Christopher Wayne Seaton
Curriculum Vitae, *updated July 2, 2024*

Department of Mathematics and Statistics
Skidmore College, 815 North Broadway
Saratoga Springs, NY 12866

e-mail: cseaton@skidmore.edu
Office Phone: (518) 580-8087

EDUCATION

- Ph.D., Mathematics, University of Colorado at Boulder, May 2004.

  Thesis Title: *Two Gauss–Bonnet and Poincaré–Hopf Theorems for Orbifolds with Boundary.*

  Thesis Advisor: Carla Farsi

- B.A., Mathematics, Kalamazoo College, May 1999.

  Graduated with departmental honors, cum laude, biology minor.

EMPLOYMENT

- Skidmore College, Professor, Department of Mathematics and Statistics, Fall 2024 to present.
- Rhodes College, Professor of Mathematics, Fall 2019–Spring 2024.
- Rhodes College, Associate Professor of Mathematics, Fall 2012–Spring 2019.
- Rhodes College, Assistant Professor of Mathematics, Fall 2006–Spring 2012.
- Rhodes College, Visiting Assistant Professor of Mathematics, Fall 2004–Spring 2006.

RESEARCH INTERESTS

Differential geometry and differential topology of singular spaces, symplectic reduction, invariant theory, computational invariant theory, algebraic geometry of singularities.

PUBLICATIONS AND PREPRINTS

Student coauthors indicated by *

In Print or Accepted

38. H.-C. Herbig, G. Schwarz, C.S., *Isomorphisms of symplectic torus quotients*, to appear in the *Journal of Symplectic Geometry*, arXiv:2306.17349 [math.SG]
37. H.-C. Herbig, G. Schwarz, C.S., *When does the zero fiber of the moment map have rational singularities*, to appear in *Geometry and Topology*, `arXiv:2108.07306 [math.AG]`
36. A. Barringer*, H.-C. Herbig, D. Herden, S. Khalid*, C.S., L. Walker*, *Multigraded Hilbert series of invariants, covariants, and symplectic quotients for some rank* 1 *Lie groups*, Communications in Algebra **52** (2024) 1000–1027.
35. H.-C. Herbig, D. Herden, C.S., *Higher Koszul brackets on the cotangent complex*, International Mathematics Research Notices **2023** (2023) 11592–11644.
34. H.-C. Herbig, D. Herden, C.S., *Hilbert series of symplectic quotients by the* 2*-torus*, Collectanea Mathematica **74** (2023) 415–442.
33. C. Farsi, M. Pflaum, C.S., *Differentiable stratified groupoids and a de Rham theorem for inertia spaces*, Journal of Geometry and Physics **187** (2023) 104806.
32. C. Farsi, C.S., *Orbifold Euler characteristics of non-orbifold groupoids*, Journal of the London Mathematical Society **106** (2022), 2342–2378.
31. C. Farsi, Emily Proctor, C.S., *The spectra of digraphs with Morita equivalent C^*-algebras*, Linear Algebra and its Applications **655** (2022), 28–64.

30. C. Farsi, E. Proctor, C.S., *Approximating orbifold spectra using collapsing connected sums*, Journal of Geometric Analysis **31** (2021) 9433–9468.
29. H.-C. Herbig, D. Herden, C.S., *The Laurent coefficients of the Hilbert series of a Gorenstein algebra*, Experimental Mathematics **30** (2021) 56–75.
28. H.-C. Herbig, E. Lawler*, C.S., *Constructing symplectomorphisms between symplectic torus quotients*, Beiträge zur Algebra und Geometrie / Contributions to Algebra and Geometry **61** (2020) 581–604.
27. H.-C. Herbig, D. Herden, C.S., *Hilbert series associated to symplectic quotients by* SU_2, International Journal of Algebra and Computation **30** (2020), 1323–1357.
26. P. d. C. Cayres Pinto*, H.-C. Herbig, D. Herden, C.S., *The Hilbert series of* SL_2*-invariants*, Communications in Contemporary Mathematics **22** (2020), 1950017.
25. H.-C. Herbig, G. Schwarz, C.S., *Symplectic quotients have symplectic singularities*, Compositio Mathematica **156** (2020), 613–646.
24. E. Cowie*, H.-C. Herbig, D. Herden, C.S., *The Hilbert series and a-invariant of circle invariants*, Journal of Pure and Applied Algebra **223** (2019), 395–421.
23. C. Farsi, C.S., *Functional equations for orbifold wreath products*, Journal of Geometry and Physics **120** (2017), 37–51.
22. J. Cape*, H.-C. Herbig, C.S., *Symplectic reduction at zero angular momentum*, Journal of Geometric Mechanics **8** (2016), 13–34.
21. H.-C. Herbig, D. Herden, C.S., *On compositions with* $x^2/(1-x)$, Proceedings of the American Mathematical Society **143** (2015), 4583–4596.
20. H.-C. Herbig, C.S., *An impossibility theorem for linear symplectic circle quotients*, Reports on Mathematical Physics **75** (2015), 303–331.
19. H.-C. Herbig, Gerald W. Schwarz, C.S., *When is a symplectic quotient an orbifold?*, Advances in Mathematics **280** (2015), 208–224.
18. C. Farsi, M. Pflaum, C.S., *Stratifications of inertia spaces of compact Lie group actions*, Journal of Singularities **13** (2015), 107–140.
17. D. Mehta, N. Daleo, J. Hauenstein, C.S., *Gauge-fixing on the lattice via orbifolding*, Physical Review D **90** (2014), 054504.
16. C. Farsi, E. Proctor, C.S., Γ*–extensions of the spectrum of an orbifold*, Transactions of the American Mathematical Society **366** (2014), 3881–3905.
15. H.-C. Herbig, C.S., *The Hilbert series of a linear symplectic circle quotient*, Experimental Mathematics **23** (2014), 46–65.
14. J. Wells*, C.S., *An orbit Cartan type decomposition of the inertia space of* $\mathrm{SO}(2m)$ *acting on* $\mathbb{R}^{2m}$, Involve: a Journal of Mathematics **6** (2013), 467–482.
13. R. Carroll*, C.S., *Extensions of the Euler–Satake for nonorientable* 3*–orbifolds and indistinguishable examples*, Involve: a Journal of Mathematics **6** (2013), 345–368.
12. C. Farsi, H.-C. Herbig, C.S., *On orbifold criteria for symplectic toric quotients*, Symmetry, Integrability, and Geometry **9** (2013), 032, 33 pages.
11. R. Carroll*, C.S., *Extensions of the Euler–Satake characteristic determine point singularities of orientable* 3*–orbifolds*, Kodai Mathematical Journal **36** (2013), 179–188.
10. C. Farsi, C.S., *Algebraic structures associated to orbifold wreath products*, Journal of K–Theory **8** (2011), 323–338.
9. J. Schulte*, C.S., B. Taylor*, *Free and free abelian Euler-Satake characteristics of nonorientable* 2*-orbifolds*, Topology and its Applications **158** (2011), 2244–2255.
8. C. Farsi, C.S., *Generalized orbifold Euler characteristics for general orbifolds and wreath products*, Algebraic and Geometric Topology **11** (2011), 523–551.
7. W. Duval*, J. Schulte*, C.S., B. Taylor*, *Classifying closed* 2*–orbifolds with Euler characteristics*, Glasgow Mathematical Journal **52** (2010), 555–574.

6. C. Farsi, C.S., *Generalized twisted sectors of orbifolds*, Pacific Journal of Mathematics **246** (2010), 49–74.
5. C. Farsi, C.S., *Nonvanishing vector fields on orbifolds*, Transactions of the American Mathematical Society **362** (2010), 509–535.
4. E. Paquette*, C.S., *The index of a vector field on an orbifold with boundary*, Involve: a Journal of Mathematics **2** (2009), 161–175.
3. C.S., *Two Gauss–Bonnet and Poincaré–Hopf theorems for orbifolds with boundary*, Differential Geometry and its Applications **26** (2008), 42–51.
2. C.S., *K–theory of crepant resolutions of complex orbifolds with $SU(2)$ singularities*, Rocky Mountain Journal of Mathematics **37** (2007), 1705–1712.
1. C.S., *Characteristic classes of bad orbifold vector bundles*, Journal of Geometry and Physics **57** (2007), 2365–2371.

Preprints

- C. Farsi, H. Meit*, C.S., *Euler characteristics of linear symplectic quotients and* O(2)*-spaces*, arXiv:2403.02552 [math.AT]
- H.-C. Herbig, D. Herden, C.S., *A symmetric function approach to polynomial regression*, arXiv:2402.11717 [math.RA]
- C. Farsi, E. Proctor, C.S., *A universal Euler characteristic of non-orbifold groupoids and Riemannian structures on Lie groupoids*, arXiv:2310.12073 [math.DG]

GRANTS, AWARDS, AND HONORS

- Summer 2023: Recipient of an **AMS-Simons Research Enhancement Grant for Primarily Undergraduate Institution (PUI) Faculty**. Proposal Title: *Singularities of Symplectic Quotients, Definable Groupoids, and Poisson Algebras*, $10,800.
- Spring 2021: Recipient of the **2021 Council on Undergraduate Research (CUR) Mathematics and Computer Sciences Division Advanced Career Mentor Award**.
- Fall 2019: Recipient of funding from the **Bernoulli Brainstorm** program at the Bernoulli Center (CIB), École Polytechnique Fédérale de Lausanne (EPFL) in Lausanne, Switzerland with Hans-Christian Herbig, Simon Lyakhovich, and Gerald Schwarz, funding a two-week visit to CIB in January 2020. Proposal Title: *Real and complex geometry of Hamiltonian reductions.*
- Fall 2019: Recipient of funding from the **Research in Pairs** program at the Centre International de Rencontres Mathématiques (CIRM) in Marseille, France with Hans-Christian Herbig, Simon Lyakhovich, and Gerald Schwarz, funding a one-week visit to CIRM in January 2020. Proposal Title: *Real and complex geometry of Hamiltonian reductions.*
- Fall, 2019: Co-PI of a funded proposal to the **National Science Foundation Robert Noyce Teacher Scholarship Program** (PI Zac Casey, co-PI's Jonathan Fitz Gerald and Dana Horgen). Proposal Title: *Rhodes College Noyce STEM Teach Education Partnership (Rhodes N-STEP): Recruiting, Preparing, and Retaining Excellent STEM Teachers*, $1,168,383.
- Summer, 2018: Co-recipient (with seven department colleagues) of a **Rhodes College Hill Grant** to support summer work on the development of a Data Analytics major. Proposal Title: *Data Analytics at Rhodes College.*
- Summer, 2016 to Summer 2019: Recipient of a second term of the **E.C. Ellett Professorship in Mathematics**, funding research for three years.
- Fall 2015: Recipient of funding from the **Collaborate@ICERM** program with Hans-Christian Herbig and Daniel Herden for a one-week visit to the Institute for Computational and Experimental Mathematics, Providence, RI in Summer, 2016. Proposal Title: *Hilbert series of symplectic torus quotients.*
- Summer, 2015: Funded participant in the **Research Experience for Undergraduate Faculty** Workshop at the Institute for Computational and Experimental Mathematics, Providence, RI.

- Spring 2015: Recipient of the **Rhodes College Clarence Day Award for Outstanding Research and/or Creative Activity**.
- Summer, 2013 to Summer, 2016: Recipient of the **E.C. Ellett Professorship in Mathematics**, funding research for three years.
- Summer 2005, 2007, 2009, 2011, and 2013: Recipient of a **Rhodes College Faculty Development Grant**, funding summer research.
- Spring 2009: Recipient of a **CAP Mellon Study Leave**, funding a sabbatical for the Fall 2009 semester.
- Fall 2008: Co-recipient (with Professors Emily Proctor, Ralph Gomez, and Megan Kerr) of a grant from the Mellon Foundation to organize a **Mellon 23 Faculty Workshop**, *Workshop on global Riemannian geometry, orbifolds, and related topics* (held on October 10–11, 2009 at Middlebury College).
- Spring 2008: Co-recipient (with Professor Rachel Dunwell) of a **Curriculum Development Grant from the Associated Colleges of the South Environmental Initiative**. Proposal Title: *Adding a Major Environmental Modeling Component to the Applied Calculus Class at Rhodes College.*
- Spring 2006: Co-recipient (with Professor Rachel Dunwell) of a **Rhodes College Hill Grant** to support summer curriculum development. Proposal Title: *Integrating a Significant Mathematical Modeling Component into the Mathematics Curriculum Available to all Rhodes College Students.*
- Spring 2004: Recipient of a **Honorable Mention for the Burton W. Jones Teaching Excellence Award** from the University of Colorado Mathematics Department.
- Summer, 2003: Recipient of the **Thron Summer Research Fellowship** from the University of Colorado Mathematics Department.
- 2000-2001, 2001-2002, and 2002-2003 academic years: Recipient of a **University Fellowship** from the Graduate School at the University of Colorado.
- Spring 1999: Recipient of the **Clark Benedict Award for Mathematics** from the Kalamazoo College Mathematics Department.
- Spring 1999: Graduated with **Honors in Mathematics** from the Kalamazoo College Mathematics Department.
- Spring 1999: Received **Senior Independent Project Honors** from the Kalamazoo College Mathematics Department.

EXTERNAL PRESENTATIONS

- April 14, 2024: *Classifying linear symplectic torus quotients*, Joint work with Hans-Christian Herbig and Gerald Schwarz, Gone Fishing 2024, Northwestern University, Evanston, Illinois.
- November 12, 2023: *A universal Euler characteristic for orbit space definable groupoids and orbifold Euler characteristics of Riemannian Lie groupoids*, Joint work with Carla Farsi and Emily Proctor, GroupoidFest 2023, Arizona State University, Tempe, Arizona.
- November 12, 2022: *Orbifold Euler characteristics of proper Lie and definable groupoids*, Joint work with Carla Farsi, GroupoidFest 2022, University of Colorado at Boulder, Boulder, Colorado.
- November 11, 2022: *Rational singularities of the zero fiber of the moment map* (externally funded), Joint work with Hans-Christian Herbig and Gerald Schwarz University of Colorado at Boulder Mathematics Seminar, Boulder, Colorado.
- November 11, 2021 (remote): *Rational singularities of the zero fiber of the moment map, symplectic quotients, and applications to representation and character varieties of surface groups*, Joint work with Hans-Christian Herbig and Gerald Schwarz, Baylor University Mathematics Colloquium, Baylor University, Texas.
- November 3, 2020 (remote): *Computing the Hilbert series of the real regular functions on a symplectic quotient by the* 2*-torus*, Joint work with Hans-Christian Herbig and Daniel Herden, Seminário Simplético Rio (Joint Symplectic Seminar), IMPA, PUC-RJ, UFF and UFRJ, Rio de Janeiro, Brazil.

- December 17, 2019: *Singularities of symplectic quotients and computational invariant theory* (externally funded), Joint work with Hans-Christian Herbig, Daniel Herden, and Gerald Schwarz, Workshop of Algebra and Geometry, Sultan Qaboos University, Muscat, Oman.
- September 24, 2019: *Can one approximately hear orbifold singularities?*, Joint work with Carla Farsi and Emily Proctor, Middlebury College Department of Mathematics, Middlebury, Vermont.
- September 28, 2018: *Distinguishing between symplectic quotients by* SU_2 *using invariant theory*, Joint work with Hans-Christian Herbig and Daniel Herden, University of Mississippi Graduate Student Seminar, Oxford, Mississippi.
- August 4, 2018 (poster presentation): *The Hilbert series and Laurent coefficients of* $\mathrm{SL}_2(\mathbb{C})$*-invariants*, Joint work with Pedro de Carvalho Cayres Pinto, Hans-Christian Herbig, and Daniel Herden, International Congress of Mathematicians (ICM 2018), Rio de Janeiro, Brazil.
- May 8, 2018: *The k-large property for representations of complex reductive groups and implications for linear symplectic quotients*, Joint work with Hans-Christian Herbig and Gerald Schwarz, International Conference on Mathematics and Statistics (ICOMAS 2018), University of Memphis, Tennessee.
- April 14, 2018: *The Hilbert series of a reducible representation of* $\mathrm{SL}_2(\mathbb{C})$ *and its Laurent coefficients*, Joint work with Pedro de Carvalho Cayres Pinto, Hans-Christian Herbig, and Daniel Herden, Special Session on Commutative Algebra, Spring Southeastern Sectional Meeting of the AMS, Vanderbilt University, Nashville, Tennessee.
- November 11, 2017: *Counting* $\mathrm{SL}_2(\mathbb{C})$*-invariant polynomials*, Joint work with Pedro de Carvalho Cayres Pinto, Hans-Christian Herbig, and Daniel Herden, 37^{th} Annual Math Symposium at Western Kentucky University, Bowling Green, Kentucky.
- July 11, 2017: *Complex symplectic quotients with symplectic singularities* (externally funded), Joint work with Hans-Christian Herbig and Gerald Schwarz, Instituto de Matemática Pura e Aplicada (IMPA), Rio de Janeiro, Brazil.
- April 22, 2017 *The spectrum of orbifold connected sums and collapsing*, Joint work with Emily Proctor and Carla Farsi, Methods in Operator Theory and Applications University of Memphis, Memphis, TN.
- March 15, 2016: *Constructing symplectmorphisms between linear symplectic quotients* (externally funded), Joint work with Joshua Cape, Carla Farsi, Hans-Christian Herbig, Daniel Herden, Ethan Lawler, and Gerald Schwarz, Poisson Geometry Seminar, University of Colorado at Boulder, Colorado.
- March 11, 2016: *The inertia groupoid of a Lie groupoid* (externally funded), Joint work with Carla Farsi and Markus Pflaum, Gone Fishing Poisson Geometry Conference, University of Colorado at Boulder, Colorado.
- March 5, 2016: *The ring of regular functions on a linear symplectic quotient*, Joint work with Joshua Cape, Hans-Christian Herbig, Daniel Herden, and Gerald Schwarz, Special Session on Symplectic and Contact Geometry, Spring Southeastern Sectional Meeting of the AMS, University of Georgia, Athens, Georgia.
- January 11–12, 2016: *Computational methods in the study of symplectic quotients* (externally funded), Advanced Minicourse (four 90-minute lectures) given with Hans-Christian Herbig, Instituto de Matemática, Universidade Federal do Rio de Janerio, Brazil.
- November 15, 2015: *Coefficients of the Laurent expansion of the Hilbert series of Gorenstein rings*, Joint work with Hans-Christian Herbig and Daniel Herden, 4^{th} Annual Mississippi Discrete Mathematics Workshop, University of Mississippi, Oxford, Mississippi.
- July 10, 2015: *Hilbert series of regular functions on singular symplectic quotients* (externally funded), Joint work with Joshua Cape, Emily Cowie, Carla Farsi, Hans-Christian Herbig, Daniel Herden, and Gerald Schwarz, Baylor University, Waco, Texas.
- January 6, 2015: *Singular symplectic reduction and invariant theory* (externally funded), Joint work with Joshua Cape, Carla Farsi, Hans-Christian Herbig, Daniel Herden, and Gerald Schwarz, Instituto de Ciências Matemáticas e de Computação, Universidade de São Paulo, São Carlos, Brazil.
- November 14, 2014: *Differentiable stratified groupoids* (externally funded), Joint work with Carla Farsi and Markus Pflaum, University of Colorado at Boulder Groupoids Seminar, Boulder, Colorado.

- August 11, 2014: *Orbifold and non-orbifold symplectic quotients* (externally funded), Joint work with Carla Farsi, Hans-Christian Herbig, Daniel Herden, and Gerald Schwarz, Topology of Torus Actions and Applications to Geometry and Combinatorics, Daejeon Convention Center, Daejeon, Korea.
- March 13, 2014: *Geometry of symplectic quotients via invariant theory II* (externally funded), joint work with Carla Farsi, Daniel Herden, Hans-Christian Herbig, and Gerald Schwarz, Commutative Algebra Seminar, University of Nebraska at Lincoln, NE (part I was given by Hans-Christian Herbig).
- October 19, 2013: *The inertia space of a proper Lie groupoid as a stratified differentiable space*, joint work with Carla Farsi and Markus Pflaum, 2013 American Mathematical Society Fall Central Sectional Meeting, Special Session on Groupoids in Analysis and Geometry, Washington University, St. Louis, MO.
- April 14, 2013: *The inertia space associated to a proper Lie group action as a stratified space*, joint work with Carla Farsi and Markus Pflaum, 2013 American Mathematical Society Spring Western Sectional Meeting, Special Session on Noncommutative Geometry and Geometric Analysis, University of Colorado, Boulder, CO.
- September 12, 2012: *A stratification of the orbit space of a G–manifold for a compact Lie group G* (externally funded), joint work with Carla Farsi and Markus Pflaum Centre for Quantum Geometry and Moduli Spaces, Aarhus University, Aarhus, Denmark.
- January 21, 2012: *An explicit stratification of the inertia space for a connected, compact Lie group action*, joint work with C. Farsi and M. Pflaum, Groupoidfest 2011, University of Nevada, Reno, NV.
- July 28, 2011: *On orbifold criteria for Hamiltonian toric quotients* (externally funded), joint work with Carla Farsi and Hans-Christian Herbig, Workshop on Recent developments on Orbifolds, Nankai University, Chern Institute of Mathematics, Tianjin, China.
- August 4th, 2010: Γ-*extensions of orbifold Euler characteristics* (externally funded), joint work with Ryan Carroll, Whitney DuVal, Carla Farsi, John Schulte, and Bradford Taylor, Centre for Quantum Geometry of Moduli Spaces, Aarhus University, Aarhus, Denmark.
- November 18th, 2009: *Introduction to orbifolds and orbifold groupoids*, Seminar on Stacks and Groupoids, University of Colorado, Boulder, CO.
- October 11, 2009: *Invariants associated to orbifold sector decompositions* (externally funded), joint work with Carla Farsi, Mellon 23 Faculty Workshop on global Riemannian geometry, orbifolds, and related topics, Middlebury College, Middlebury, VT.
- September 28, 2009: *Sector decompositions for orbifolds* (externally funded), joint work with Carla Farsi, Kempner Colloquium, University of Colorado at Boulder, Boulder, CO.
- June 4th, 2009: *Orbifold groupoids, sectors, and wreath products* (externally funded), joint work with Carla Farsi, 2009 Great Plains Operator Algebras Symposium, University of Colorado, Boulder, CO.
- April 25, 2009: *Generalized twisted sectors and applications*, joint work with Carla Farsi, 2009 American Mathematical Society Spring Western Sectional Meeting, Special Session on Geometry and Topology of Orbifolds, San Francisco State University, San Francisco, CA.
- October 24th, 2008: *Generalized orbifold Euler characteristics and cohomology*, joint work with Carla Farsi, 2008 American Mathematical Society Fall Southeastern Sectional Meeting, Special Session on Homotopy Theory and Algebraic Topology, University of Alabama, Huntsville, AL.
- October 4th, 2008: Γ-*sectors of an orbifold, Euler characteristics, and vector fields*, joint work with Carla Farsi, 2008 American Mathematical Society Fall Western Sectional Meeting, Special Session on Moduli Spaces and Singularity Theory and the Bellingham Algebraic Geometry Seminar, University of British Columbia, Vancouver, Canada.
- October 12, 2007: *Higher orbifold Euler classes for general orbifolds* (externally funded), 2007 Lehigh University Geometry and Topology Conference, Lehigh University, Bethlehem, PA.
- March 14, 2007: *Generalized orbifold characteristic classes for orbifolds* (externally funded), Conference on Analysis on Homogeneous Spaces, University of Arizona, Tucson, AZ.

- March 17, 2007: *Euler classes for orbifolds,* 2007 American Mathematical Society Spring Central Sectional Meeting Special Session on Spectral Theory, Orbifolds, Symplectic Reduction, and Quantization, University of Miami at Ohio, Oxford, OH.
- June 10, 2006: *The Euler class of a bad orbifold vector bundle* (externally funded), 2006 Lehigh University Geometry and Topology Conference, Lehigh University, Bethlehem, PA.
- Apr. 9, 2006: *Characteristic classes of bad orbifold vector bundles*, 2006 Spring Central Sectional Meeting of the American Mathematical Society, Special Session on Developments and Applications in Differential Geometry, The University of Notre Dame, Notre Dame, IN.
- Oct. 23, 2004: *Orbifold K-theory and resolutions of orbifolds with $SU(2)$ singularities* (externally funded), West Coast Operator Algebras Seminar, Seattle University, Seattle, WA.
- Oct. 17, 2004: *A complete obstruction to the existence of nonvanishing vector fields on almost-complex, closed orbifolds*, 2004 Fall Southeastern Section Meeting of the American Mathematical Society, Special Session on Index Theory and the Topology of Manifolds, Vanderbilt University, Nashville, TN.
- Sept. 18th, 2004: *The orbifold Euler class*, Wabash Modern Analysis Miniconference, Indiana University–Purdue Univ at Indianapolis, Indianapolis, IN.
- May 25, 2004: *Calculus on the cone: quotients from the differentiable perspective*, Kalamazoo College, Kalamazoo, MI.
- Feb. 19, 2004: *The conjugacy classes of $SL(2,\mathbb{R})$,* University of Michigan Undergraduate Math Club, Ann Arbor, MI.
- Oct. 3, 2003: *Gauss-Bonnet and Poincaré-Hopf Theorems for orbifolds with boundary,* 2003 Joint Central and Western Section Meeting of the American Mathematical Society, Special Session on Noncommutative Geometry and Geometric Analysis, University of Colorado at Boulder, Boulder, CO.
- April 19, 2003: *Orbifold cohomology and the resolutions of orbifold singularities,* Graduate Student Research Workshop on Differential Geometry, University of Colorado at Boulder, Boulder, CO.
- May 7, 1999: *The conjugacy classes of $SL(2,\mathbb{R})$,* Michigan Section of the Mathematical Association of America Annual Meeting, Eastern Michigan University, Ypsilanti, MI.

TEACHING EXPERIENCE

2004–2024, Rhodes College:

- Spring 2024: Calculus with Business Applications, Abstract Algebra I, Research in Mathematics, Junior Seminar, Senior Seminar.
- Fall 2023: Calculus with Business Applications, Complex Variables, Complex Variables with Proofs, Senior Seminar, Research in Mathematics.
- Spring 2023: Linear Algebra (2 sections), Topics: Advanced Linear Algebra, Junior Seminar, Senior Seminar, Research in Mathematics.
- Fall 2022: Multivariable Calculus, Vector and Advanced Calculus, Senior Seminar, Research in Mathematics.
- Spring 2022: Linear Algebra, Computational Topology, Abstract Algebra, Junior Seminar, Senior Seminar, Research in Mathematics.
- Fall 2021: Multivariable Calculus, Complex Variables, Complex Variables with Proofs, Senior Seminar, Research in Mathematics.
- Spring 2021: Calculus with Business Applications, Linear Algebra, Junior Seminar, Senior Seminar, Research in Mathematics, DI: Introduction to Differential Geometry, DI: General and Algebraic Topology, DI: Matrix Groups and Integration.
- Fall 2020: Calculus with Business Applications, Vector and Advanced Calculus, Senior Seminar, DI: Matrix Groups
- Spring 2019: Linear Algebra, Junior Seminar, Senior Seminar
- Fall 2018: Transition to Advanced Mathematics, Senior Seminar

- Spring 2018: Linear Algebra, Junior Seminar, Senior Seminar, DI: Differential Topology
- Fall 2017: Transition to Advanced Mathematics, Senior Seminar
- Spring 2017: Complex Variables, Junior Seminar, Senior Seminar, Research in Mathematics
- Fall 2016: Applied Calculus, Calculus III, Research in Mathematics, Senior Seminar, DI: Symplectic Geometry
- Spring 2016: Calculus III, Junior Seminar, Senior Seminar, DI: Advanced Algebra and Invariant Theory, DI: Introduction to the Geometry and Topology of Manifolds, DI: Matrix Groups
- Fall 2015: Transition to Advanced Mathematics, Abstract Algebra, Senior Seminar
- Summer, 2015: Applied Calculus
- Spring 2015: Linear Algebra, Complex Variables
- Fall 2014: Applied Calculus (two sections), Calculus III
- Spring 2014: Cryptology, Linear Algebra, Junior Seminar, Senior Seminar, Topics: Matrix Groups and Applications, DI: Invariant Theory
- Fall 2013: Applied Calculus, Transition to Advanced Mathematics, Senior Seminar
- Spring 2013: Applied Calculus (two sections), Calculus I
- Spring 2012: Cryptology, Topology, Junior Seminar, Senior Seminar, Honors Tutorial.
- Fall 2011: Applied Calculus, Transition to Advanced Mathematics, Senior Seminar, Topics: Number Theory and Advanced Algebra, Honors Tutorial.
- Spring 2011: Linear Methods, Cryptology, DI: Matrix Groups and Applications.
- Fall 2010: Applied Calculus, Calculus III, Abstract Algebra.
- Spring 2010: Applied Calculus, Linear Algebra, Cryptology, Directed Inquiry: Orbifold Euler Characteristics.
- Spring 2009: Applied Calculus (two sections), Calculus III, Directed Inquiry: St. Jude Summer Plus, Topics: Orbifold Euler Characteristics, Readings: Complex Variables.
- Fall 2008: Applied Calculus, Calculus III, Directed Inquiry: St. Jude Summer Plus, Topics: Orbifold Euler Characteristics.
- Spring 2008: Cryptology, Applied Calculus, Linear Algebra
- Fall 2007: Applied Calculus, Calculus III, Directed Inquiry: Matrix Groups and Applications
- Spring 2007: Cryptology, Applied Calculus, Calculus III, Junior Seminar, Senior Seminar
- Fall 2006: Linear Methods, Applied Calculus, Calculus III, Senior Seminar
- Spring 2006: Applied Calculus, Calculus III, Complex Variables, Junior Seminar
- Fall 2005: Applied Calculus, Calculus I, Calculus III
- Spring 2005: Linear Methods (2 sections), Calculus III
- Fall 2004: Linear Methods (2 sections), Calculus I

1999-2004, University of Colorado at Boulder Department of Mathematics:

- Instructor of Record: Introduction to Linear Algebra (Spring 2004), Calculus III (Spring 2003), Calculus II (Fall 2003), Calculus I with Computer Applications (Spring 2001–Fall 2002).
- Additional teaching: Teaching assistant for Calculus I with Computer Applications (Fall 2000), Tutor in the Math Modules Help lab (Fall 1999–Spring 2000).

CURRICULUM DEVELOPMENT

- Spring 2022: *Computational Topology*, Rhodes College.
  With one other faculty member, co-taught a new course introducing topology and topological data analysis with an emphasis on computation. Topics include topology of graphs, alpha-complexes and triangulations, homology, and persistence. Offered to 15 students with tentative plans to offer every other year.

- Spring 2021: *Directed Inquiry: Introduction to Differential Geometry*, Rhodes College.
  An introduction to the classical differential geometry of curves and surfaces taught to one senior interested in mathematics.
- Spring 2021: *Directed Inquiry: General and Algebraic Topology*, Rhodes College.
  An introduction to point-set and basic algebraic topology taught to one senior interested in mathematics.
- Fall 2020: *Vector and Advanced Calculus*, Rhodes College.
  A new course continuing the (recently revised) calculus sequence, covering parameterizations, integration of differential forms, the generalized Stokes' theorem, and specific cases of Stokes' theorem. Offered to 14 students and planned to be offered every other year.
- Fall 2016: *Directed Inquiry: Symplectic Geometry*, Rhodes College.
  An introduction to symplectic linear algebra and symplectic manifolds taught to one junior interested in mathematics and physics.
- Spring 2016: *Directed Inquiry: Geometry and Topology of Manifolds*, Rhodes College.
  An introduction to smooth manifolds and differential forms taught to one sophomore interested in mathematics and physics.
- Spring 2014 and Spring 2016: *Directed Inquiry: Invariant Theory*, Rhodes College.
  An introduction to Gröbner basis techniques and computational invariant theory taught in each instance to one advanced mathematics major as a supplement to their senior seminar project.
- Fall 2007, Spring 2011, Spring 2014, Spring 2016, Fall 2020, Spring 2021: *Directed Inquiry/Topics: Matrix Groups and Applications*, Rhodes College.
  In sections ranging from one to four students, introduction for math and physics students to Lie groups and Lie algebras through the examples of matrix groups.
- Fall 2008–Spring 2009 and Spring 2010: *Topics: Orbifold Euler Characteristics*, Rhodes College.
  A one-credit topics course taught to three senior mathematics and physics majors in the fall of 2008, continuing with two students in the spring of 2009. An introduction to group actions, surfaces, and orbifolds focusing on the case of closed two-dimensional orbifolds. The first half of the first semester covered established material, while the second half challenged the students to prove new results regarding generalized orbifold Euler characteristics. The second semester continued these investigations, focusing on the non-orientable case. A third semester was taught as a Directed Inquiry to one student in spring 2010.
- Summer, 2008: *Applied Calculus,* Rhodes College.
  Continuing our improvements to the Applied Calculus Course (below), Professor Dunwell and I were funded by a grant from the ACS Environmental Initiative to incorporate a more significant environmental modeling component into this class. These changes are being implemented in the Fall 2008 semester, and Professor Dunwell will present our evaluation of this work at the 2009 Joint National Meetings of the American Mathematical Society and Mathematical Association of America in Washington DC, January 5–8, 2009.
- Summer, 2006: *Applied Calculus,* Rhodes College.
  This course is an introductory calculus course designed for non-math majors. The syllabus covers elements of differential, integral, and multivariable calculus with an emphasis on applications. Funded by a Hill grant from Rhodes College, the Applied Calculus class was redesigned to be based on a series of modules, each based on a related set of applications. The goal was a calculus course in which the students learned the material beginning with and completely motivated by applications. A significant component involving modeling and use of the software application Mathematica was added.
  These modifications and our evaluation of the new course were presented by Rachel Dunwell at the 2008 Joint National Meetings of the American Mathematical Society and Mathematical Association of America in San Diego, CA: **An Applied Calculus Course for Everyone**, Rachel Dunwell (presenter) and Christopher Seaton, Mathematical Association of America Session on Serving Students Who Have Taken Calculus in High School, January 6, 2008.

- 2001-2002: *Calculus I with Computer Applications*, University of Colorado at Boulder.
  During my four consecutive semesters teaching the course, I designed supplemental assignments and programming projects to meet the needs of the wide variety of majors who take the course, as well as adjusting the syllabus to allow for a more relevant exposition of the topics.

SERVICE

Skidmore College Department of Mathematics and Statistics:

- Hiring Committee member, 2024–2025.

Rhodes College:

- Faculty Secretary, Fall 2023 to Spring 2024.
- Faculty Mentor for New Faculty, Fall 2023 to Spring 2024.
- Committee on Committees: member from Spring 2021 to Spring 2024. Chair, Fall 2022 through Spring 2023.
- Rhodes College Table Tennis Club: Faculty Advisor to this student club, spring 2022 to Spring 2024.
- Faculty Professional Interests Committee: member and secretary, 2015-16; co-chair Spring 2016; chair 2016–17 and 2017–18. Member of a joint FPIC-FGC Salary Compression Task Force, Spring 2018.
- Diversity Officer: Fall 2014 to Spring 2016. In this capacity, served on hiring committees in Anthropology and Sociology, Biology, Commerce and Business (two committees), English, Theater, and Urban Studies.
- Speaker at Admissions Information Sessions for prospective students and parents, October 5, 2018; March 16, 2018; and Oct. 24, 2016; Co-conducted interviews to help choose Rhodes' highest scholarship recipients, March 19, 2018.
- Educational Program Committee, member and secretary, Fall 2010 through Spring 2012 and Spring 2013. Chair, Fall 2013 through Spring 2014.
- Common Table: Member of the Future of Teaching and Learning Common Table Team, Spring 2013.
- Environmental Planning Cooperative (formerly the Rhodes Planning Cooperative): member from Fall 2004 to Spring 2011, and Chair from Spring 2013 to Spring 2015. Named Co-Environmental Fellow for the 2005-2006 academic year and Environmental Fellow for the 2006-2007 and 2007-2008 academic years. Supervised the student initiation of the Environmental Residency program. Supervisor of the Environmental Residency program from Fall 2006 to Spring 2011, including supervision of a portion of the data collection for the carbon footprint calculation required as part of the Presidents Climate Commitment (presented at the 2008 Undergraduate Research and Creative Activity Symposium).
- Advising Committee: member from Summer, 2006 through Summer, 2008. Secretary from Fall 2007 through Summer, 2008. As part of my duties, chaired sessions of advising orientation for faculty and addressed the incoming class of 2011 at orientation in Fall 2007.
- Advisor for first-year students entering in Fall 2005 (10 students), Fall 2006 (9 students), Fall 2008 (10 students), Fall 2010 (5 students), Fall 2011 (5 students), Fall 2013 (5 students), Fall 2014 (5 students), Fall 2015 (4 students), Fall 2016 (5 students), Fall 2017 (3 students), Fall 2018 (7 students), Fall 2020 (5 students), Fall 2021 (5 students), Fall 2022 (5 students), Fall 2023 (4 students), regular major advisor for math majors.
- Advisor for entering first-year students at the Open Rhodes summer orientation in 2007 (two sessions), 2008 (four sessions), 2009 (four sessions), 2010 (four sessions), 2011 (four sessions), 2012 (four sessions), and 2014 (five sessions), including representing the Math and C.S. Department at the morning Natural Science Division meetings.
- Bellingrath Fellowship selection committee: member, March 31, 2008.
- Undergraduate Research and Creative Activity Symposium (URCAS): Natural Science Division Session Chair, April 28, 2006 and April 27, 2007.
- Fall 2004 through Spring 2006; Spring 2007: Rhodes College Symphony Orchestra and Rhodes College Wind Ensemble, Percussion and Tympani.

- Battle of the Bands: Faculty Judge for this student fund-raiser hosted by the Rhodes Activities Board, March 6th, 2010 and March 26, 2011.
- Up 'Til Dawn: Blackjack dealer for this event to raise funds for St. Jude Children's Research Hospital, April 16, 2008.

Rhodes College Mathematics and Computer Science Department:

- Organizer for the Mathematics Faculty Seminar, Spring 2012–Spring 2014, Fall 2015–Spring 2019, Fall 2020–Spring 2024.
- Rhodes College Chapter of the Mathematical Association of America: Faculty advisor to this student math organization, Fall 2007–Spring 2012, Fall 2013–Spring 2019, Fall 2020–Spring 2024.
- Chair of the Mathematics and Computer Science Department, Spring 2017 through Spring 2019.
- Hiring Committees for positions in Mathematics and Computer Science/Mathematics and Statistics:
  2023–2024: Diversity Liaison, hiring committee for one position in Mathematics and Statistics;
  2018–2019: Chair, hiring committee for one position in Mathematics and Computer Science;
  2018–2019: Member, hiring committee for one position in Computer Science;
  2017–2018: Chair, hiring committee for one position in Computer Science;
  2016–2017: Chair, hiring committee for one visiting position in Computer Science;
  2016–2017: Chair, hiring committee for one position in Mathematics;
  2014–2015: Member, hiring committee for one visiting position in Computer Science;
  2013–2014: Member, hiring committee for one position in Mathematics;
  2012–2013: Member, hiring committee for one position in Computer Science;
  2010–2011: Member, hiring committee for one position in Computer Science;
  2009–2010: Member, hiring committee for one position in Mathematics;
  2008–2009: Member, hiring committees for three positions in Mathematics;
  2007–2008: Member, hiring committee for one position in Mathematics.
- Putnam Exam: Organizer and Proctor of the exam as well as problem sessions to prepare students for the exam, Fall 2004, Fall 2005, and Fall 2006.
- Tennessee Mathematics Teachers' Association Mathematics Competition: Testing Center Co-Chair and co-grader, Spring 2005 and Spring 2006; helped to write the Calculus and Advanced Topics exam, Spring 2010.
- Project advisor for recipients of the Robert Allen Scott award (an annual award funding student summer research):
  - Lillian Whitesell, 2023.
  - Ryan Carroll, 2011.
  - Anna Casteen, 2007.
- Advisor for Rhodes College Summer Research Fellowships:
  - Luke Guidry, *Invariant Theory Summer Fellowship*, 2023.
  - Hannah-Elsie Meit, *Invariant Theory Summer Fellowship*, 2023.
  - Catherine Althoff, *Invariant Theory Summer Fellowship*, 2022.
  - Harper Kolehmainen, *Invariant Theory Summer Fellowship*, 2022.
  - Jessica Phyu Sin Myat, *Invariant Theory Summer Fellowship*, 2022.
  - Mike Shible, *Invariant Theory Summer Fellowship*, 2021.
  - Lily Whitesell, *Invariant Theory Summer Fellowship*, 2021.
  - Lawton Walker, *Invariant Theory Summer Fellowship*, 2020.
  - Austin Barringer, *Invariant Theory Summer Fellowship*, 2017.
  - Saad Khalid, *Invariant Theory Summer Fellowship*, 2016 and 2017.
  - Liam Bitting, *Invariant Theory Summer Fellowship*, 2016.
  - Ethan Lawler, *Invariant Theory Summer Fellowship*, 2015.
  - John Wells, Γ–*Extensions of Orbifold Invariants for low-dimensional orbifolds*, 2011.
  - Ryan Carroll, Γ–*Extensions of Orbifold Invariants for low-dimensional orbifolds*, 2010.

- Mentor for Honors and Senior Seminar Projects:
  - Blair Kinsey: *The Hermitian Adjacency Spectra of Digraphs with Morita Equivalent C^*-Algebras*, 2024.
  - Phyu Sin (Jessica) Myat: *Combinatorial description of the first Hilbert Series Laurent Coefficient for the 2-torus*, 2024.
  - Luke Guidry: *Investigating Spectral Behavior through Digraph Move Sequences*, 2024.
  - Lily Whitesell: *Integrating* $\mathrm{O}(n)$*-invariant Functions via the Hilbert Embedding*, 2024.
  - Abbey Gobble and Jiwoo Lee: *Using Persistent Homology to Analyze the Topological Signature of William Shakespeare*, 2022.
  - Michael Shible: *Hilbert Series of Invariants of* $\mathbb{T}^2$, 2022.
  - Lawton Walker: *Hilbert series of invariants of* O_2, 2021.
  - Evuilynn Nguyen: *Invariants of coregular groups*, 2021.
  - Austin Barringer: *Computation and Analysis of the Hilbert Series of Covariants for the Circle Action*, 2019.
  - Luis Milburn: *Convolutional Neural Networks: Mathematics and Application*, 2019.
  - Zachary Wall: *Representations of the group* $O(2)$, 2019.
  - Saad Khalid: *Derivation and Analysis of the Bigraded Hilbert Series of a Circle Action*, 2018.
  - Yi Song: *Characterization of weight matrices corresponding to torus actions of different properties*, 2018.
  - Baobao Wang: *From Simplicial Homology to Singular Homology: An Exploration of the Connections of Homology Theories through Examples*, 2018.
  - Liam Bitting: *Generalizing the Hilbert Series of Matrix Groups Isomorphic to* $\mathbb{Z}_q$, 2017.
  - Ethan Lawler: *Symplectomorphisms and Hironaka Decompositions of Torus-Invariant Symplectic Quotients*, 2016.
  - Emily Cowie: *Computing the Hilbert series of invariant polynomials*, 2015.
  - Joshua Cape: *Invariant theory and angular momentum*, 2014.
  - Stefan McCarty: *Symplectic geometry*, 2014.
  - Michael Todd: *A non-Euclidean geometrical analysis of music*, 2013.
  - Ryan Carroll (Honors): Γ*-Euler-Satake characteristics of closed* 3*-orbifolds*, 2012.
  - John Wells: *Stratification of the inertia space for the* $\mathrm{SO}(n)$*-action on* $\mathbb{R}^n$, 2012.
  - Anna Casteen: *Finding Orbifold Euler Characteristics*, 2008.
  - Ross Dawkins: *Mathematical Modeling of a Biological System*, 2007.
- AfterMath and seminar presentations, Rhodes College:
  - *The Spectra of Digraphs with Morita Equivalent C^*-Algebras*, joint work with Carla Farsi and Emily Proctor, Mathematics and Computer Science Faculty Seminar, February 7, 2023.
  - *Computations of Homological Invariants of Poisson Algebras*, joint work with Hans-Christian Herbig and Daniel Herden, Faculty Development Grant Presentation, November 9, 2022.
  - *Invariant Theory of* $\mathrm{SL}_2(\mathbb{C})$, joint work with Pedro de Carvalho Cayres Pinto, Hans-Christian Herbig and Daniel Herden, Mathematics and Computer Science Faculty Seminar, October 26, 2017.
  - *Can orbifolds sound almost just like manifolds?*, joint work with Carla Farsi and Emily Proctor, Mathematics and Computer Science Faculty Seminar, March 30, 2016.
  - *Roots of Unity*, AfterMath, February 24, 2016.
  - *Introduction to LaTeX,* September 12th, 2008; October 21, 2010; January 20, 2011; September 13, 2011; August 28th, 2013; January 30, 2014; September 1, 2015.
  - *Using invariant polynomials to study the geometry of classical mechanics*, joint work with Hans-Christian Herbig, Faculty Development Grant Presentation, January 22, 2014.
  - *Restricting representations to fixed point sets,* AfterMath, September 6, 2013.
  - *Orbifolds as torus quotients in algebraic and symplectic geometry*, joint work with C. Farsi and H.-C. Herbig, Faculty Development Grant Presentation, October 26, 2011.
  - *Inertia spaces associated to group actions*, joint work with C. Farsi and M. Pflaum, Mathematics and Computer Science Faculty Seminar, October 11, 2011.

- *Orbifolds and generalized Euler characteristics*, Mathematics and Computer Science Department Faculty Seminar, April 16, 2009.
- *Differential topology and geometry of orbifolds I*, Department of Mathematics and Computer Science Seminar, November 13, 2007.
- *Some Ruler and Compass Constructions,* AfterMath, November 9, 2007.
- *Higher Chen-Ruan orbifold cohomology and characteristic classes*, Faculty Development Endowment Presentation, October 29, 2007.
- *Orbifolds, de Rham cohomology, and orbifold cohomology*, Mathematics and Computer Science Department Faculty Seminar, April 19, 2007.
- *What is E8?* AfterMath, April 13, 2007.
- Math Jeopardy Host, January 28th, 2005 and February 24th, 2006.
- *Obstructions to nonvanishing sections of bad orbifold vector bundles*, Faculty Development Endowment Presentation, Jan. 26th, 2006.
- *Noncommutative spaces and orbifold K-theory,* Department of Mathematics and Computer Science Faculty Seminar, Oct. 14th, 2004.

- Summer, 2006: Kalamazoo College student (Elliot Paquette) was awarded a Kalamazoo College Fields Experience grant to work on research with me at Rhodes College.
- Oct. through Nov., 2005: Co-organizer and speaker for two lectures of the *Lecture Series on General Relativity and Differential Geometry.*
  Nov. 8, 2005: *Beyond* $\mathbb{R}^n$.
  Oct. 25, 2005: *An introduction to intrinsic geometry.*

University Of Colorado at Boulder:

- Spring 2004: Organizer and lecturer for a workshop on LaTeX for graduate students at the University of Colorado at Boulder.
- Fall 2003 through Spring 2004: Graduate student representative to the Graduate Committee of the University of Colorado Mathematics Department.
- Seminar presentations, University Of Colorado at Boulder:
  - *The Lefschetz fixed point theorem and finite group actions on manifolds,* Slow Pitch Seminar, Oct. 22, 2003.
  - *Lie groups through one example,* Slow Pitch Seminar, Dec. 6, 2002.
  - *A secondary Chern-Euler class,* Nov. 16, 2001.
  - *Poincaré-Hopf theorems on manifolds with boundary,* Oct. 19, 2001.

PROFESSIONAL CITIZENSHIP

- July 5–8, 2022 and January 18–20, 2023: As part of the Robert Noyce Teacher Scholarship Program at Rhodes College and with Professor Dana Horgen (Chemistry, Rhodes College), led a four-day *STEM Week Teacher Training* for Memphis 8^{th} through 12^{th} grade teachers and a Rhodes Math and Educational Studies double-major. Covered introductory cryptology and using it to illustrate mathematical concepts in the classroom. As a follow-up, visited White Station High School with four Rhodes students for *STEM 101* to teach cryptology concepts to three Precalculus classes for two days and help the class teacher include these concepts in her other sections of the class.
- May 2022: Ph.D. Thesis Committee, Zainab Saleh Rashid Al-Maamari, Department of Mathematics, College of Science, Sultan Qaboos University, Sultanate of Oman.
- External reviewer of scholarship for two faculty reviews.
- Referee for the *Journal of Lie Theory*, the *Journal of Mathematical Physics*, *Publicationes Mathematicae Debrecen*, the *Rocky Mountain Journal of Mathematics*, the *Sultan Qaboos University Journal for Science (SQUJS)*, and *Symmetry, Integrability, and Geometry: Methods and Applications (SIGMA).*
- Spring 2007 to Spring 2023: Reviewer for Math Reviews; written reviews for 35 articles.

- Fall 2020 to present: Reviewer for MAA Book Reviews; written review for two books (one review reprinted in the Gazette of the Australian Mathematical Society).
- Fall 2015 to Fall 2017: Consultant for *Project NExT*, acting as a mentor for a new mathematics faculty member at another institution.
- Co-organizer with Emily Proctor of the *Special Session on The Analysis, Geometry, and Topology of Groupoids* (Groupoidfest 2015) at the 2015 Fall Southeastern Sectional Meeting of the AMS on October 17–18, 2015 at the University of Memphis, TN.
- Spring 2010 through Spring 2014: Reviewer for Zentralblatt Math; reviewed 26 articles and one book.
- October 10–11, 2009: Co-organizer with Emily Proctor, Ralph Gomez, and Megan Kerr of the *Workshop on global Riemannian geometry, orbifolds, and related topics* at Middlebury College.
- March 16–17, 2007: Co-organizer with William Kirwin of the *Special Session on Spectral Theory, Orbifolds, Symplectic Reduction and Quantization* at the 2007 Spring Central Section Meeting in Oxford, OH.
- Fall 2000 through Fall 2007: *Consultant for Thompson Learning.* Designed and implemented software supplements for mathematics textbooks ranging from algebra and trigonometry to vector calculus and linear algebra. Worked on several aspects of the development process, from initial conception and planning to critiquing the finished product. From the summer of 2002 until the Fall 2007, my primary duties were to design and implement multi-step, application-oriented problems that introduce students to new material, to write supplementary problems for textbooks, and to review and design software supplements for mathematics textbooks.

OTHER SKILLS

- Significant experience programming in MATHEMATICA and experience using MAPLE, MACAULAY2, SAGE, SINGULAR, and MICROSOFT EXCEL in teaching and research.
- Experienced user of LaTeX.
- **Languages:** native English; limited working in Arabic and German; elementary speaking and reading in Hebrew.