



*Honors:* Illustration on the cover of the International Journal for Bifurcation and Chaos, December 2000

*Student Honors:* G. Clapp tied for first place in the undergraduate poster competition, SIAM Annual Meeting 2010.

*Honor Societies:* Phi Beta Kappa, Phi Kappa Phi, Pi Mu Epsilon, Sigma Phi Sigma

## Research Support

### *External Support*

2011-2012	\$49,981	ARO, STIR, Closing the Loop: Integrating Body, Muscle, and Environment with Locomotion Central Pattern Generator, PI T. Kiemel (UMCP) (46%), coPI K. Hoffman (44%), projected submission 9/23/11
2010-2013	\$400,000	HHMI:52007126, A Challenge in Life Sciences Undergraduate Education, 2010 Experimental Collaboration Grant, PI M. Summers, team member to develop quantitative modules for introductory biology classes, summer salary
2010-2015	\$489,290	NSF DMS:1062052, Research Coordination Networks Physical/Life Sciences, RCN-PLS: Neuromechanics and Dynamics of Locomotion (PI Lisa Fauci, Tulane; Avis Cohen, College Park), Steering Committee member
2010-2015	\$699,995	NSF-UBM:1031420 Interdisciplinary Training and Research for Undergraduates in Biological and Mathematical/Statistical Sciences at UMBC, (PIs N. Neerchal, J. Leips), interdisciplinary team of 10 researchers from Biology and Mathematics/Statistics, \$15000 summer support
2009	\$ 1,247	AWM Travel Award to attend SIAM Dynamical systems meeting, PI K. Hoffman
2006-2008	\$ 4,846	NSF, DMS:084009, REU Supplement to DMS:0624024 to support G. Clapp, PI K. Hoffman
2006-2008	\$ 100,000	NSF, DMS:0624024, Interdisciplinary Grant for the Mathematical Sciences: An Immersion Program in Biology, PI K. Hoffman (100%), coPI G. Summers
2006-2007	\$ 6,000	NSF, DMS:0620297, Conference: Advances in Control of PDEs, PI K.Hoffman, coPI M. Gobbert (UMBC), Senior Personnel S. Antman (UMCP)
2003	\$ 500	Oberwolfach Fellowship, PI K. Hoffman
2003	\$ 1,000	AWM Travel Award to attend Oberwolfach workshop, PI K. Hoffman

### *Internal Support*

2008	\$ 500	Office of the Provost, First Year Seminar AY 2007-2008, PI K. Hoffman
2000-2005		Summer Faculty Fellowship, UMBC, PI K. Hoffman in the amounts of \$5000, \$2500, \$2500, \$3000, \$2500, \$4000
2000	\$ 1500	Arts and Science Travel Fund, UMBC, PI K. Hoffman

*Student Awards:*

2011	\$ 260	Office of the Provost, Undergraduate Travel Award, for G. Clapp to attend an NSF funded workshop Mathematical Biology and Numerical
2010	\$1,500	Office of the Provost, Undergraduate Research Award, Modeling Sensory Input to the Lamprey Spinal Cord
2010	\$ 350	Office of the Provost, Undergraduate Travel Award, for Geoff Clapp to attend the SIAM Annual Meeting in Pittsburgh Pa.
2009	\$ 800	G. Clapp, BS May 2011, Office of the Provost, Undergraduate Research Award, Modeling Sensory Input to the Lamprey Spinal Cord
2006-2008	\$ 4,846	NSF, DMS:084009, REU Supplement to DMS:0624024 to support G. Clapp, PI K. Hoffman

**Ph.D. Students**

*Ph.D. students in progress*

Evelyn Thomas (Math), defense Fall 2011, co-advisor K.Gurski Howard U.  
Title: The Effect of Bisexuality on the Spread of Incurable Sexually Transmitted Diseases

Nicole Massarelli (Math), Advisor, recently admitted to the Ph.D. program

*Ph.D. Committee Memberships*

Jonah Smith (Math, Drexel University), 2011, PhD Proposal Committee Member  
Nengan Zhang (Mech. Eng.), 2008, Member and Dean's Representative  
Hailiang Zhang (Chem.), 2007, Member  
Valeriy Korostyshevskiy (Math), 2005, Reader  
Jing Zhou (Chem.), 2005, Member  
Jiyuan Tao (Math), 2004 Member  
Samuel Webster (Math), 2004, Member

**Master's Students**

*Master's thesis students in progress*

Nicole Massarelli, defense Fall 2011, Advisor  
Thesis: The effect of Parity on the Boundedness of Orbits for Lotka-Volterra Food Chains

*Master's thesis students completed*

Marlene Roush, MS 2007, Advisor  
Thesis: Adaptive Mesh Strategies for Elastic Rods with Singular Potentials

*Master's committee memberships*

Jonathan Desi, MS 2004, Reader  
Oksana Korostyshevskiy (Math), 2003, Member  
Jennifer Deering, MS 2002, Reader

## Undergraduate Students

*Meyerhoff Students:* Erica Lockwood (currently postdoc in Biostatistics), Chantal Edwards

*Theses for graduation with departmental honors*

Kimberly Daniels, expected May 2012

Geoff Clapp, May 2011, currently graduate student at UMCP

Thesis: Modeling Sensory Feedback in the Lamprey (CPG) for Locomotion

Michael Childers, May 2006, currently graduate student at U. Wisconsin, Madison

Thesis: The Direct Method from the Calculus of Variations

*Undergraduate Research Students*

Kimberly Daniels, UBM joint with P.Robinson in Biology Dept.

Jacqueline Meisel, UBM joint with P.Robinson in Biology Dept.

Geoff Clapp, UMBC Undergraduate Research Award 2009 & 2010

## Publications:

### Articles in refereed journals:

(\* denotes student co-authors)

1. K. Hoffman and T. Seidman, *A Variational Characterization of a Hyperelastic Rod with Hard Self-contact*, *Nonlinear Analysis A: Theory, Methods and Applications*, vol. 74, no. 16, p. 5388-5401, DOI:10.1016/j.na.2011.05.022, November 2011.
2. G. Clapp\* and K.A Hoffman, *Entrainment Ranges for a Neural Model*, *UMBC Review*, vol 12, p. 10-25, 2011.
3. K. Hoffman and T. Seidman, *A Variational Rod Model with a Singular Nonlocal Potential*, *Arch. Rat. Mech. Anal.*, vol 200, no 1, p 255-284, (DOI) 10.1007/s00205-010-0368-9, 2011.
4. J.P. Previte, N. Sheils\*, K.A. Hoffman, T. Kiemel, E. Tytell, *Entrainment Ranges of Forced Phase Oscillators*, *J. Math. Bio.*, vol 62, p 589-603, DOI: 10.1007/s00285-010-0348-6, 2011.
5. K. Hoffman and R. Manning, *An Extended Conjugate Point Theory with Application to the Stability of Planar Buckling of an Elastic Rod Subject to a Repulsive Self-potential*, *SIAM Mathematical Analysis*, vol 41, 465-494, 2009.
6. P. Várkonyi, T. Kiemel, K. Hoffman, A. H. Cohen and P. Holmes, *On the Derivation and Tuning of Phase Oscillator Models for Lamprey Central Pattern Generators*, *Journal Computational Neural Science*, vol 25, no 2, 245-261, 2008.
7. J. Guckenheimer, K. Hoffman, W. Weckesser, *Bifurcations of Relaxation Oscillations near Folded Saddles*, *International J. of Bifurcations and Chaos*, vol 15, no 11, 3411-3421, 2005.
8. K. Hoffman, *Stability Results for Constrained Calculus of Variations Problems: An Analysis of the Twisted Elastic Loop*, *Proceedings of the Royal Society, Series A: Mathematical and Physical Sciences*, vol. 461, 1357-1381, 2005.

9. K.A. Hoffman, *Methods for Determining Stability in Continuum Elastic Rod Models of DNA*, Phil. Trans. Roy.Soc., vol. 362, 1301-1315, 2004.
10. K. Bold\*, C. Edwards\*, J. Guckenheimer, K. Hoffman, R. Oliva, W. Weckesser, *The Forced van der Pol Equation II: Canards in the Reduced System*, SIADS, vol 2, no. 4, 570-608, 2003.
11. K.A. Hoffman, J.H. Maddocks, & R.Manning, *Biological Interpretations of Bifurcation Diagrams for DNA Loops*, Biopolymers, vol.70, no 2, p.145-157, 2003.
12. K. Hoffman & F. Santosa, *A Simple Model of Sheet Metal Assembly*, SIAM Review, vol 45, no 3, 558-573, 2003.
13. J. Guckenheimer, K. Hoffman, W. Weckesser, *The Forced van der Pol Equation I: The Slow Flow and its Bifurcations*, SIAM J. on Applied Dynamical Systems, Vol 2, No. 1, p.1-35, 2003.
14. K. Hoffman, R. Manning and R. Paffenroth, *Stability of the Twisted Elastic Strut subject to Endloading*, SIAM J. on Applied Dynamical Systems, vol.1, no. 1, p.115-145, 2002.
15. R. Manning & K. Hoffman, *Stability of n-Covered Circles for Elastic Rods with Constant Planar Intrinsic Curvature*, Journal of Elasticity, 62, 1-23, 2001.
16. J. Guckenheimer, K. Hoffman & W. Weckesser, *Numerical Computation of Canards*, International Journal for Bifurcation and Chaos, 10, 2669-2688, Dec 2000.
17. L. Greenberg, J.H. Maddocks, & K.A. (Rogers) Hoffman, *The Bordered Operator and the Index of a Constrained Critical Point*, Mathematische Nachrichten, 219, 109-124, 2000.
18. R.S. Manning, K.A. Rogers, & J.H. Maddocks, *Isoperimetric Conjugate Points with Applications to the Stability of DNA Minicircles*, Proceedings of the Royal Society of London: Mathematical, Physical and Engineering Sciences, 454, 3047-3074, 1998.
19. J.H. Maddocks, R.S. Manning, R.C. Paffenroth, K.A. Rogers, and J.A. Warner, *Interactive Computation, Parameter Continuation, and Visualization*, International Journal of Bifurcation and Chaos, 7, 1699-1715, 1997.

**Book Chapters:**

20. J. Guckenheimer, K. Hoffman, and W. Weckesser, *Global Bifurcations of Periodic Orbits in the Forced Van der Pol Equation*, in Global Analysis of Dynamical Systems, eds H.W. Broer, B. Krauskopf and G. Vegter, Institute of Physics Publishing, Dirac House, 2001.

**Proceedings Papers:**

21. H.V.Ly, G.A. Pinter, K.A.Rogers, R.C. del Rosario, & D.E. Vaughan, *Modeling the Chimera Domain Decomposition Approach to Solving Conservation Laws*, Proceedings for the Industrial Mathematical Modeling Workshop for Graduate Students, Editors B.G. Fitzpatrick & H.T.Tran, Center for Research in Scientific Computation, Technical Report CRSC-TR96-7, February 1996.

### Other Publications:

22. M. Gobbert, K.A. Hoffman and J. Shen. *The Conference "Advances in Control of Partial Differential Equations" in Honor in Prof. Thomas Seidman*, IEEE Control Systems Magazine, 27(2), 92-93, 2007.

### Computer Codes:

23. K.Rogers, R.C. Paffenroth, & S. Kehrbaum, Interactive Computer Code: SLINKY.

### Manuscripts Submitted for Publication:

24. J.Previte and K.A. Hoffman, *Chaos in a Predator-Prey Model with a Scavenger*, under revision for SIAM Review
25. G. Clapp, K.A. Hoffman and T. Kiemel, *Entrainment ranges for Chains of Forced Neural Model Oscillators*, submitted Mathematical Medicine and Biology, A Journal of the IMA

### Manuscripts in Preparation:

26. Approximating hard contact potentials and minimizers by soft contact potentials and minimizers, with T. Seidman
27. Characterization of stable, low energy minimizers of a two-dimensional elastic strut, with R. Manning

### Invited Presentations:

#### Conference Presentations

1. Poster presentation: *A Model of a Sensory Feedback Loop in the Locomotion CPG of the Lamprey*, Neuromechanical Locomotion Workshop, MBI, March 2011
2. Undergraduate Poster: *A Model of a Sensory Feedback Loop in the Locomotion CPG of the Lamprey*, SIAM Annual Meeting, July 2010 (with Geoff Clapp, who tied for first place in the undergraduate poster competition)
3. Minisymposium talk: *Existence Results for Elastic Rods Models with Self Contact*, SIAM Dynamical Systems Meeting, May 2009
4. Poster presentation: *A Model of a Sensory Feedback Loop in the Locomotion CPG of the Lamprey*, Neuromechanical Locomotion Workshop, MBI, March 2008
5. Poster Presentation: *Dynamical Systems Techniques for Elastic Rod Models and Lamprey Locomotion*, Undergraduate Years and Beyond, UMBC 2007
6. Invited panel participant: A. Kearsley, K. Hoffman, B. Nussbaum, K. Drummey. Panel Discussion: *Careers in the Mathematical Sciences*, Undergraduate Years and Beyond, UMBC 2007

7. Invited Presentation: *The Graduate Program in Applied Mathematics and Statistics at UMBC*, Undergraduate Years and Beyond, UMBC 2007
8. Invited Presentation: *Stability Results for Elastic Rods with Electrostatic Self-Repulsion*, Workshop: Emerging applications of Dynamical Systems, MSRI, UC Berkeley, January 2007
9. Invited Presentation: *Global Analysis of the Forced van der Pol Equation: The Slow Flow and Canard Solutions*, Dynamics of Structured Systems, Oberwolfach, Germany, December 2003.
10. Invited Presentation: *Global Analysis of the Forced van der Pol Equation: The Slow Flow and Canard Solutions*, Women in Applied Mathematics: Research and Leadership Conference, College Park, October 2003.
11. Minisymposium talk: *Calculation of the Stability Index for Buckling of a Twisted Elastic Strut*, SIAM Dynamical Systems Meeting, Snowbird UT, May 2003.
12. Invited Presentation: *A Simple Model of Sheet Metal Assembly*, IMA Workshop: Connecting Women in Mathematics with Industry, Sept 2000. **this talk was mentioned in SIAM news**
13. Minisymposium talk: *Stability Results for Elastic Rods*, IMACS 2000, Lausanne Switzerland, Aug. 2000
14. Contributed talk: *A Numerical Study of Relaxation Oscillators Coupled with Reciprocal Inhibition*, SIAM Annual Meeting, Atlanta Ga, May 1999.
15. Contributed talk: *Stability of Twisted Elastic Rods*, SIAM Annual Meeting, Stanford University, Palo Alto Ca, July 1997
16. Minisymposium talk: *Stability of Twisted Elastic Rods*, SIAM Conference on Dynamical Systems, Snowbird, Utah, May 1997
17. Invited Presentation: *Computation and Visualization of an Elastic Rod Model of DNA*, A Small Circus on Numerical Dynamics and Elasticity, U. Kansas, July 1996
18. Invited Presentation: *Parallelization and Vectorization of A Model of Cabbage Root Flies*, National Conference on Undergraduate Research, Cal. Tech., March 1991

### **Other Professional Presentations**

19. Lamprey Meeting: *Modeling Lamprey Locomotion Central Pattern Generator*, Princeton University, April 2011.
20. Faculty Development Seminar: UBM Seminar Series (UMBC): *Teaching on the Interface of the Quantitative Sciences and the Life Sciences*, October 2010.
21. Differential Equations Seminar: UBM Seminar Series (UMBC): *Omnivores and Scavengers in a Predator-Prey Model*, October, 2010.

22. Invited Presentation: *Towards a Model of a Sensory Feedback Loop in the Locomotion CPG of the Lamprey*, Summer Program for Women in Mathematics, GWU, July 2010.
23. Seminar talk: *Modeling Lamprey Locomotion Central Pattern Generator*, GMU, Applied and Computational Mathematics Seminar, March 2010.
24. Seminar talk: *How to Prepare a Poster*, UMBC, Graduate Student Seminar, March 2010
25. Lamprey Meeting: *Modeling Lamprey Locomotion Central Pattern Generator*, Princeton University, Jan. 2010.
26. Colloquium talk: *Towards a Model of a Sensory Feedback Loop in the Locomotion CPG of the Lamprey*, Morgan State University, Mathematics Colloquium, December 2009
27. Colloquium talk: *Towards a Model of a Sensory Feedback Loop in the Locomotion CPG of the Lamprey*, Howard University, Mathematics Colloquium, October 2009
28. Lamprey Meeting: *Towards a Model of a Sensory Feedback Loop in the Locomotion CPG of the Lamprey*, UMCP, May 2009
29. Colloquium talk: *Stability and Existence Results for Elastic Rods Models with Self Contact*, Drexel University, Dynamics Seminar, March 2009
30. Invited speaker *Towards a Model of a Sensory Feedback Loop in the Locomotion CPG of the Lamprey*, Penn State Erie REU, Penn State 2008
31. Seminar talk: *Towards a Model of a Sensory Feedback Loop in the Locomotion CPG of the Lamprey* Faculty Seminar, Biology Department, UMBC, April 2008
32. Colloquium talk: *Towards a Model of a Sensory Feedback Loop in the Locomotion CPG of the Lamprey*, Applied Mathematics Seminar, College Park, Dec 2008
33. Invited Presentation: *The Graduate Program in Applied Mathematics and Statistics at UMBC*, GWU 2007
34. Invited Presentation: *The Graduate Program in Applied Mathematics and Statistics at UMBC*, Penn State Erie REU, 2007
35. Colloquium talk: *Stability Results for Elastic Rods with Electrostatic Self-Repulsion*, Towson University, October 2006
36. Colloquium talk: *Stability Results for Elastic Rods with Electrostatic Self-Repulsion*, Theoretical and Applied Mechanics Colloquium, Cornell University, April 2006
37. Colloquium talk: *Stability Results for Elastic Rods with Electrostatic Self-Repulsion* Math Department Colloquium, Southern Illinois University at Carbondale, Nov. 2005
38. Colloquium talk: *Global Analysis of the Forced van der Pol Equation: The Slow Flow and Canard Solutions*, Colloquium, CSEE Department UMBC, April 2004

39. Colloquium talk: *Global Analysis of the Forced van der Pol Equation: The Slow Flow and Canard Solutions*, Dynamics Seminar, Cornell University, November 2003.
40. Invited Presentation: *Some Examples from Mathematical Biology*, Summer Program for Women in Mathematics, GWU, July 2003.
41. Colloquium talk: *Stability Results for Elastic Rods*, Applied Mathematics Seminar, University of Delaware, April 2001.
42. Seminar talk: *Some Results from Mathematical Models of Two Biological Systems: Supercoiling of DNA and Reciprocally Inhibited Neurons*, Faculty Colloquium, Biology Department, UMBC, March 2001.
43. Colloquium talk: *Stability Results for Elastic Rods*, Applied Mathematics Seminar, UMCP, Nov 2000
44. Invited Presentation: *Some Examples from Mathematical Biology*, Mathematical Biology REU, Penn State Erie-Behrend, July 2000.
45. Colloquium talk: *Stability in Continuum Models of DNA Minicircles*, Mathematics Colloquium, Drexel University, Philadelphia Pa, Feb 1999.
46. Colloquium talk: *Stability in Continuum Models of DNA Minicircles*, Nonlinear Science Seminar, NRL, Washington DC, February 1999.
47. Colloquium talk: *Stability in Continuum Models of DNA Minicircles*, Mathematics Colloquium, George Mason University, Fairfax Va, Feb 1999.
48. Colloquium talk: *Stability in Continuum Models of DNA Minicircles*, Research Colloquium, Southern Methodist University, Dallas TX, Feb 1999.
49. Colloquium talk: *Stability in Continuum Models of DNA Minicircles*, Mathematics Colloquium, University of Florida, Gainesville Fl, Feb 1999.
50. Colloquium talk: *Stability in Continuum Models of DNA Minicircles*, Dynamics Seminar, Boston University, Boston Ma, Feb 1999.
51. Colloquium talk: *Stability in Continuum Models of DNA Minicircles*, Applied Mathematics Colloquium, UMBC, Baltimore, MD Jan 1999.
52. Colloquium talk: *Stability in Continuum Models of DNA Minicircles*, Mathematics Colloquium, CWRU, Cleveland, OH Jan 1999.
53. Seminar talk: *Stability in Continuum Models of DNA Minicircles*, Postdoc Seminar, IMA, UMN, Minneapolis MN Jan 1999.
54. Invited Presentation: Keynote Speaker, Sonia Kovalevsky Day, University of Minnesota, Oct 1998
55. Seminar talk: *Stability of Twisted Elastic Rods* Applied Math Seminar, University of Arizona, Tuscon, Az

56. Seminar talk: *Stability of Twisted Elastic Rods* Postdoc Seminar, IMA, UMN, Minneapolis MN Feb 1998
57. Colloquium talk: *Stability of Twisted Elastic Rods* University of Pennsylvania, Graduate Student Colloquium, March 1997
58. Colloquium talk: *Stability of Twisted Elastic Rods* Courant Institute of Mathematical Sciences, New York University, Jan 1997
59. Invited Presentation: *Stability of Twisted Elastic Rods* Student-Faculty Colloquium, University of Maryland, October 1996
60. Invited Presentation: *Stability of Twisted Elastic Rods* Geometry and Topology Workshop at the IMA Program in Molecular Biology, 1994

### Departmental Service Activities:

<i>Date</i>	<i>Position</i>
2011-2012	Graduate Program Director, Program in Applied Mathematics Graduate Program Committee (Chair) Department Advisory Committee Core Advisory Team for Undergraduate Majors Search Committee for Applied Mathematics Postdoctoral Position
2010-2011	Graduate Program Director, Program in Applied Mathematics Graduate Program Committee (Chair) Mathematics Program Committee Department Advisory Committee Core Advisory Team for Undergraduate Majors
2009-2010	Graduate Program Director, Program in Applied Mathematics Graduate Program Committee (Chair) Mathematics Program Committee Department Advisory Committee Strategic Planning Committee Core Advisory Team for Undergraduate Majors

<i>Date</i>	<i>Position</i>
2008-2009	Graduate Program Director, Program in Applied Mathematics Graduate Program Committee (Chair) Mathematics Program Committee Department Advisory Committee Core Advisory Team for Undergraduate Majors WISE recruiting organizer
2007-2008	Search Committee, Math Faculty position Graduate Program Committee Mathematics Program Committee (Chair) Department Advisory Committee Search Committee, Math Faculty position WISE recruiting organizer
2006-2007	Sabbatical Conference organizing committee: Advances in Control of PDEs
2005-2006	Differential equations seminar organizer Academic Planning committee Search Committee, Math Faculty position Conference organizing committee: Advances in Control of PDEs
2004-2005	Co-organizer math majors recruiting event WISE recruiting organizer
2003-2004	Graduate Committee WISE recruiting organizer Co-organized undergraduate mentoring luncheon Co-organized graduate mentoring luncheon
2002-2003	Search Committee for Assistant Professor Position WISE recruiting luncheon organizer
2001-2002	Faculty Advisor to the Council of Majors and Pi Mu Epsilon
2000-2001	Undergraduate Committee Faculty Advisor to the Council of Majors and Pi Mu Epsilon WISE recruiting luncheon organizer
1999-2000	Undergraduate Committee Panelist at the Departmental Recruiting Open House

## Service to the Profession

<i>Date</i>	<i>Position</i>
2011-2012	Invited Panelist, Summer Program for Women in Mathematics, GWU, July 2011
2010-2011	NSF Review Panel, Division of Mathematical Sciences, March 2011 Invited Speaker, Summer Program for Women in Mathematics, GWU, July 2010
2009-2010	NSF Review Panel, Division of Mathematical Sciences, January 2010 NSF Review Panel, Division of Mathematical Sciences, June 2009 Career panelist, Summer Program for Women in Mathematics, GWU, July 2009
2008-2009	Minisymposium organizer SIAM Dynamical Systems Conference, May 2009 Career panelist, Summer Program for Women in Mathematics, GWU, July 2009
2007-2008	NSF Review Panel, Division of Mathematical Sciences, February 2008 NSF Review Panel, Division of Mathematical Sciences, May 2008 Career panelist, Summer Program for Women in Mathematics, GWU, July 2008 Career panelist, Undergraduate Years and Beyond, UMBC, October 2007 Visiting Scholar, Mathematical Biology REU, Erie, PA, July 2008
2006-2007	Career panelist, Summer Program for Women in Mathematics, GWU, July 2007 Visiting Scholar, Mathematical Biology REU, Erie, PA, July 2007
2005-2006	NSF Review Panel, Division of Mathematical Sciences Career panelist, Summer Program for Women in Mathematics, GWU, July 2006
2004-2005	NSF Review Panel, Division of Mathematical Sciences Career panelist, Summer Program for Women in Mathematics, GWU, July 2005
2003-2004	Career panelist, Summer Program for Women in Mathematics, GWU, July 2004 NSF Review Panel, Division of Mathematical Sciences
2002-2003	Invited Speaker, Summer Program for Women in Mathematics, GMU Co-organizer of two invited minisymposia for SIAM Dynamical Systems Conference
2001-2002	Invited Mentor, Mentoring Women in Mathematics, University of Akron
2000-2001	Career Panelist at Sonia Kovalevsky Day Towson Univ. Graduate Student Mentor at the IMA Workshop: Connecting Women Math. to Industry Organized two day workshop for Mathematical Biology REU at Penn State Erie-Behrend
Winter 1998	Organizer of Postdoctoral Seminar: IMA

## Editorial Service

Referee for the Phil. Trans. Roy. Soc., J. Physics A, UMBC Review, PNAS,  
J. Elasticity, SIADS, J. Nonlinear Sci., Acta Mathematica,  
Phil. Trans. Roy. Soc. A

## College, University, and Community Service:

<i>Date</i>	<i>Position</i>
2011-2012	HHMI team member IQB Steering Committee (Quantitative Biology) co-Director of Women in Science and Engineering Group Provost's Advance Executive Committee Undergraduate Travel Request Review Committee
2010-2011	HHMI team member IQB Steering Committee (Quantitative Biology) co-Director of Women in Science and Engineering Group (spring) Acting Director of Women in Science and Engineering Group (fall) Provost's Advance Executive Committee Offered faculty development session for UBM faculty Undergraduate Travel Request Review Committee Panelist 'When Faculty Say and X and Mean Y'
2009-2010	IQB Steering Committee (Quantitative Biology) Acting Director of Women in Science and Engineering Group (spring) Undergraduate Travel Request Review Committee AGEP Faculty Focus Group Panelist 'When Faculty Say and X and Mean Y'
2008-2009	IQB Steering Committee (Quantitative Biology) Provost representative to Periodic Review Report Workshop Biology Department Assistant Prof. Search Committee Advance Faculty Sponsorship Committee
2007-2008	Quantitative science curriculum reform committee Advance Faculty Sponsorship Committee
2006-2007	Quantitative science curriculum reform committee Advance Faculty Sponsorship Committee

<i>Date</i>	<i>Position</i>
2005-2006	Quantitative science curriculum reform committee UMBC Research Fellows committee Advance Faculty Sponsorship Committee
2003-2004	Co-organizer of WISE event associated with Linda Petzold's visit
2000-2001	Panelist at the new faculty followup, UMBC

## LIST OF COURSES TAUGHT

(\* indicates new course that I created, \*\* indicates development of new course material)

- Fall 2011      Math 490: Dynamical Systems and Differential Equations  
Math 799: Master's thesis research with N. Massarelli  
Math 690: Graduate Seminar
- Spring 2011    Math 486: Introduction to Dynamical Systems  
Math 699: Independent Study with M. Arthur  
Math 690: Graduate Seminar
- Fall 2010      Math 485&655: Calculus of Variations  
Math 497: Senior Thesis with G. Clapp  
Math 699: Independent Study with M. Arthur  
Math 690: Graduate seminar
- Spring 2010    Math 152H: Honors Calculus II  
Math 699: Independent Study with M. Arthur  
Math 690: Graduate Seminar
- Fall 2009      \*\*Math 251H: Honors Multivariable Calculus  
Math 690: Graduate Seminar
- Spring 2009    \*\*Math 612: Ordinary Differential Equations  
Math 690: Graduate Seminar
- Fall 2008      \*Math 499: Surveys in Mathematical Biology, independent study with C. Miller  
Math 152: Calculus II  
Math 690: Graduate Seminar
- Spring 2008    \*FYS 103J Exploring Examples from Math Biology
- Fall 2007      Math 486: Dynamical Systems  
Math 251H: Multivariable Calculus
- Spring 2007    Sabbatical Leave
- Fall 2006      Sabbatical Leave  
Math 799: Master's thesis research with M. Roush

Spring 2006 Math 614: Partial Differential Equations  
 Math 221: Intro. Linear Algebra  
 Math 799: Master's thesis research with M. Roush  
 Math 497: Senior thesis research with M. Childers

Fall 2005 Math 486: Dynamical Systems  
 Math 251H: Multivariable Calculus Honors

Spring 2005 Math 225: Intro. Differential Equations  
 Math 485: Calculus of Variations

Fall 2004 Family Medical Leave

Spring 2004 Math 614: Partial Differential Equations  
 Math 152: Calculus II Honors, Meyerhoff

Fall 2003 Math 151: Calculus I Honors, Meyerhoff  
 Math 486: Dynamical Systems

Spring 2003 Math 485: Calculus of Variations  
 Math 251: Multivariable Calculus

Fall 2002 Family Medical Leave

Spring 2002 Math 225: Intro. Differential Equations  
 Math 614: Partial Differential Equations

Fall 2001 Math 251 Honors: Multivariable Calculus  
 Math 221: Intro. Linear Algebra

Spring 2001 Math 225: Intro. Differential Equations  
 \*\*Math 485: Calculus of Variations  
 \*\*Math 490: Using Matlab to Solve ODEs

Fall 2000 Math 251: Multivariable Calculus  
 \*Math 486: Dynamical Systems

Spring 2000 Math 152: Calculus II  
 Math 302: Intro. Math. Anal. II  
 Math 401: Real Analysis  
 Math 600: Real Analysis

Fall 1999 Math 151: Calculus I