

Curriculum Vitae Thomas Q. Sibley

Education:

Ph. D. 1980 Boston University, Boston, Mass., mathematical logic
B. A. 1973 St. Olaf College, Northfield, Minn., mathematical logic

Teaching Positions:

1998 - 2021 St. John's University
Full Professor of Mathematics
1988-1998 Associate Professor of Mathematics
Department Chair 1991 - 1994
1984 - 1988 Assistant Professor of Mathematics
1983 - 1984 Beloit College, Beloit, Wis.
Visiting Assistant Professor of Mathematics
1980 - 1983 Cuttington University College, Liberia, Africa
Assistant Professor of Mathematics
Department Chair
1978 - 1980 St. Olaf College, Northfield, Minn.
Part time Instructor in Mathematics in the Paracollege,
the experimental unit of St. Olaf College.
1975 - 1978 Boston University, Boston, Mass.
Graduate Teaching Fellow
1973 - 1975 Institut Sadisana, Zaire (now D. R. Congo), Africa
High School Mathematics Teacher (in French)
Peace Corps Volunteer

College Courses Taught:

First Year Symposium, Senior Seminar, Mathematics Explorations, Honors Mathematics Explorations, Fundamentals of Mathematics I and II, Probability and Statistical Inference, Pre-Calculus, Essential Calculus, various January Term courses, Calculus I and II, Linear Algebra, Discrete Mathematics, Foundations and Structures of Mathematics, History of Mathematics, Geometry, Algebraic Structures I and II, Analysis I and II, Topology, Mathematical Biology, Mathematical Statistics I and II, Mathematics Capstone, many math ILPs, and tutorials and seminars in the experimental college at St. Olaf College.

Research:

"Equidistance relations in geometry and metric spaces," Boston University Research Bulletin, Boston University, Boston, Mass., 1978.

"Equidistance relations: a new approach to geometry," Seventh Annual Mathematics and Statistics Conference, Miami University, Oxford, Ohio, 1979.

The Theory of Finitely Additive Probability Using Non-Standard Analysis, Ph. D. Dissertation, Boston University, Boston, Mass., 1980.

"Ultrafilter limits and finitely additive probability," Proceedings of the American Mathematical Society, 84 (1982), #4, pages 560 - 562.

"Equidistance relations: a new bridge between geometric and algebraic structures," *Cuttington Research Journal, Liberia*, 1 (1982), pages 19 - 25.

"Homomorphisms of equidistance relations," *Cuttington Research Journal, Liberia*, 2 (1982), pages 1 - 11.

"Sylow-like theorems in geometry and algebra," *Journal of Geometry*, 30 (1987), pages 1 - 11. (talk at International Congress of Mathematicians, Berkeley, Calif., 1986.)

"Coset representation of homogeneous geometrical structures," *Mostly Finite Geometries*, edited by Norman L. Johnson, New York: Marcel Dekker, 1997, 407--411. (talk at American Mathematical Society meeting, University of Iowa, March 1996.)

"On classifying homogeneous congruence loops," invited address, regional American Mathematical Society meeting, University of Notre Dame, March 1999.

"Rhombic Penrose tilings can be 3-colored," coauthored with Stan Wagon, *American Mathematical Monthly*, 107 (March 2000), 251-253.

"Coloring space tilings of generalized parallelograms", *Geombinatorics*, 10 (2000) # 2, 75-76.

"On classifying finite edge colored graphs with two transitive automorphism groups," *Journal of Combinatorial Theory, Series B*, vol. 90 # 1 (Jan. 2004), 121-138. (Preliminary reports given at national AMS/MAA meeting and at M. I. T., 1999.)

"Groups of Graphs of Groups," written with David Byrne and Matt Donner, *Contributions to Algebra and Geometry*, vol. 54 #1 (March 2013), pages 323 – 332.

"Groups, Graphs and Loops," colloquium at Virginia Tech, 2013, at Mankato State U., 2014.

Undergraduate Mathematics Research under my supervision:

Chiu, Albert, "Equidistance relations and homogeneity", ILP 1991.

(ILP = Independent Learning Project)

Slough, Mark, "Boolean loops of order eight," ILP 1992.

Keppers, Kathleen, "Classification of one-point homogeneous equidistance relations of order eight," ILP 1993.

Morrison, John, "Doubly transitive geometric designs," ILP 1993. A revised version was published in 1997 in the *Pi Mu Epsilon Journal*.

Persons, Michelle, "An exploration of doubly transitive designs in affine space," Honors Thesis, 1994 - 1995.

Gerads, Connie, "Polynomials over finite fields and commutative rings", for Math 332, Algebraic Structures II, 1995.

Nordman, Dan, "Derivative rings," for Math 332, Algebraic Structures II, 1995.

Isaac, Cathy, "Generating 2-transitive equidistance spaces," Thesis, 1998.

Casey, Erin, "Positive Assortative Mating", for Mathematical Biology, 2000.

Flannery, Sean, "Can We Live with the Big Bad Wolf?" (Math. Biol., 2000.)

Klein, Jennifer, "Modeling Transcriptional Control of the Trp Operon", (Math. Biol., 2000.)

Phannenstein, Elissa, "Positive Assortative Mating", summer 2001.

Polley, Eric, Two Point Homogeneous Spaces, summer 2002.

Emily Grose, Modeling Malaria, ILP 2002-2003.

Chris Gervais, Modeling Age and Genetics Dynamics in Mosquitoes, summer 2003.

Nick McClure, Modeling Competition in Mosquitoes, summer 2003.
 Nick McClure, Modeling Dispersal Effects in Evolution, summer 2004.
 Charlie O'Connor, Semi-Direct Products of Edge Colored Graphs, Thesis 2005.
 Bob Willenbring, "All-Ideal Rings," for Math 332, 2005.
 Jacob Surma, "Irreducibles in $\mathbb{Z}[\sqrt{-k}]$," for Math 332, 2005.
 Patrick Cronin, "3-Point Homogeneity in Groups," for Math 332, 2005.
 Jacob Brown, "The n^{th} Root Groups," for Math 332, 2005.
 Heather Akerson, "Modeling HIV and Drug Response," summer 2007.
 Matt Voigt and Dai Liman, "Alternative Products of Geometric Spaces," summer 2007.
 Xuyang Tang, "Risk Factors for Multiple Sclerosis," summer 2008.
 Bill Capecchi, Circle Groups and... Trivial Multiplication, for Math 332, 2009.
 Brendan Koelsch, Galois Theory of Rings, for Math 332, 2009.
 Jason Lutz, Average Groups: Not as Mean as You Think, for Math 332, 2009.
 Rob McMillan, Algebra and Geometry in the Quaternions, for Math 332, 2009.
 Fru Nde, The Probability Two Elements Generate a Group, for Math 332, 2009.
 Karla Schommer, Partial Orders and ... Ring Multiplication, for Math 332, 2009.
 Shawn Buermann, Evolution of Virulence, Summer 2009.
 Laura Buggy, Energy of Graphs, Honors Thesis, 2010.
 Kristin Reinsvold and Nick Zweber, Using Higher Dimensions to Make Codes, independent project, 2010.
 David Byrne and Matt Donner, Minimal Permutation Groups, Summer 2010.
 David Byrne and Matt Donner, Groups of Graphs of Groups, theses 2011.
 Sara Kokkila, Modeling the Kinetics of an Enzyme System, Honors thesis, 2011.
 Kelsey Larson & Hongying Zhao, Similarities of Graphs of Groups, Spring 2011.
 Allison Reinsvold, Chris Roering, Tom Moore, Partial Orders on \mathbb{Z}_n , 2011.
 Kelsey Larson, Similarities of Graphs of Groups, Summer 2011.
 Esther Banaian, Probability two elements Generate a group, for Math 332, 2015.
 Zach Bookey, When do we Get Extra Roots?, for Math 332, 2015.
 Bryan Linehan, Sysilic Groups, for Math 332, 2015.
 Matt Devery, Generalizing Cayley Digraphs, Summer Research 2015.
 Sam Rogers, Range of triangulations in an n-gon, Fall 2015.
 Noah Froberg, 0-1 Polytopes, 2016.
 Noah Froberg, Are groups of order 12 "equitable"?, 2016 or 2017.
 Travis Spillum, The Probability of Generating a Group, Summer Research 2016.
 Lydia Demorett, Assortative Mating, Summer Research 2017.
 Noah Froberg, The Probability of Generating a Group, Summer Research 2017.
 Genevieve Ahlstrom, Tongtong Chen, Sean Nilan, Baseball Seams on Polyhedra, Fall 2017.
 Jordan Tholen, Magic Group programming, Fall 2017.
 Kate Dempsey, Debra Dunham, Lindsey Hoeschen, Emily Twardy, Pythagorean Triples (mod n), Spring 2018.
 Lindsey Hoeschen, Pythagorean Triples à la Mod, Summer 2018.
 Jonathan Coffin, Probability of generating a semidirect product, Summer 2018.
 Debra Dunham, Pythagorean Triples à la Mod, Fall 2018.
 Genevieve Ahlstrom and Yanan Zhang, Ring Extensions of \mathbb{Z} , \mathbb{Q} & \mathbb{R} , Fall 2018.

Karen Benitez and Zach Kratz, Analyzing Oxygen Deficit Data, Spring 2020.
Max Hennen, The probability of generating a semi-direct product, Summer 2020.
Karen Phillips, The distribution of word length in groups, Summer 2020.

I was a co-advisor for Paul Rabaey's 1990 Honors Thesis "The Research Methods of Archimedes" in the history of mathematics. In addition I have been on many other Honors Thesis committees.

Genevieve Ahlstrom and Michael Lah made a stained glass sculpture with me of a regular octahedron embedded in a regular icosahedron, Fall of 2019.

Non-Research Scholarly Writings:

Refereeing of at least thirty-seven articles for *Mathematics Magazine*; *Amer. Math. Monthly*; *College Math. Journal*; *Pi Mu Epsilon Journal*; *Journal of Online Math*; *Proceedings of the Royal Irish Academy*; *Designs, Codes and Cryptography*; *Journal of Algebraic Combinatorics*; *Journal of Combinatorial Theory*; *Discrete Mathematics*; *Graphs and Combinatorics*; *Discrete & Computational Geometry*; the *CUR Quarterly*; *Loci*; *Primus*, *Minn. J. of Undergraduate Math.* and two web sites for the *Mathematical Digital Library*.

Critique of *Linear Algebra: A Concrete Introduction*, by D. Schneider, et al. for the publisher, MacMillan, 1985.

Critique of *Contemporary Abstract Algebra* by J. Gallian for the publishers, Heath and Co., 1988.

"Changing modes of thought: non-Euclidean geometry and the liberal arts," Symposium, St. John's University, 1989. (talk given at a Faculty Dialogue Dinner, 1987.)

"Three R's for mathematics papers: 'riting, refereeing and rewriting," *Writing to Teach Mathematics*, A. Sterett, Ed., Washington, D. C., Mathematical Association of America, 1990, pages 53 – 54.

Geometric Patterns: a Study in Symmetry, unpublished textbook for a liberal arts mathematics course, 1990. Used in several other colleges.

Reviewer in geometry for *Library Recommendations for Undergraduate Mathematics*, Lynn A. Steen (editor), Washington, D. C., the American Mathematical Association of America, 1992.

"Beauty Bare," Symposium, St. John's University, 1993, 39 – 47. (talk at a CSB/SJU Faculty Colloquium in 1992.)

Review of *Geometry of the Quintic* by Jerry Shurman for John Wiley and Sons, which later published this book, 1995.

"Symmetry with Mirrors," Proceedings of the Inquiry Based Geometry Workshop, St. Olaf College, June, 1997.

The Geometric Viewpoint -- a Survey of Geometries, (a textbook) Reading, Mass.: Addison Wesley Longman Publishing Co., 1998.

"A fractal is", (a poem), *The Mathematical Intelligencer*, vol. 20 #2 (Spring, 1998), 22 and in an anthology of mathematical poems in Germany.

"Integrating approaches to geometry," *Impressions*, Boston University, 1999.

"The possibility of impossible pyramids", *Mathematics Magazine*, vol. 73 (June 2000) #3, 185 – 193.

Book Review of *Mathematics in a Postmodern Age: A Christian Perspective*, edited by Howell and Bradley, written with Jennifer Galovich, *The Christian Century*, vol. 120 #6 (March 22, 2003), 55 – 60.

“Taking the sting out of wasp nests: a dialogue on modeling in mathematical biology”, written with Jennifer Klein (a student), *College Mathematics Journal*, 34 #3 (May 2003), 207 – 215.

“Deconstructing bases: fair, fitting, and fast bases,” *Mathematics Magazine*, vol. 76 #5, (December 2003), 380 – 385.

“The square root two step: a half step back, a full step forward,” rejected by *Mathematics Magazine*, 2003.

“Postcard” on symmetry patterns for alums, 2005.

“When is a ring ideal?” rejected by *Mathematics Magazine*, 2006.

“How to make the most of your sabbatical,” written with Jennifer Galovich, Charles Hampton and William Marion, *Focus*, August 2006, 12 – 13.

“The Council on Undergraduate Research as a Resource for Mathematicians,” *Focus*, an MAA publication, Sept. 2007, in response to a request to write it.

“Subliminal Analysis,” *Mathematics Magazine*, vol. 81 # 5 (Dec. 2008), 369 – 373. *Foundations of Mathematics*, textbook Wiley, 2009, (published 2008).

“When the Trivial Is Nontrivial,” written with William Cappechi, *Pi Mu Epsilon Journal*, vol. 13 # 6 (Spring 2012), 333 – 336.

How to Mentor Undergraduate Research, co-edited with Louise Temple and Amy Orr, CUR 2011.

“Idempotents à la Mod,” *College Mathematics Journal*, vol. 43 # 5 (Nov. 2012), 401 – 404.

“Partial Orders on \mathbf{Z}_n ,” written with Allison Reinsvold, submitted to *Pi Mu Epsilon Journal*, 2011. (Needs to be rewritten)

Thinking Geometrically: A Survey of Geometries, MAA, 2015. (Rewritten and expanded version of *The Geometric Viewpoint*.)

“When Is a Cube Like a Tetrahedron?” rejected by *Mathematical Gazette*, 2015. Review of *Creating Symmetry* by Frank Farris for Princeton University Press, 2013.

“Puzzling Groups,” *PRIMUS*, 24:5 (2014), 392 – 402.

“Zen-Zen,” *Math Horizons*, April 2015, page 2.

“Pass the Proof,” *Beyond Lecture: Resources and Pedagogical Techniques to Improve Student Proof-Writing Across the Curriculum*, MAA, 2016, pages 105 – 109.

Thinking Algebraically: An Introduction to Abstract Algebra, published by the MAA, 2021.

“Platonic Encounter,” *Focus*, 41 # 1 (Feb./Mar. 2021), 51.

“Critiquing the Efficiency Gap,” *Mathematical Gazette*, 2023.

“Fantasy on a Baseball Seam,” co-authored with Genevieve Ahlstrom, *College Math. J.*, 53:4 (2022), 265 – 272, 2022.

“The Probability of Generating a Group,” co-written with Esther Banaian, Jonathan Coffin and Max Hennen, *Pi Mu Epsilon J.*, 2022.

“A Dialogue on Triples,” co-authored with Emily Twardy, *Pi Mu Epsilon J.*, 2022.

“Comparing Convexity Measures,” accepted by *Math. Mag.*, 2022.

Exploring Discrete Geometry, approved by MAA Anneli Lax Committee, 2023.

"Transformational Geometry Activities," requested chapter for the book *The GeT Course: Resources and Objectives for the Geometry Courses for Teachers*, expected to be published in 2024.

Non-Research Scholarly Talks:

At least seven talks given to the Math Society, the CSB/SJU student math club, 1984 - 2011.

"Proteomorphisms: generalizing duality and similarity," North Central Section Meeting of the Mathematical Association of America (NCS/MAA), and at St. Olaf College, 1985.

"Fractals: math in the clouds," St. Cloud State University, Bemidji State University, Macalaster College, Lakewood Community College and Rocori High School, from 1986 to 1995.

"How natural are fractals? How fractal is nature?" invited talk at NCS/MAA, 1989.

"Symmetry: unifying abstraction, intuition and applications in a liberal arts mathematics course", Mathfest (national summer math meetings), Columbus, Ohio, 1990.

"Randomness, runs and recursions," NCS/MAA, 1992.

"Beauty Bare," Colloquium talk, SJU, 1992.

"Symmetry: its form and fascination," Lakewood Community College and Rocori High School, 1994 and 1995.

"A celebration of symmetries," NCS/MAA, 1994.

"Tinker toys, geometry and freedom," NCS/MAA, 1995.

"The Josephus Problem," Honors presentation with Jennifer Galovich, CSB/SJU, 1995.

"Geometry in four dimensions," Monticello High School, 1996 and 1997.

"Toroidal cartochromography -- Doughnut coloring," SJU, St. Olaf College, 1996, Augsburg College, 2004, Upper Peninsula Michigan Section Meeting, 2005.

"The possibility of impossible pyramids," NCS/MAA, 1996, invited "Master Class," Boston University, 1999, at SJU, 2000, invited address, NCTM/MinnMATYC Conference, 2001, Macalester College, 2004, Univ. of Wisconsin at Platteville, 2006, Virginia Tech 2012, Randolph Macon College 2013.

"Searching for finite hyperbolic geometries," NCS/MAA, 1997.

"Integrating approaches to geometry," JMM (national AMS/MAA meeting), 1999.

"A foray into non-linear algebra: logistic growth and the Leslie matrix model," NCS/MAA, 2000, revised versions at Gustavus Adolphus College, 2004 and CSB/SJU, 2011.

"Taking the sting out of computations: modeling wasp nests," (twice with Jennifer Klein) St. Cloud State U., the Univ. of Minn. at Duluth, Augsburg College, and St. Olaf College, 2001 to 2003, Math Circle for Junior High teachers, 2010.

"The dorm lottery," with Jennifer Galovich, St. Cloud State U., 2001.

"End base discrimination now," NCS/MAA, 2002, Hope College 2005, Kenyon College, 2005.

"Why knot?" joint Collegial Conversation with Jennifer Galovich, SJU, 2002.

"1, 2, 3, many: subitizing, homomorphisms, and cancellation," NCS/MAA, 2002.

“Granting mathematical absolution—dropping the lowest quiz,” NCS/MAA, 2003.
 “Enticing, engaging and enlightening examples of mathematical activities,” JMM, Phoenix, AZ, 2004.
 “Fostering student research in mathematical biology,” JMM, Phoenix, 2004.
 “The square root two step: A half step back and a full step forward,” invited address for the Distinguished Teaching Award, NCS/MAA 2004.
 “Balancing projects and content in an undergraduate mathematical biology course,” Invited Address, Intern’l Conference, Society of Mathematical Biology, 2004.
 “Wolves and Wasps: Models and Math,” Key Note Address for *Women in Technology* Conference for sixth grade girls, Pine City Technical College, 2005.
 “When Is a Ring ‘Ideal’?” Ohio Section MAA, 2005, Wisconsin Section MAA, 2006, NCS/MAA, 2006.
 “Truth, Tool or Tale? On the Nature of Mathematics,” Natural Science Division seminar, 2006.
 “Subliminal Analysis,” NCS/MAA, 2007, Mathfest, 2007.
 “Symmetry Groups in Finite Geometric Spaces,” at University of Science and Technology, Beijing, China and at Southwest University, Beibei, China, 2007.
 “Lights, Camera, Proof,” NCS/MAA 2008.
 “Idempotents à la Mod,” at St. Olaf College, 2009, Minnesota State University, Moorhead, 2012, Augsburg College, 2012, SUNY, Geneseo 2020.
 “Puzzling Groups,” NCS/MAA 2009, Mathfest 2009, JMM 2011, MD-DC-VA MAA Section 2012.
 “Geometry for Majors and Future Teachers,” Mathfest 2009.
 “Expanding Horizons through Mathematical Biology,” with Jennifer Galovich at Mathfest 2009.
 “Reasonable Doubt,” Opening Convocation Address at St. John’s, 2009.
 “Groups of Graphs of Groups,” NCS/MAA 2010, JMM 2011.
 “When the Trivial Is Non-Trivial,” NCS/MAA fall 2010.
 “Expository Papers: A Window into the World of Mathematics,” Mathfest, 2011.
 “All Hands on Deck: In Praise of Toys,” Mathfest, 2011.
 “Partial Orders on Z_n ,” NCS/MAA fall 2011.
 “Wasps and Wolves, Math and Models,” invited address, Minnesota State University, Moorhead, 2012.
 “Multiple Mathematical Models,” Mathfest, 2012.
 “Maximizing Code Words,” Mathfest, 2012.
 “R⁴S: Reading, ‘Riting, Rewriting, Rehearsing and Speaking,” JMM, 2013.
 “When Is a Cube Like a Tetrahedron?,” MD-DC-VA MAA Section meeting, 2013, NCS/MAA 2013.
 “Groups of Graphs of Loops,” Virginia Tech, 2013, Mankato State U., 2014.
 “Getting Hyper from Painting Cubes,” Mathfest, 2013, St. Cloud State University, 2013, University of North Dakota 2014, CSB/SJU 2014.
 “It’s Not Hyperbole: A Transforming Proof,” Mathfest, 2013.
 “Permutation Playthings and Transformational Toys,” JMM, 2014.
 “The Many Facets of Symmetry,” JMM, 2014.
 “Congruence and its Modern Rivals: Isometries,” NCS/MAA, Spring 2014.
 “Reflections on Reflections,” Mathfest 2014.

"Could Cayley Have Been Loopy?," NCS/MAA, Fall 2014.
 "Group Products," NCS/MAA, Spring 2015; CSB/SJU Capstone, 2017.
 "Going to the Source," Mathfest, 2015.
 "The Fourth Dimension: the Power of Mathematical Reasoning and Intuition," St. John's Prep School, 2015 and 2021 and 2023, Augsburg College, 2016, St. Cloud State U., 2016, CSB/SJU 2019.
 "What Belongs in a 21st Century Geometry Course," Panel, JMM 2016.
 "The local and global in geometry: Curvature and the Gauss-Bonnet Theorem," CSB/SJU, 2016.
 "Nurturing the interface of intuition and reasoning," Red Talk for CSBSJU Alumni Association, 2016.
 "Writing in Mathematics," Panel at NCS/MAA 2016.
 "Bending Students' Intuition," Mathfest 2016.
 "Is Equity Unusual ... at least in Total Products?" NCS/MAA, Spring 2017, Mathfest 2017.
 "Magic Groups," NCS/MAA, Fall 2017.
 "Nurturing Geometric Intuition," Invited talk at JMM 2018.
 "Fantasy on a baseball seam," Mathfest 2018.
 "Mathematical MODifications," St. Olaf College, 2019.
 "Theme and iterations: An introduction to fractals," talk for Capstone, 2019.
 "The probability of generating a group," NCS/MAA Spring 2021.
 "Word Length Distribution in Groups," NCS/MAA Fall 2021.
 Panel on Teaching Abstract Algebra, Seaway Section, MAA Spring 2022.
 "Measuring 'Dents-ity'," NCS/MAA Spring 2022.
 "Colorful Linear Algebra," NCS/MAA Fall 2022.
 "Lines and regions: What Am I Missing?" NCS/MAA Spring 2023.
 "Complementing and Complimenting Klein," NCS/MAA Fall 2023.
 "Building Intuition in Geometry," Math Society, 2023.

Other Professional Activities:

Conducted Donut Coloring Contests between 1979 and 2013 at St. Olaf College, at CSB/SJU numerous times and at, Upper Peninsula of Michigan MAA Section Meeting, Beloit College, Moorhead State University and Virginia Tech.

"Plenty of pleasing patterns of polygons," sessions for Children's Day, St. John's University, 1987 and 1990.

Science and mathematics trainer for the Land of Lakes Girl Scout Council from 1989 to 2003.

"Dynamical Systems and Chaos" and "Graph Theory", workshops for elementary school mathematics teachers, Minnesota Mathematics Mobilization, 1993 and 1995.

"Symmetry with Mirrors," hands-on demonstration for high school mathematics teachers, Inquiry Based Geometry Workshop, St. Olaf College, Northfield, Minn., 1997.

Project NExT consultant four times, most recently 2014.

Panel Member on Mentoring New Faculty, JMM, Phoenix, AZ, 2004.

"Mathematical biology: linking mathematicians and biologists through student research," Panel with Dr. Charles Rodell and Dr. Gordon Brown, CUR 2004.

Panel member on fostering undergraduate research, NCS/MAA, 2005.

Panel member, "Making the most of your sabbatical," JMM San Antonio, 2006.
Panel Member, "Establishing and Maintaining Research Collaborations in a Small Department," JMM New Orleans, 2007.
Panel member, "Different approaches to bridge courses," JMM, 2008.
"Fostering Research in Mathematical Biology," CUR Panel w/Rodell, CUR 2008.
Panel member, "Recruiting Mathematics Majors," Mathfest, 2008.
Panel member, "Geometry for Pre-Service Teachers," JMM, 2009.
Panel member, "Sustaining Functional Math Clubs," NCS/MAA, 2009.
I led a session on wasp nests and mathematical modeling at a Math Circles, Aug. 2010.
Panel member, "Nuts and Bolts of Undergraduate Research," JMM, 2014.
Sessions on "Knot What You Think" for Science Fest, 2017.
Made stained-glass geometric sculptures of a regular polyhedron inscribed in another regular polyhedron with Genevieve Ahlstrom 2019 to 2024.
Attended numerous mathematics conferences and workshops, including two regional conferences annually and two nationally nearly annually between 2000 and 2018. Also, CUR conferences and business meetings almost annually from 1999 to 2008.

Professional Service:

Consultant to Cathedral High School Mathematics Department for review of their geometry curriculum, March, 1995.
Councilor for the Council on Undergraduate Research, 1999 – 2005, 2006 – 2009.
Treasurer for the North Central Section of the Mathematical Association of America, 1999 – 2005.
Mentor for the Making Mathematics Project field test, 2000 – 2002. (I mentored two different high school students, who worked on open ended mathematics projects.)
Outside reviewer for the Mathematics Department, Whittier College, CA, for the Department of Mathematics and Computer Science, Bemidji State University, 2001, for the University of St. Thomas, 2008, for Hope College 2010, for Albion College, 2017.
Project NExT consultant 2003 – present. (NExT stands for New Experiences in Teaching, a project for new Ph.D.'s in mathematics as they move into teaching careers. Consultants are paired with new faculty for a year and then are general consultants on a quite active list serve on a variety of topics.)
President-elect, President, Past President NCS/MAA 2006 – 2009.
External reviewer for tenure and/or promotion for mathematicians at Ursinus College 2007, South Dakota State University 2008, Beloit College 2011.
Member, Dolciani Math. Expositions Editorial Board, MAA, 2009 – 2012.
I led our department's organization of the North Central Section spring 2008 and participated in the organization of the national CUR conference at CSB in 2008.
Judge for student talks at Mathfest 2008, 2009, 2010, 2011, 2013.
Mentor for graduate students preparing job talks at Mathfest, 2011, 2018.
Tutoring inmates at the Virginia Regional Jail 2012 – 2013.
Governor, NCS/MAA 2013 – 2016.
Member, Subcommittee on Undergraduate Research of the MAA, 2014 – 2017.

Member, Anneli Lax editorial committee, MAA, 2018 – 2024.
Member, Committee on Sections, MAA 2021 – 2024.
Tutoring inmates at the St. Cloud prison since 2023.

Departmental Service:

Organized and ran a first-year student mathematics competition with Gary Brown in 1985 and 1986.

Department Bibliographer 1986 - 1989.

Advisor for the Math Society, the student mathematics club, 1984 - 1988 and 1994 - 1998, 1999 - 2000, 2006 – 2012, 2019 – 2021.

Led a teaching seminar for Calculus Teaching Assistants, 1988-1989.

Organized our annual Pi Mu Epsilon Conference for the spring of 1990.

Chair 1991 - 1994.

Received a Project Impact grant for a departmental workshop on Geometer's Sketchpad and for software manuals for the department for all software we use, 1995.

Advisor for over thirty student talks at our annual Pi Mu Epsilon Conference (1985 to present), eight student talks at Celebrating Scholarship and Creativity Day and twenty-two other student talks--seven at another regional Pi Mu Epsilon conference (1994, 2000, 2001, 2003, 2004, 2009, 2010), ten at the national Pi Mu Epsilon and MAA conference (1995, 2001, 2002, 2003, 2004, 2007 (two), 2008, 2010, 2011), three at the Winchell Student Research Competition (1995, 2003, 2004) and two at NCUR (2004 and 2011), two at the CURM conference (2011) and 1 at the Nebraska Conference for Wmen (2019).

Departmental representative for Science Day and College Visit Day many times.

Advisor to numerous mathematics majors over the years.

Conducted a hands-on "seminar" on dynamical systems for students in my calculus sections since 1997.

Received a C&PD Grant for Drs. Charles Rodell and Gordon Brown from Biology and me to attend the national Council on Undergraduate Research Conference in June 2004, where we gave a panel on undergraduate research in mathematical biology.

Received a C&PD Grant to attend the international conference on Mathematical Biology in July 2004 to give an invited address on my mathematical biology course.

Organized department's summer research program, 2001 – 2005, 2007 – 2012, 2014 – present.

Received a C&PD grant for colleagues and me to prepare for the department's capstone course, 2010.

Received a CURM grant (funded by NSF) to train me in mentoring team research and support two students to do team research, 2010 – 2011.

Faculty Service:

Search Committee for the Chair in (Critical) Thinking 1985.

Cultural Affairs and Student Publications Committee 1985 – 1988.

President's Advisory Council 1988 – 1989, 1999 – 2001.

Task Force for Minority Affairs 1988 – 1989.

Educational Policies and Joint Educational Policies Committees 1989 – 1990.

Science Center Renovation Committee 1992 – 1998.

Faculty Welfare Committee 1994 – 1996; Joint Benefits Committee, 1994 – 1995;
Chair and representative to SJU Regents Finance Committee, 1995 – 1996.

Committee on Academic Policies and Standards 1996 – 1998 ; Chair 1996 –
1997; SJU Admissions Committee 1996 – 1997; CSB Admissions Committee 1997 –
1998, joint Benedictine University College Committee 1997 – 1998.

Panel “Getting a Job Abroad,” Career Exploration Series at SJU, 1997.

Chair, Criterion Four Self Study Team, for North Central Accreditation, 1997.

Vice Chair of the Faculty Assembly, faculty regent, 1999 – 2000.

Chair of the Faculty Assembly, faculty regent, Chair of the Faculty Governing
Coordinating Committee, 2000 – 2001.

Budget Working Task Force, 1999 – 2001.

Provost Search Committee, 2000.

SJU Rank and Tenure Committee, 2002 – 2005.

Curriculum Committee 2007 – 2009.

Senate 2009 – 2012, Executive Committee 2009 – 2010 and 2011 – 2012.

Academic Curriculum Committee 2013 – 2014, co-chair.

Academic Planning and Budget Committee 2014 – 2017, Chair 2015 – 2016.

Supplemental Course ad hoc committee 2015.

Senate 2017 – 2020.

Academic Planning and Budget Committee Fall 2017.

Integrations subcommittee for the Integrations Curriculum, 2018 – 2020.

Becoming Community small group 2019 – 2020.

Awards:

Advising Award in the Natural Sciences, St. John’s University, 1988.

Outstanding Volunteer Award from the Land of Lakes Girl Scout Council, 1994.

Distinguished Teaching Award from the North Central Section of the
Mathematical Association of America, 2003.

Linda Mealey Teacher – Scholar Award, CSB/SJU, 2004.

Robert Spaeth Teacher of Distinction, SJU, 2009.

Meritorious Service Award from the North Central Section of the Mathematical
Association of America, 2009.

Pi Mu Epsilon Advisor Award (shared with Jennifer Galovich), 2017.

Student Awards

Jennifer Zobitz won a prize for “Fractals: Mathematical Monsters,” Pi Mu Epsilon
Journal, vol. 8, # 7 (Fall 1987), 425 – 440.

Nick McClure won awards in 2003 and 2004 for his talks at Mathfest.

Kristin Reinsvold won the CUR award in 2010 for her talk at Mathfest.

Kelsey Larson won the CUR award in 2011 for her talk at Mathfest.

Travis Spillum won an award in 2016 for his talk at Mathfest.

Professional Memberships:

Mathematical Association of America (for college mathematics), 1975 – present.

American Mathematical Society (for mathematics research), 1978 – present.

Pi Mu Epsilon (mathematical honors society), 1985 – present.

Association for Women in Mathematics, 1986 – 2020.
National Council of Teachers of Mathematics, 1991 – 1998.
Council for Undergraduate Research, 1994 – 2013.
Society for Mathematical Biology, 2004 – 2011.