Committee – 2007-2010, 2012-present
- Chair TCU Academic Appeals Committee – 2015-present
- Ph.D. Advisory Committee member for Douglas Wagner – 2017-present
- Undergraduate Summer Advising for new Math Students – 2020-present
- TCU undergraduate student advisor - 2008 - present
- TCU Mathematics Graduate Program Preliminary Exam Committee – 2010-present
- TCU Mathematics Graduate Program Committee – 2009-present
- Participant/Organizer -Metroplex Geometry and Geometric Analysis Seminar - 2006- present
- Vice President – Phi Beta Kappa – 2016-present
- Guide - Phi Beta Kappa initiation ceremony – 2013-present
- Phi Beta Kappa Membership Committee at TCU - 2007- present
- TCU Department of Mathematics student exit survey interviewer – 2012-present

Completed

- Dean's ad hoc Deans' Award nominee committee – Spring 2021
- Selection Committee member for Jim Bolen Math Competition scholarship – 2019, 2020
- Committee member for TCU Honors Thesis in Chemistry, Spring 2020
- Mathematics Judge - Fort Worth Regional Science and Engineering Fair – 2009-2021 (category chair 2011, 2012, 2018, 2020)
- Reviewer – Math Reviews (42 article reviews, one book review)
- Reviewer – Zentralblatt MATH (two article reviews)
- Journal referee – Manuscripta Mathematica, Theory and Applications of Categories; SIGMA; Journal of Singularities; Journal of Topology and Analysis; Topology Proceedings (twice); New York Journal of Mathematics; Journal of the Mathematical Society of Japan; Proceedings of the American Mathematical Society; Proceedings of the Royal Society of Edinburgh (Series A); Geometry & Topology; Selecta Mathematica; Monatshefte für Mathematik; Mathematics; Algebraic and Geometric Topology; Advances in Mathematics; Journal für die reine und angewandte Mathematik (Crelle's Journal); MAA Monthly; Geometriae Dedicata; Journal of Singularities; Lecture Notes in Mathematics; Proceedings of the Workshop on the Topology of Stratified Spaces; Homology, Homotopy and Applications; Journal of Knot Theory and Its Ramifications; Algebraic and Geometric Topology (twice); Illinois Journal of Mathematics (twice); Topology and Its Applications (twice); International Journal of Mathematics; Discrete and Computational Geometry
- Thesis evaluator for Johannes Feldmann's Master's thesis at Universität Heidelberg, 2019
- Assessment Coordinator – TCU Mathematics Department Graduate Program - 2012-2019
- Led TCU Math Circle discussion for 5th-8th graders – May, 2019
- Dean Search Committee - Harris College of Nursing & Health Sciences, Spring 2019
- Ph.D. Advisory Committee member for Fazle Rabby – 2016-2019
- TCU Dept. of Mathematics graduate student teaching mentor - 2012-2013, fall 2014, fall 2015, fall 2016, fall 2017, fall 2018
- TCU Mathematics Hiring Committee - 2007-2008, 2008-2009, 2014-2018
- Special Session Co-organizer for Geometric Topology - Spring Topology and Dynamics Conference, March, 2019, Birmingham, AL
- Co-organizer of Texas Geometry and Topology Conference, February 2019, Fort Worth, TX
- Co-organizer of Simons Foundation Conference on Singularities: Geometric, Topological, and Analytic Aspects held 8/18 in New York
- Administrative Assistant Hiring Committee – Fall 2018
- Lead organizer – NSF/CBMS Regional Conference on Applications of Polynomial Systems, June 4-8, 2018 at Texas Christian University
- TCU Faculty Senate Educational Evaluation Committee - 2017- 2018, 2019-present
- TCU Mathematics Hiring Committee Chair – 2015-2016, 2016-2017, 2017-2018

- Acting Chair, TCU Department of Mathematics, 7/11/13-7/28/13, 5/11/14-5/17/14, 7/20/14-8/9/14, 7/20/15-8/7/15, 5/9/16-5/13/16, 7/25/16-8/5/16, 12/14/16-12/16/16, 5/15/17-5/26/17, 7/17/2017-8/4/2017, 7/2/2018-7/20/2018
- Ph.D. Advisory Committee member for Nathanael Hellerman – 2016-2018
- Ph.D. Advisory Committee member for Luis Aguirre – 2016-2018
- Grader - TCU Calculus Bee – 2007, 2009, 2011, 2012, 2014-2018
- TCU Mathematics Department Advisory Committee – 2011-2017 (two terms)
- Chair, TCU Mathematics Department Advisory Committee – 2012-2013, 2014-2015, 2016-2017
- TCU Faculty Senate Academic Profile Committee – 2016-2017
- TCU Bookstore Redesign Committee – 2016-2017
- Led TCU Common Reading Section for entering students – 2007-2012, 2014-2015, 2017
- Member of TCU Honors College Student Achievement and GPA Task Force, 2014-2016
- Chair TCU Faculty Senate Academic Excellence Committee – 2010-2013, 2014-2016
- TCU Faculty Senate Governance Committee – 2018-2019
- TCU Faculty Senate Academic Excellence Committee – 2008-2017
- TCU Bookstore Committee – 2015-2016
- TCU College of Science and Engineering Dean's ad hoc PIRE grant review committee – fall 2016
- Member of TCU Mathematics Bridge Course Committee – 2014-2016
- Department of Mathematics Weekly Tea coordinator – fall 2016
- TCU Commencement Faculty Marshal – spring 2016, spring 2017
- Co-organizer – Texas Geometry and Topology Conference – Fort Worth, TX - February 2016
- TCU College of Science and Engineering Curriculum Committee (elected) – 2012-2015, substitute – fall 2015
- Principal Organizer – Geometric Topology Workshop at TCU – June, 2015
- Judge – TCU Seniors Honors Presentations (presentations) – 2013, 2014, 2015, 2016
- Acting Chair, TCU Academic Appeals Committee – Fall 2014
- Member of TCU Mathematics Associated Requirements Committee - 2014
- Principal Section Co-organizer - Spring Topology and Dynamics Conference, March, 2014, Richmond, VA
- National Science Foundation grant proposal review panelist – 2014
- Member of TCU Mathematics Associated Requirements Committee - 2014
- Faculty Senate representative to the TCU Koehler Center Advisory Council - 2011-2013
- Co-organizer - Special Session on Singular Spaces in Geometry, Topology, and Algebra at the Western Sectional Meeting of the American Mathematical Society – Boulder, CO – April, 2013
- Co-organizer – Texas Geometry and Topology Conference – Arlington, TX - February 2013
- TCU Registrar's Ad Hoc Room Usage Committee – 2012
- TCU Koehler Center Senior Faculty Developer Hiring Committee - 2012
- Editor (with coeditors Robert Doran and Scott Nollet) - **Hodge Theory, Complex Geometry, and Representation Theory**
- Co-organizer (with Bob Doran and Scott Nollet) of NSF/CBMS conference on Hodge Theory, Complex Geometry, and Representation Theory, June 18-22, 2012 at Texas Christian University
- Panelist – Fort Worth Life Sciences Coalition Panel on Technical Writing – June, 2012
- TCU Faculty Senate Ad Hoc Plus/Minus Review Committee – 2011-2012
- TCU Faculty Senate liaison to University Evaluation Committee – 2010-2012
- Chair, TCU Mathematics tenured faculty review committee – 2012
- TCU Commencement Banner Bearer – Spring, 2009, 2010, 2012
- Assistant Guide - Phi Beta Kappa 2012
- Invited Section Co-organizer - Spring Topology and Dynamics Conference, March 22-24, 2012, Mexico City
- Panelist for New Faculty Orientation Faculty Panel – Fall 2011, Spring 2012
- Secretary – TCU Mathematics tenured faculty review committee – 2011
- TCU Mathematics tenured faculty review committee – 2010, 2011
- Assessment ad hoc Retention Statistics Committee - 2011
- TCU Mathematics Graduate Program Algebra and Topology Preliminary Exam Syllabus Committees - 2011
- TCU Faculty Senate liaison to ad hoc Chair Training Committee – 2010-2011
- Coordinating Editor (with coeditors Eugénie Hunsicker, Anatoly Libgober, and Laurentiu Maxim)– **Proceedings of the Workshop on the Topology of Stratified Spaces**
- Editor (with coeditors Robert Doran and Jonathan Rosenberg) - **Superstrings, Geometry, Topology, and C* Algebras**
- Chair – Math Department calculus textbook selection committee – 2010-2011
- Poster Judge – TCU College of Science and Engineering Student Research Symposium – 2010, 2011
- Volunteer Grader - MATHCOUNTS, 2007, 2008, 2009, 2010, 2011
- Pi Day faculty robot fighting team - March, 2010
- Co-organizer – Texas Geometry and Topology Conference, Spring 2010

- Helped edit TCU Math. Department faculty review and evaluation policies – Fall, 2009
- Assistant Math Dept. Webmaster for Current Events – Fall 2009
- Participant/Organizer – TCU K-theory seminar, Fall 2009
- Beta Tester for TCU grant profile software – 2009
- Co-organizer (with Robert Doran) – NSF/CBMS Conference on Topology, C* Algebras, and String Theory, May 18-22, 2009 at Texas Christian University
- TCU Provost's Climate Change Curriculum Committee - 2009
- TCU Mathematics Graduate Program Proposal Committee - 2007-2009
- Participant/Organizer - TCU Lie Groups Seminar - 2007-2009
- Judge - Como Montessori School Science Fair - 2009
- Math Department Representative – TCU Major/Minor Fair – 2007, 2008, 2009
- Co-organizer (with Eugénie Hunsicker, Anatoly Libgober, and Laurentiu Maxim) – Workshop on the Topology of Stratified Spaces, September, 2008, at the Mathematical Sciences Research Institute, Berkeley, CA
- Participant/Organizer - TCU Quillen K-theory Seminar - 2007- 2008
- Organizer – Texas Geometry and Topology Conference – 3/07
- College Fellow - Calhoun College, Yale University - 2002-2005
- Freshman Advisor - Yale University - 2003-2005
- Judge - Wilbur Cross High School Science Fair, New Haven, CT – 02/04
- Conceived and organized *Yale University Graduate Student Summer Colloquium* - 6/04-8/04
- Conceived, organized, and lectured in *Yale University Summer Topology Seminar* (7 lectures) - 6/03-8/03
- Senior Project Review Committee Member - Yale University Dept. of Mathematics - 2002, 2003, 2004
- Speaker - Yale University Undergraduate Math Club – 5/03
- Treasurer – Courant Student Organization – approx. 1999-2001

PROFESSIONAL DEVELOPMENT

- Attended Unconscious Bias Training, 12/4/2020
- Completed TCU Hybrid Design & Delivery training – Summer 2020
- Completed TCU Ramping Up Rapidly with TCU Online training – Summer 2020
- SiteImprove Web Accessibility Training – Summer 2020
- Completed Online Conflict of Interest Training 1/13/2020
- Attended Bystander Intervention Workshop – 9/11/2019
- Attended Leading and Influencing as a Department Chair Workshop at TCU – 5/21/19-5/22/19
- Attended TCU Chair Training Workshop – 5/4/17-5/5/17
- Attended TCU Online Pilot Faculty Lunch – 3/4/16
- Attended TCU Assessment Workshop (parts 1,2, 3) – 9/25/15, 11/13/15, 1/29/16
- Attended Koehler Center Faculty Focus Lunch – 10/28/15
- Attended New Math Pathways presentation at Tarrant County Community College (Southeast Campus) – 9/19/14
- Attended Koehler Center Teaching and Learning Conversation, 3/4/14
- Attended Koehler Center Workshop: Teaching and Learning Conversations - 10/13
- Attended Koehler Center Workshop: Developing the Teaching Skills of Graduate Teaching Assistants - 3/11
- Attended Koehler Center Workshop: Student Feedback That Works - 3/11
- Attended Koehler Center Workshop: Academic Rigor and Your Students Pt. I - 10/11
- Attended Koehler Center Workshop: Academic Rigor and Your Students Pt. II -11/11

CONFERENCES AND WORKSHOPS ATTENDED

- Spring Topology and Dynamics Conference – online – 5/21 (invited talk)
- Texas Geometry and Topology Conference – College Station, TX – 11/19
- Four Manifolds: Confluence of High and Low Dimensions at The Fields Institute for Research in Mathematical Sciences – Toronto, Canada – 7/19
- Geometric Topology Workshop – Milwaukee, WI – 5/19 (contributed talk – organizer)
- Spring Topology and Dynamics Conference – Birmingham, AL – 3/19 (session organizer)
- Texas Geometry and Topology Conference – Fort Worth, TX – 2/19 (co-organizer)

- Simons Foundation Conference on Singularities: Geometric, Topological, and Analytic Aspects – New York-8/18
- Geometric Topology Workshop – Grand Rapids, MI – 6/18 (contributed talk – organizer)
- NSF/CBMS Regional Conference on Applications of Polynomial Systems – 6/18 (organizer)
- Workshop on Noncommutative Geometry and Index Theory for Group Actions and Singular Spaces – College Station, TX – 05/18 (invited talk)
- Spring Topology and Dynamics Conference – Auburn, AL – 03/18
- Texas Geometry and Topology Conference – Austin, TX – 11/17
- Topology and Analysis in Interaction - Cortona, Italy – 6/17
- Geometric Topology Workshop – Provo, UT – 6/17 (contributed talk – organizer)
- Spring Topology and Dynamics Conference – Jersey City, NJ – 3/17 (invited talk)
- Joint AMS/MAA/SIAM National Meeting – Atlanta, GA – 1/17
- Texas Geometry and Topology Conference – College Station, TX – 11/16
- (Three Week) Focus Program on Topology, Stratified Spaces and Particle Physics at The Fields Institute for Research in Mathematical Sciences - Toronto, Canada – 8/16
- Analysis, Geometry and Topology of Stratified Spaces – CIRM, Luminy, France – 6/16
- Geometric Topology Workshop – Colorado Springs, CO – 6/16
- Topology in Dimension 3.5 – Houston, TX – 5/16
- Spring Topology and Dynamics Conference – Waco, TX – 3/16 (invited talk)
- Texas Geometry and Topology Conference – Fort Worth, TX – 2/16 (co-organizer)
- Joint AMS/MAA/SIAM National Meeting – Seattle, WA – 1/16
- Symposium on the Geometry and Topology of Manifolds – Vancouver, Canada - 7/15
- Geometric Topology Workshop – Fort Worth, TX – 6/15 (principal organizer)
- Spring Topology and Dynamics Conference – Bowling Green, OH – 5/15 (invited talk)
- Stratified spaces in geometric and computational topology and physics – Madison, WI – 4/15
- Joint AMS/MAA/SIAM National Meeting – San Antonio, TX – 1/15
- Knot Theory and Its Applications to Physics and Quantum Computing – Richardson, TX – 1/15 (invited talk)
- Topology and Analysis in Interaction – Cortona, Italy – 6/14 (invited participant)
- Geometric Topology Workshop – Milwaukee, WI – 6/14 (contributed talk - organizer)
- Spring Topology and Dynamics Conference – Richmond, VA – 3/14 (principal session organizer)
- Workshop on Topological Systems: Communication, Sensing, and Actuation – Minneapolis, MN – 3/14
- Workshop on Modern Applications of Homology and Cohomology – Minneapolis, MN – 11/13
- Workshop on Topological Analysis of Data – Minneapolis, MN – 10/13
- Geometric Topology Workshop – Grand Rapids, MI – 6/13
- Western Sectional Meeting of the American Mathematical Society – Boulder, CO – 4/13
- Texas Geometry and Topology Conference – Arlington, TX – 2/13
- Workshop on High Dimensional Topology - South Bend, IN - 12/12
- Algebraic Topology: Applications and New Directions – Stanford, CA - 7/12
- Geometric Topology Workshop – Corvallis, OR – 6/12 (contributed talk)
- NSF/CBMS Regional Conference in the Mathematical Sciences on Hodge Theory, Complex Geometry, and Representation Theory - Fort Worth, TX – 6/12 (co-organizer)
- Spring Topology and Dynamics Conference – Mexico City, Mexico - 3/12
- Stratified Spaces: Joining Analysis, Topology and Geometry – Oberwolfach, Germany – 12/11 (invited talk given by collaborator)
- Topology and Analysis in Interaction – Cortona, Italy – 6/11 (invited talk)
- Geometric Topology Workshop – Park City, UT – 5/11 (contributed talk)
- Spring Topology and Dynamical Systems Conference – Tyler, TX – 3/11 (invited talk)
- Texas Geometry and Topology Conference – Lubbock, TX - 2/11
- Geometric Topology Workshop – Colorado Springs, CO – 6/10 (contributed talk)
- Georgia Topology Conference – Athens, GA – 5/10
- Midwest Topology Seminar – Evanston, IL – 4/10
- Texas Geometry and Topology Conference – Fort Worth, TX – 2/10 (co-organizer)
- NSF/CBMS Conference on Algebraic Topology in Applied Mathematics – Cleveland, OH - 8/09
- NSF/CBMS Conference on Topology, C^* Algebras, and String Theory - Fort Worth, TX – 5/09 (co-organizer)
- Conference in Honor of the 60th Birthday of Steve Ferry – Chicago, IL – 3/09
- Midwest Topology Seminar – West Lafayette, IN – 2/09 (invited talk)
- Joint AMS/MAA/SIAM National Meeting – Washington, DC – 1/09
- MSRI Workshop on the Topology of Stratified Spaces - Berkeley, CA - 9/08 (co-organizer)
- NSF-CBMS Conference on Knots and Topological Quantum Computing - Edmond, OK - 7/08 (semi-invited talk)
- Singularities in Geometry and Topology in honor of the 60th birthday of Sylvain Cappell – New York, NY – 3/08 (invited talk)

- Texas Geometry and Topology Conference – Lubbock, TX - 2/08
- Joint AMS/MAA/SIAM National Meeting - San Diego, CA - 1/08
- Geometry and the Imagination: A conference in honor of Bill Thurston's 60th Birthday - Princeton, NJ - 6/07
- Spring Topology and Dynamics Conference - Rolla, MO - 3/07 (invited talk)
- Texas Geometry and Topology Conference – Fort Worth, TX - 3/07 (co-organizer, invited talk)
- Texas Geometry and Topology Conference – Houston, TX - 10/06
- Noncommutative Geometry and Operator Algebras Conference – Nashville, TN - 5/06
- Graduate Student Topology Conference – Bloomington, IN - 4/06
- Union College Mathematics Conference – Schenectady, NY – 11/03, 12/05 (contributed talk)
- Conference on "Submanifolds, Singular Varieties, and Stratified Spaces" in honor of Julius Shaneson - New York, NY – 3/05 (invited talk)
- Cornell Topology Festival – Ithaca, NY – 5/03, 5/04, 5/05
- Joint AMS/MAA/SIAM National Meeting – Atlanta, GA – 1/05
- Geometry, Combinatorics, and Algebraic Groups – conference in honor of Robert MacPherson – Princeton, NJ - 10/04
- Knots in Vancouver – Vancouver, BC, Canada – 7/04
- Lehigh Geometry/Topology Conference - Bethlehem, PA - 6/03, 6/04 (contributed talk)
- Workshop on Topology of Manifolds and Homotopy Theory - Banff International Research Station, Banff, Canada – 3/04 (invited talk)
- Cassonfest – Conference in honor of Andrew Casson – Austin, TX - 5/03
- AMS Sectional Meeting - New York, NY – 4/03 (invited talk)
- Workshop on Topology of Manifolds and Group Actions - Centre de Recherches Mathématiques, Montréal, Quebec, Canada - 8/01 (invited talk)

ACTIVITIES RELATED TO ΔΨ/SAINT ANTHONY HALL CO-ED LITERARY FRATERNITY

- Chair, Grants Committee of the Saint Anthony Educational Foundation – 2011-present
- Member, Saint Anthony Educational Foundation – 2011-present
- Member, Grants Committee of the Saint Anthony Educational Foundation – 2008-present
- Member, Grants Committee, Saint Anthony Trust of Rhode Island - 2000-present
- Director, Saint Anthony Educational Foundation – 2011-2018
- Secretary Pro Temp, Saint Anthony Trust of Rhode Island – Spring 2016
- President, Saint Anthony Trust of Rhode Island – 2010-2012
- Chair, Grants Committee, Saint Anthony Trust of Rhode Island - 2000-2011
- Vice-President, Saint Anthony Trust of Rhode Island – 2008-2010
- Secretary, Saint Anthony Trust of Rhode Island - 2002-2008
- By-laws Committee Chair, Saint Anthony Trust of Rhode Island - 2002-2008
- Treasurer, Saint Anthony Trust of Rhode Island – 2000-2002
- Trustee, Saint Anthony Trust of Rhode Island - 1998-present
- Member Saint Anthony Trust of Rhode Island - 1996-present
- Kappa Chapter Undergraduate Representative to Saint Anthony Trust of Rhode Island - 1995-1996
- Kappa Chapter Historian – Spring 1996
- Kappa Chapter Literary Cochair – Fall 1996
- Kappa Chapter Rush Cochair – Spring 1995
- Member Kappa Chapter at Brown University – 1994-present

SELECT NON-ACADEMIC ACTIVITIES

- Trombonist – Klezzoup! klezmer band – 2015-present
- Player, Inglorious Blasters hockey team, Euless, TX – 2016-present
- Trombonist – TCU Concert Band, Springs 2015-2019
- Player, Puckers hockey team, Euless, TX – 2016-2017
- Player, Ice Dragons hockey team, Euless, TX – 2014-2016
- Principal trombonist - TCU Concert Band, Spring 2014
- Player, Predators ice hockey team, Arlington, TX -2012-2013
- Student Interviewer- Brown Alumni Schools Committees – 2009-2018
- Member - Fort Worth Swing Dance Syndicate - 2007-2012
- Player, Ice Cats ice hockey team, Arlington, TX -2011-2012

- Precinct 4230 Delegate – Texas Democratic Party Senate District 10 Convention - 3/08
- Webmaster - Fort Worth Swing Dance Syndicate - 2007-2010
- Player, Ice Dogs ice hockey team, Euless, TX - 2006-2009
- Player, D'Leafs ice hockey team, Grapevine, TX – 2006-2007
- Trombonist - TCU Community Band - 2007
- Lead trombonist, Cheshire Community Band, Cheshire, CT - 2001-2005
- Trombonist, Stardusters Swing Band, New Haven, CT - 2003-2005
- Player, Chiefs ice hockey team, Nashville, TN - 2005-2006
- Player, Goobers ice hockey team, Nashville, TN - 2005-2006
- Player, Falcons ice hockey team, Cromwell, CT - 2001-2005 (captain 2004-2005)
- Trombonist, New York University Band - 1996-2001 (intermittent)
- Trombonist, Lusitana Band, Pawtucket, RI - summer 1996
- Conductor, Brown Band, Providence, RI - 1994-1996
- Trombonist, Brown Band, Providence, RI – 1992-1996 (also at various times Low Brass Section Leader, Show Writer, Assistant Librarian)
- Awarded the Paul L. Maddock Award (given to the person who has contributed most to the spirit of the Brown Band) - 1994
- Trombonist, Brown University Wind Symphony - 1994-1996
- Trombonist, Bloomington Brass Band - summer 1995
- Trombonist/Baritone, Brown University Commencement Band, 1993 - 2008 (excluding 1996, 1998, 2000)
- Meiklejohn Academic Advisor, Brown University, 1993-1994
- Amateur Radio Novice License KA2ZID - 1985-present