

Curriculum Vitae (January 2023)

Lennard F. Bakker

Education

- Ph.D. (Mathematics) Queen's University, Canada, May 1997. Dissertation Title: Brake Orbits and Magnetic Twistings in Two Degrees of Freedom Hamiltonian Dynamical Systems. Dissertation Supervisor: Daniel C. Offin.
- M.Sc. (Mathematics) University of Victoria, Canada, November 1993. Thesis Title: Arnold Diffusion in the Elliptic Restricted Three-Body Problem. Thesis Supervisor: Florin N. Diacu.
- B.Sc.(Hons) (Mathematics) University of Victoria, Canada, May 1991. Graduated with First Class Standing.

Employment History

- Full Professor, Brigham Young University, September 2015 - present.
- Associate Professor, Brigham Young University, September 2010 - August 2015.
- Assistant Professor, Brigham Young University, September 2002 - August 2010.
- Visiting Assistant Professor, Franklin and Marshall College, July 2001-June 2002.
- Visiting Assistant Professor, Brigham Young University, August 1999-August 2001.
- Visiting Lecturer, University of Nevada, Reno, August 1998-June 1999.
- Sessional Instructor, Simon Fraser University, January-April 1998.
- Research Associate, Queen's University, May-October 1997.

Courses Taught At BYU Since Fall 2002

- Math 113 Calculus II
- Math 290 Fundamentals of Mathematics
- Math 302 Mathematics for Engineering I
- Math 303 Mathematics for Engineering II
- Math 313 Linear Algebra with Applications
- Math 314 Calculus of Several Variables
- Math 334 Ordinary Differential Equations

- Math 341 Theory of Analysis I
- Math 344 Mathematical Analysis I
- Math 346 Mathematical Analysis II
- Math 371 Abstract Algebra I
- Math 436 Model Dynamics and Control I
- Math 495R Readings in Mathematics
- Math 521 Methods of Applied Math I
- Math 540 Linear Analysis
- Math 541 Real Analysis
- Math 547 Partial Differential Equations
- Math 634 Theory of Ordinary Differential Equations
- Math 635 Dynamical Systems
- Math 641 Functions of a Real Variable
- Math 643R Special Topics in Analysis
- Math 695R Readings in Mathematics

Awards and Grants

- \$20,000 FAST Grant, 2021
- Distinguished Citizenship Award, Department of Mathematics, December 2020.
- \$20,000 Mentored Environment Grant, 2015-2017.
- Savage Teaching Award, November 2015.
- Co-Pi on \$24,000 NSF Conference Grant DMS-1502372, April 2015-March 2016.
- Distinguished Teaching Award, Department of Mathematics, August 2013.
- Co-Pi on \$18,900 NSF Conference Grant DMS-0800840, December 2007 - April 2009.

Peer-Reviewed Publications

- Bakker, L., Fisher, T., and Hasselblatt, B., Centralizers of hyperbolic and kinematic-expansive flows, *Mathematics Research Reports*, Vol. 2 (2021), 21-44.
- Bakker, L.F., Martins Rodrigues, P., Block Conjugacy of Irreducible Toral Automorphisms, *Dynamical Systems*, DOI: 10.1080/14689367.2018.1508553, published online August 2018; in print, Vol. 34, No. 2 (2019), 244-258.
- Bakker, L.F., Simmons, S.C., A Separating Surface for Sitnikov-Like $n + 1$ -Body Problems, *Journal of Differential Equations*, Vol. 258, No. 9 (2015), 3063-3087.
- Bakker, L.F., and Simmons, S.C., Stability of the Rhomboidal Symmetric-Mass Orbit, *Discrete and Continuous Dynamical Systems A*, Vol. 35, No. 1 (2015), 1-23.
- Bakker, L.F., Fisher, T., Open Sets of Diffeomorphisms with Trivial Centralizer in the C^1 Topology, *Nonlinearity* 27 (2014) 2869-2885.
- Bakker, L.F., Understanding the Dynamics of Collision and Near-Collision Motions in the N -Body Problem, in *Advances in Interdisciplinary Mathematical Research* Vol.37 of Springer Proceedings of Mathematics and Statistics, Springer (2013), 99-116.
- Bakker, L.F., The Katok-Spatzier Conjecture, Generalized Symmetries, and Equilibrium Free Flows, *Communications on Pure and Applied Analysis*, Vol. 12, No. 3 (2013), 1183-1200.
- Bakker, L.F., Ouyang, T., Yan, D., Simmons, S., Errata to: Existence and Stability of Symmetric Periodic Simultaneous Binary Collision Orbits in the Pairwise-Symmetric Planar Four-Body Problem, *Celestial Mechanics and Dynamical Astronomy*, Vol. 112 (2012), 459-460.
- Bakker, L.F., Mancuso, S.C., Simmons, S.C., Linear Stability Analysis of Symmetric Periodic Simultaneous Binary Collision Orbits in the Planar Pairwise Symmetric Four-Body Problem, *Journal on Mathematical Analysis and Applications*, Vol. 392 (2012), 136-147.
- Bakker, L.F., Martins Rodrigues, P., A Profinite Group Invariant for Hyperbolic Toral Automorphisms, *Discrete and Continuous Dynamical Systems A*, Vol. 32, No. 6 (2012), 1965-1976.
- Bakker, L.F., Ouyang, T., Yan, D., Simmons, S., Existence and Stability of Symmetric Periodic Simultaneous Binary Collision Orbits in the Pairwise-Symmetric Planar Four-Body Problem, *Celestial Mechanics and Dynamical Astronomy*, Vol. 110 (2011), 271-290.
- Bakker, L.F., Ouyang, T., Yan, D., Simmons, S., Roberts, G., Linear Stability for Some Symmetric Periodic Simultaneous Binary Collision Orbits in the Four-Body Problem, *Celestial Mechanics and Dynamical Astronomy*, Vol. 108, No. 2 (2010), 147-164.

- Bakker, L.F., and Whitehead, J., Asymptotic Values, Prepoles, and Periodic Points, *International Journal of Bifurcation and Chaos*, Vol. 20, No. 4 (2010), 1049-1059.
- Bakker, L.F., Measurably Nonconjugate Higher Rank Abelian NonCartan Actions, *Proceedings of Dynamic Systems and Applications*, Vol. 5 (2008), 53-59.
- Bakker, L.F., Rigidity of Projective Conjugacy for Quasiperiodic Flows of Koch Type, *Colloquium Mathematicum*, Vol. 112, No. 2 (2008), 291-312.
- Bakker, L.F., Semiconjugacy of Quasiperiodic Flows and Finite Index Subgroups of Multiplier Groups, in “Dynamical Systems and Differential Equations,” (eds. S. Hu, X. Lu, and W. Xie), *Discrete and Continuous Dynamical Systems, Supplement* (2005), 60-69.
- Bakker, L.F., Quasiperiodic Flows and Algebraic Number Fields, *Proceedings of Dynamic Systems and Applications*, Vol. 4 (eds. G.S. Ladde, N.G. Medhin, and M. Sambandham), *Dynamic Publishers, Inc.* (2004), 46-52.
- Bakker, L.F., Structure of Group Invariants of a Quasiperiodic Flow, *Electronic Journal of Differential Equations*, Vol. 2004 No. 39 (2004), 1-14.
- Bakker, L.F. and Conner, G.R., A Class of Generalized Symmetries of Smooth Flows, *Communications on Pure and Applied Analysis*, Vol. 3, No. 2 (2004) 183-195.
- Bakker, L.F. A Reducible Representation of the Generalized Symmetry Group of a Quasiperiodic Flow, in “Dynamical Systems and Differential Equation,” (eds. W. Feng, S. Hu, and X. Lu), *Discrete and Continuous Dynamical Systems, Supplement* (2003), 68-77.
- Bakker, L.F., One-Parameter Families of Brake Orbits in Dynamical Systems, *Colloquium Mathematicum*, Vol. 82 No. 2 (1999), 201-217.
- Bakker, L.F. and Diacu, F.N., On the Existence of Celestial Bodies with Unpredictable Motion in the Solar System and in the Kirkwood Gaps, *Romanian Astronomical Journal*, Vol. 3 No. 2, Editura Academiei Romane (1993), 139-155.

Preprints

- Bakker, L.F., Martins Rodrigues, P., Generalized Bowen-Franks Groups and Profinite Conjugacy of Hyperbolic Toral Automorphisms, posted in ArXiv July 2022. (Submitted to *Dynamical Systems* in July 2022, rejected in October 2022. Working with coauthor to address issues presented by referee’s report to improve manuscript.)
- Bakker, L., Freeman, N., Relative Equilibria and Periodic Orbits in a Binary Asteroid Model, in progress.
- Bakker, L.F., Santoprete, M., and Stoica, C., Total Collision in a Four-Body Problem with Jacobi Potential, in progress.

Invited Presentations

- Total Collision in a Four-Body Problem with Jacobi Potential (virtually presented), Matemaircorona Workshop, Brazil, November 2021.
- Satellite-Pair Orbits in a Four-Body Problem (virtually presented), in Special Session “Geometric and Variational Methods in Celestial Mechanics” at the Mathematical Congress of the Americas, Buenos Aires, July 2021.
- Reflections on mentoring undergraduates in research experiences in celestial mechanics, in the Special Sessions “Undergraduate Research in Mathematics: Presentations on Research and Mentorship” at the AMS Western Sectional, UC Riverside, November 2019.
- A model for the binary asteroid 2017 YE5, in the Minisymposium “Celestial Mechanics: a symposium in memoriam of Florin Diacu” as the AMMCS conference, Laurier University, Waterloo, Canada, August 2019.
- A model for the binary asteroid 2017 YE5, in the Special Session “Hamiltonian dynamics and applications” at the CMS Winter Meeting, Vancouver, December 2018.
- Singular Periodic Brake Orbits in the Planar Pairwise Symmetric Four-Body Problem, Wilfred Laurier University, Waterloo, Canada, March 2018.
- Singular Periodic Brake Orbits in the Planar Pairwise Symmetric Four-Body Problem, ITAM, Mexico, February 2018.
- Topological Existence of Periodic Orbits in a Two-Center Symmetric Pair Problem, in the Special Session “New Trends in Celestial Mechanics,” at the Joint Mathematical Meetings, San Diego, January 2018.
- Topological Existence of Periodic Orbits in a Two-Center Symmetric Pair Problem, in the Special Session “Hamiltonian Systems and Celestial Mechanics,” Mathematical Congress of the Americas, Montreal, Canada, July 2017.
- Topological Existence of Periodic Orbits in a Two-Center Symmetric Pair Problem, in the Special Session “Algebraic and Topological Approaches to the N -Body and N -Vortex Problems,” SIAM Conference on Applications of Dynamical Systems, Snowbird, UT, May 2017.
- Singular Periodic Brake Orbits in the Planar Pairwise Symmetric Four-Body Problem, in the Special Session “Celestial Mechanics and Beyond,” The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, July 2016.
- Block Conjugacy of Irreducible Toral Automorphisms, in the Special Session “Ergodic Theory and Dynamical Systems,” at the Western Sectional AMS Meeting, University of Utah, Salt Lake City UT, April 2016.

- A Separating Surface for Sitikov-Like $n + 1$ -Body Problems, in the Special Session “Geometric and Analytic Methods in Classical and Celestial Mechanics,” AMMCS-CAIMS 2015, Waterloo, Canada, June 2015.
- Open sets of Diffeomorphisms with Trivial Centralizer in the C^1 Topology, in the Special Session ‘Current Trends in Classical Dynamical Systems,’ at the Joint Mathematics Meeting, San Antonio, Jan. 2015.
- Open sets of Diffeomorphisms with Trivial Centralizer in the C^1 Topology, IST, Lisbon, Portugal, June 2014.
- The Rhomboidal Symmetric-Mass Problem, in the special session “Celestial Mechanics” at the Joint Mathematics Meeting, San Diego, Jan. 2013.
- The Rhomboidal Symmetric-Mass Problem, in the special session “Celestial Mechanics” at the CMS Winter Meeting, Montreal, Canada, December 2012.
- Understanding the Dynamics of Collision and Near-Collisions Motions in the N -Body Problem, Spring Series of the Mathematical Sciences and Applications Seminar, College of Engineering, Science and Technology, Department of Mathematics, Virginia State University, April 2012.
- Reinterpretation of the Levi-Civita Regularization of Collisions in Collinear N -body Problems in terms of Real Algebraic Geometry, in the special session “Celestial and Geometric Mechanics” at the Western Sectional AMS Meeting, University of Utah, Salt Lake City UT, October, 2011.
- Reinterpretation of the Levi-Civita Regularization of Collisions in Collinear N -body Problems in terms of Real Algebraic Geometry, in Mini-symposium “Algebraic Geometry Applied to Celestial Mechanics” at the SIAM Conference on Algebraic Geometry, North Carolina State University, Raleigh NC, October 2011.
- Existence and Stability of Symmetric Periodic Simultaneous Binary Collision Orbits in the Pairwise-Symmetric Planar Four-Body Problem, in the special session “Methods in Nonlinear Dynamics” at the CMS Winter Meeting, Vancouver, Canada, December 2010.
- Existence and Stability of Symmetric Periodic Simultaneous Binary Collision Orbits in the Pairwise-Symmetric Planar Four-Body Problem, in the special session “Differential Equations and Applications to Physics and Biology” at the AMS Fall Southeastern Section Meeting, Richmond, VA, November 2010.
- Linear Stability for Some Symmetric Periodic Simultaneous Binary Collision Orbits in the Four-Body Problem, in the special session “Dynamical System” at the Second Joint CMS/SMM Meeting, Vancouver, Canada, August 2009.
- Linear Stability for Some Symmetric Periodic Simultaneous Binary Collision Orbits in the Four-Body Problem, Special Session on “Research in Applied Mathematics” at the MAA Sectional Meeting at Brigham Young University, March 2009.

- Linear Stability for Some Symmetric Periodic Simultaneous Binary Collision Orbits in the Four-Body Problem, Theoretical Physics Group at Brigham Young University, February. 2009.
- The topological conjugacy problem for torus automorphisms, IST, Lisbon, Portugal, June 2008.
- The Katok-Spatzier Conjecture and Generalized Symmetries, in the session “Algebraic Dynamics,” at the Joint Mathematics Meeting, San Diego, January 2008.
- Measurably Nonconjugate Higher Rank Abelian NonCartan Actions, in the session “Dynamical Systems and Applications,” at the Fifth International Conference on Dynamic Systems and Applications, Morehouse College, Atlanta, GA, May 2007.
- Semiconjugacy of Quasiperiodic Flows and Finite Index Subgroups of Multiplier Groups, in the special session “Application of Algebraic Methods in Dynamical Systems,” at the Fifth International Conference on Dynamical Systems and Differential Equations, California State Polytechnic University, Pomona, CA, June 2004.
- Quasiperiodic Flows and Algebraic Number Fields, in the session “Dynamical Systems and Applications,” at the Fourth International Conference on Dynamic Systems and Applications, Morehouse College, Atlanta, GA, May 2003.
- A Reducible Representation of the Generalized Symmetry Group of a Quasiperiodic Flow, in the special session “Symmetries and Differential Equations in Physics and Other Applications,” at the Fourth International Conference on Dynamical Systems and Differential Equations, University of North Carolina, Wilmington, NC, May 2002.
- Representations of Group Invariants of the Conjugacy Class of a Flow, Midwest Dynamical Systems Seminar, Northwestern University, Evanston, IL, March 2001.

Invited Proxy Presentations

- Infinite Multiplicity of Positive Solutions for Singular Nonlinear Elliptic Equations with Convection Term and Related Supercritical Problems, presented in behalf and by request of Carlos Aranda (and Jesus Hernandez) at the 8th Mississippi State - UAB Conference on Differential Equations and Computational Simulations, May 2009.
- Second Order Dynamical Systems used for Generating “Practical” Test Functions for Filtering and Sampling Procedures, presented in behalf and by request of Christian Toma, Politehnica University, Bucharest, Romania, in the special session “Symmetries and Differential Equations in Physics and Other Applications,” at the Fourth International Conference on Dynamical Systems and Differential Equations, University of North Carolina, Wilmington, NC, May 2002.

Contributed Presentations

- Open sets of Diffeomorphisms with Trivial Centralizer in the C^1 Topology, Spring Meeting of the Intermountain Section of The Mathematical Association of America, Utah Valley University, Orem UT, March 2014.
- The Rhomboidal Symmetric-Mass Problem, SIAM Conference on Applications of Dynamical Systems, Snowbird, UT, May 2013.
- Linear Stability Analysis of Symmetric Periodic Simultaneous Binary Collision Orbits in the Planar Pairwise Symmetric Four-Body Problem, SIAM Conference on Applications of Dynamical Systems, Snowbird, UT, May 2011.
- Linear Stability for Some Symmetric Periodic Simultaneous Binary Collision Orbits in the Four-Body Problem, at the 8th Mississippi State - UAB Conference on Differential Equations and Computational Simulations, May 2009.
- The Multiplier Group of a Quasiperiodic Flow, at the Canadian Mathematical Society Winter Conference, Dec. 2005, Victoria, BC.

Graduate Students Supervised

- Nicole Havens (Masters Student) Fall 2019 through August 2022, working with Celestial Mechanics group on model for binary asteroids.
- Ammon Lam (Masters student) Winter 2015 through Summer 2016. Thesis Title: “Existence of a Periodic Brake Orbit in the Fully Symmetric Planar Four-Body Problem.”
- Skyler C. Simmons (Ph.D. Student) Winter 2012 through June 2015. Dissertation title: Analysis of Multiple Collision-Based Periodic Orbits in Dimension Higher than One.

Undergraduate Students Supervised

- Nathen Sell, August 2022-present, working with Celestial Mechanics group, initial training.
- Jeddy Bennet, June 2022-present, working with Celestial Mechanics group, initial training.
- Zane Madison, June 2021-present, working with Celestial Mechanics group on Spectral Stability of Multiple Planar Ring Configurations.
- Nick Freeman, September 2020-present, working with Celestial Mechanics group on Relative Equilibria and Periodic Orbits in a Binary Asteroid Model in a Four-Body Problem.

- Matthew Hague, October 2020-April 2021, worked with Celestial Mechanics group.
- Reagan Howell, October 2020-April 2021, worked with Celestial Mechanics group, on machine learning approach to predicting potential hazardous near earth asteroids.
- Sam Cochran, April 2020-April 2021, worked with Celestial Mechanics group on model with three rotating equilateral primaries and two small masses. Started Ph.D. program at University of Michigan Fall 2021.
- Garret Carver, April 2019 - April 2020, worked with Celestial Mechanics group on model for binary asteroids.
- Jacob Murri, September 2019 - April 2020, worked with Celestial Mechanics group on model for binary asteroids; April 2016-May 2017, worked with Celestial Mechanics group on exchange orbits in Caledonian 5-body problem. Started Ph.D. program at UCLA fall 2022.
- Cory Vernon, August 2016-June 2018, worked with Celestial Mechanics group on applications of symplectic matrices.
- Mitchell Sailsbery, June 2015-April 2018, worked with Celestial Mechanics group on the dynamics of two center symmetric pair problem. Started a Masters program at the University of Buffalo Fall 2018.
- Brooke Mosby, September 2016-March 2017, worked with Celestial Mechanics group on angular momentum and Kelper's second law.
- Jesse Friedbaum, April 2015-April 2016, worked with the Celestial Mechanics group on the existence and stability of singular periodic orbits in the planar central mass two symmetric pairs five body problem.
- Alex Safsten, April 2014 - August 2014, worked with Celestial Mechanics research group on the global regularization of the planar two center one symmetric pair problem.
- Brynne Hansen, Spring 2013, worked with Celestial Mechanics research group.
- Chace Ashcraft, Fall 2012 to Summer 2014, worked with Celestial Mechanics research group.
- Emma Hogan, Winter 2012, Fall 2012, worked with Celestial Mechanics research group on symbolic dynamics of binary collisions in the rhomboidal four-body problem.
- Scott Mancuso, Fall 2010-Winter 2011, worked with the Celestial Mechanics research group on linear stability of simultaneous binary collision orbits in the four-body problem.

- Nanzhu Zhao, Fall 2009-Winter 2010, worked with the Celestial Mechanics research group on periodic orbits in the spatial three, four, and five-body problems, started graduate school at the University of Texas, Austin in Fall 2010.
- Steven Flygare, Winter 2009, worked with the Celestial Mechanics research group on problems in the collinear three-body problem, started graduate school at the University of Utah in Fall 2009.
- Jared Whitehead, Fall 2003-Winter 2006, undergraduate honor thesis, Topological Bifurcations of Julia Sets (March 2006), graduated with a Ph.D. in mathematics at the University of Michigan Fall 2011.

University Service and Citizenship

- Math Lab Director, August 2022-present.
- Hiring Committee Member, August 2022-present.
- Calculus Committee Member, June 2021-August 2022.
- ACME Advisor, June 2021-August 2022.
- Graduate Coordinator, June 2015-June 2021.
- Co-organizer (with Cristina Stoica) of Minisymposium “Hamiltonian Particle Dynamics” at SIAM-DS Snowbird May 2019.
- Co-organizer (with Todd Fisher, Ben Webb, and Jon Chaika) of the Rocky Mountain Dynamical Systems Conference, Provo, UT, June 2015 (supported in part by NSF grant DMS-1502372)
- Co-organizer (with Manuele Santoprete and Ray McLaughlin) of the special session “Geometric and Analytic Methods in Classical and Celestial Mechanics,” at AMMCS-CAIMS 2015, Waterloo, Canada, June 2015.
- Co-organizer (with Skyler Simmons) of the special session “Current Trends in Classical Dynamical Systems,” at the Joint Mathematics Meeting, San Antonio, January 2015.
- Math 113 Coordinator, Sept. 2014-Jul. 2015.
- Member of Annual Stewardship Committee, Department of Mathematics, February 2018, February 2014.
- Member of Graduate Committee, Department of Mathematics, Fall 2013 to May 2018, in charge of writing and grading the Masters qualifying exam in analysis.
- Member of Graduate Committee, Department of Mathematics, Fall 2004 to Spring 2018, in charge of writing and grading Ph.D. Qualifier Exam in Analysis.

- Referee for manuscripts submitted to journals and proceedings: 2 in 2022 (both for American Mathematical Monthly), 1 in 2021 (American Mathematical Monthly), 4 in 2020 (one for Celestial Mechanics and Dynamical Astronomy, one for Fundamenta Mathematicae, one for Journal of Physics A, one for Results in Applied Mathematics); 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2010, 2007, 2004.
- Judge at Student Research Conference, College of Physical and Mathematical Sciences, 2003 to present.
- Writer of letters of recommendations for students since 2005.
- Judge at the Central Utah Science and Engineering Fair, Brigham Young University, March 2016, March 2015, March 2014, March 2013, March 2012, March 2011, March 2009, March 2008, March 2007, March 2006, March 2005, March 2004, April 2003, March 2001, March 2000.
- In charge of the Dynamical Systems Seminar, Department of Mathematics, August 2012-July 2014.
- Chair of Contributed Paper Session #28 at SIAM Conference on Applications of Dynamical Systems, Snowbird, UT, May 2013.
- Reviewer for Zentralblatt Math. (Accepted invitation to be a reviewer in December 2012.) Write reviews for several published papers annually.
- Math 302/303 Coordinator, Department of Mathematics, Fall 2012 to Winter 2014.
- Director of Non-Major Advisement and member of Undergraduate Committee, March 2011 to August 2013.
- Co-organizer with Tiancheng Ouyang of special session “Celestial and Geometric Mechanics” at American Mathematical Society’s Fall Western Sectional Meeting at the University of Utah, October 2011.
- Member of Planning Committee, Department of Mathematics, Winter 2011 to Winter 2012.
- Member of the Teaching Committee, Department of Mathematics, in charge of new TA training, Fall 2008 to Winter 2011.
- Member of the Undergraduate Committee, Department of Mathematics, as a Math Advisor, Fall 2008 to Winter 2011.
- Reviewer for MathSciNet. (Accepted invitation to be a reviewer in August 2008.) Write reviews for several published papers annually.
- Co-organizer (along with Todd Fisher, Kening Lu, and Dan Rudolph) of Rocky Mountain Dynamical Systems Conference, Park City, UT, May 2008. (Funded in part by NSF grant 0800840)

- Co-organizer (along with Diana Thomas and Donald Mills) for the special session “Algebraic Dynamics” at the National Meeting of the American Mathematical Society, San Diego, Jan. 2008.
- Organizer of the special session “Applications of Algebraic Methods in Dynamical Systems,” at the Fifth International Conference on Dynamical Systems and Differential Equations, California State Polytechnic University, Pomona, CA, June 2004.
- Full Participation in the Faculty Development Series, Faculty Center, Brigham Young University, September 2002-March 2004.
- Chair of the first day of presentations in the several-day session on Dynamical Systems and Applications at the Fourth International Conference on Dynamic Systems and Applications, Morehouse College, Atlanta, May 2003.
- Judge in the mathematics category of the 2002-2003 Northeast Utah Region Sterling Scholar Competition.
- Member of the Utah State Math Contest committee, Brigham Young University, with responsibility for the preparation of the 2001 senior test.
- Academic Advisor for BYUSA Kicks Club, Brigham Young University, 2000-2001. The Kicks Club is devoted to the art of field goal kicking - personal best 45 yards.