

Department of Mathematics, Statistics, and Computer Science    [ctopaz@macalester.edu](mailto:ctopaz@macalester.edu)  
Macalester College, 1600 Grand Ave.    [www.macalester.edu/~ctopaz](http://www.macalester.edu/~ctopaz)  
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## I. EDUCATION

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|---|-------------|
| <b>Ph.D., Applied Mathematics</b><br>Northwestern University, Evanston, IL<br><i>Dissertation: Pattern formation in two-frequency forced Faraday Waves</i><br><i>Advisor: Mary Silber</i> | 1998 - 2002 |
| <b>M.S., Applied Mathematics</b><br>Northwestern University, Evanston, IL   | 1996 - 1997 |
| <b>A.B., Applied Mathematics</b><br>Harvard University, Cambridge, Massachusetts<br><i>Cum laude honors</i><br><i>Area of application: biology</i>  | 1992 - 1996 |

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## II. ACADEMIC APPOINTMENTS

### Full-time appointments

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|---|-----------------------|
| <b>Associate Professor</b><br><b>Assistant Professor</b><br>Department of Mathematics, Statistics, and Computer Science<br>Macalester College, St. Paul, MN | 2010 -<br>2007 - 2010 |
| <b>Assistant Professor</b><br>Rossier School of Education<br>University of Southern California, Los Angeles, CA   | 2006 - 2007           |
| <b>Assistant Director</b><br>Center for Excellence in Teaching<br>University of Southern California, Los Angeles, CA  | 2006 - 2007           |
| <b>NSF-VIGRE Assistant Professor</b><br>Department of Mathematics<br>University of California, Los Angeles, CA  | 2003 - 2006           |
| <b>NSF-VIGRE Postdoctoral Fellow</b><br>Department of Mathematics<br>Duke University, Durham, NC  | 2002 - 2003           |

**Visiting appointments****New Directions Research Professor**

Institute for Mathematics and its Applications  
University of Minnesota, Minneapolis, Minnesota

2009 - 2010

**Visiting Fellow**

Institute for Pure and Applied Mathematics  
University of California, Los Angeles, CA

Spring 2006

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**III. PUBLICATIONS (asterisk denotes student co-author)**

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17. C.M. Topaz, M.R. D'Orsogna, L. Edelstein-Keshet and A.J. Bernoff. Desert locust dynamics: Behavioral phase change and swarming (submitted to PLoS Comp. Bio., Dec. 2011).
16. A.J. Catllà, \*A. McNamara, and C.M. Topaz. Instabilities and patterns in coupled reaction-diffusion layers, *Phys. Rev. E* 85 (2) (2012) 026215.1 - 026215.11.
15. A.J. Bernoff and C.M. Topaz. A primer of swarm equilibria, *SIAM J. Appl. Dyn. Sys.* 10 (1) (2011) 212-250.
14. E. Sander and C.M. Topaz, Epidemics in the presence of social attraction and repulsion, *University of Ottawa volume on mathematical modeling, title TBD* (accepted, in press) 1 - 39.
13. C.M. Topaz and A.J. Catllà. Forced patterns near a Turing-Hopf bifurcation, *Phys. Rev. E* 81 (2) (2010) 026213.1 - 026213.8.
12. \*A.J. Leverentz, C.M. Topaz, A.J. Bernoff. Asymptotic dynamics of attractive-repulsive swarms, *SIAM J. Appl. Dyn. Sys.* 8 (3) (2009) 880 - 908.
11. J.A. Higdon and C.M. Topaz. Blogs and wikis as instructional tools: A social software adaptation of just-in-time teaching, *College Teaching* 59 (2) (2009) 105 - 109.
10. C.M. Topaz. Review of Continuum Modeling in the Physical Sciences by van Groesen and Molenaar, *Biometrics* 64 (2008) 1299 - 1300.
9. C.M. Topaz, A.J. Bernoff, \*S. Logan and \*W. Toolson. A model for rolling swarms of locusts, *Euro. Phys. J. ST* 157 (1) (2008) 93 - 109.
8. C.M. Topaz, A.L. Bertozzi and M.A. Lewis. A nonlocal continuum model for biological aggregation, *Bull. Math Bio.* 68 (7) (2006) 1601 - 1623.
7. R. Breban, I. McGowan, C.M. Topaz, E. Schwartz, P. Anton and S. Blower. Modeling the potential impact of rectal microbicides to reduce HIV transmission in bathhouses. *Math. Biosci. Engin.* 3 (3) (2006) 459 - 466.
6. C.M. Topaz, J. Porter and M. Silber, Multi-frequency control of Faraday wave patterns, *Phys. Rev. E* 70 (6) (2004) 066206.1 - 066206.16.

5. J. Porter, C.M. Topaz and M. Silber, Pattern control via multi-frequency parametric forcing, *Phys. Rev. Lett.* 93 (3) (2004) 034502.1 - 034502.4.
4. C.M. Topaz and A.L. Bertozzi, Swarming patterns in a two-dimensional kinematic model for biological groups, *SIAM J. Appl. Math* 65 (1) (2004) 152 - 174.
3. \*B. Cook, D. Marthaler, C.M. Topaz, A.L. Bertozzi, M. Kemp, Fractional bandwidth reacquisition algorithms for VSW-MCM, in A.C. Schultz, L.E. Parker, F.E. Schneider (Eds.), *Multi-Robot Systems: From Swarms to Intelligent Automata*, Vol. 2, (2003) 77 - 86.
2. C.M. Topaz and M. Silber, Resonances and superlattice pattern stabilization in two-frequency forced Faraday waves, *Physica D* 172 (1 - 4) (2002) 1 - 29.
1. M. Silber, C.M. Topaz and A.C. Skeldon, Two-frequency forced Faraday waves: Weakly damped modes and pattern selection, *Physica D* 143 (1 - 4) (2000) 205 - 225.

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#### IV. PRESENTATIONS

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##### **Invited seminars at colleges and universities**

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|---|-----------|
| 38. Modeling zombie epidemic swarms<br>Hamline University, Dept. of Physics   | Feb. 2012 |
| 37. Patterns, swarms, and the unreasonable effectiveness of mathematics<br>Smith College, Dept. of Mathematics and Statistics | Jan. 2012 |
| 36. Biological swarms and their mathematical models<br>Smith College, Dept. of Mathematics and Statistics                     | Jan. 2012 |
| 35. Biological swarms and their mathematical models<br>Haverford College, Dept. of Mathematics                                | Jan. 2012 |
| 34. Biological swarms and their mathematical models<br>Swarthmore College, Dept. of Mathematics                               | Nov. 2010 |
| 33. Biological aggregation patterns and social interactions<br>George Mason University, Dept. of Mathematical Sciences        | Nov. 2010 |
| 32. Biological swarms and their mathematical models<br>University of St. Thomas, Center for Applied Mathematics               | Nov. 2009 |
| 31. Biological aggregation patterns: The role of social interactions<br>University of British Columbia, Dept. of Mathematics  | Oct. 2009 |
| 30. Biological aggregation patterns and the role of social interactions<br>University of Minnesota, Dept. of Mathematics      | Oct. 2009 |
| 29. Biological aggregations and their mathematical models<br>Hamline University, Dept. of Biology                             | Oct. 2009 |

28. Biological aggregation patterns: The role of social interactions  
Georgia Institute of Technology, School of Mathematics Sep. 2009
27. Patterns in nature  
Macalester College, Serie Center for Scholarship and Teaching Oct. 2008
26. Biological aggregation patterns: The role of social interactions  
University of Wisconsin at Madison, Department of Mathematics Sep. 2008
25. Biological aggregations and their mathematical models  
Macalester College, Department of Biology Nov. 2007
24. Social biological organisms: Aggregation patterns and dynamics  
Drexel University, Department of Mathematics Feb. 2007
23. Biological swarms as pattern-forming dynamical systems  
Amherst College, Department of Mathematics and Computer Science Feb. 2007
22. Social biological organisms: Aggregation patterns and dynamics  
Macalester College, Department of Mathematics and Computer Science Feb. 2007
21. Social biological organisms: Aggregation patterns and dynamics  
College of William and Mary, Department of Mathematics Feb. 2007
20. Social biological organisms: Aggregation patterns and dynamics  
University of Delaware, Department of Mathematical Sciences Jan. 2007
19. Social biological organisms: Aggregation patterns and dynamics  
Claremont Graduate University, School of Mathematical Sciences Dec. 2006
18. Biological swarms and their mathematical models  
Kenyon College, Department of Mathematics Nov. 2006
17. Social biological organisms: Aggregation patterns and dynamics  
University of Southern California, Dept. of Aerospace and Mechanical Engineering Oct. 2006
16. Biological swarms and their mathematical models  
Bowdoin College, Department of Mathematics Jan. 2006
15. Social biological organisms: Aggregation patterns and dynamics  
Southern Methodist University, Department of Mathematics Jan. 2006
14. Social biological organisms: Aggregation patterns and dynamics  
University of Pittsburgh, Department of Mathematics Jan. 2006
13. Social biological organisms: Aggregation patterns and dynamics  
State University of New York at Buffalo, Department of Mathematics Dec. 2005
12. Social biological organisms: Aggregation patterns and dynamics  
University of Southern California, Department of Mathematics Nov. 2005
11. Social biological organisms: Aggregation patterns and dynamics  
University of California at Los Angeles, Department of Mathematics Mar. 2005

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|---|-----------|
| 10. Biological swarms and their mathematical models<br>Occidental College, Department of Mathematics                                      | Feb. 2005 |
| 9. Social biological organisms: Aggregation patterns and dynamics<br>Northwestern University, Program on Complex Systems                  | Feb. 2005 |
| 8. Swarming dynamics in biological groups<br>University of Ontario Institute of Technology, Faculty of Science                            | Mar. 2004 |
| 7. Dynamics of a two-dimensional continuum model for swarming<br>North Carolina State University, Department of Mathematics               | Apr. 2003 |
| 6. Dynamics of a two-dimensional continuum model for swarming<br>University of British Columbia, Department of Mathematics                | Apr. 2003 |
| 5. A gentle introduction to pattern formation in spatially extended systems<br>Duke University, Department of Mathematics                 | Oct. 2002 |
| 4. Pattern formation in Faraday waves forced with two and more frequencies<br>Duke University, Center for Nonlinear and Complex Systems   | Oct. 2002 |
| 3. Dynamics and pattern formation for the non-specialist<br>Harvey Mudd College, Department of Mathematics                                | Feb. 2002 |
| 2. Dynamics and pattern formation for the non-specialist<br>Olin College of Science and Engineering                                       | Jan. 2002 |
| 1. Resonances and superlattices in two-frequency-forced Faraday waves<br>Massachusetts Institute of Technology, Department of Mathematics | Dec. 2001 |

#### **Invited research presentations at conferences and workshops**

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| 11. Nonlocal models of swarming: Asymptotic dynamics and exotic equilibria<br>Workshop on Nonlocal PDEs, Variational Problems, and their Applications<br>Institute for Pure and Applied Mathematics, Los Angeles, CA | Feb. 2012 |
| 10. A Primer of swarm equilibria<br>Minisymposium on Pattern Formation in Interacting Particle Models<br>SIAM Dynamical Systems Meeting, Snowbird, UT  | May 2011  |
| 9. Asymptotic dynamics of attractive-repulsive swarms<br>Minisymposium on Self-Organization in Human, Biological, and Artificial Systems<br>Joint Mathematics Meetings, New Orleans, LA                              | Jan. 2011 |
| 8. Locust swarms: Discrete models, homogenization, and variational minimization<br>Minisymposium on Biological and Environmental Sciences<br>SIAM Life Sciences Meeting, Pittsburgh, PA                              | Jul. 2010 |
| 7. Biological aggregation patterns: The role of social interactions<br>Creating Case-Based Curricula at the Intersection of Biology and Mathematics<br>Emory University, Atlanta, Georgia                            | Jul. 2009 |

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| 6. A model for rolling migratory locust swarms<br>Minisymposium on Biological Motion,<br>Canada-France Mathematics Congress, Montreal, Canada   | Jun. 2008 |
| 5. Biological patterns and localization<br>Conference on Active Motion and Swarms<br>Humboldt University, Berlin, Germany   | Dec. 2006 |
| 4. Social biological organisms: Aggregation patterns and localization<br>Workshop on Swarming by Nature and Design<br>Institute for Pure and Applied Mathematics, UCLA, Los Angeles, California | Mar. 2006 |
| 3. Social biological organisms: Aggregation patterns and dynamics<br>Gordon Research Conference on Nonlinear Science<br>Colby College, Waterville, Maine  | Jun. 2005 |
| 2. Swarming patterns in a two-dimensional kinematic model for biological groups<br>Minisymposium on Biological Agents<br>American Physical Society March Meeting, Montreal, Canada              | Mar. 2004 |
| 1. Faraday wave pattern selection via multi-frequency forcing<br>Conference on Patterns in Physics<br>Fields Institute, University of Toronto, Toronto, Canada                                  | Nov. 2003 |

**Contributed research presentations at conferences**

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|---|-----------|
| 11. A discrete model of rolling locust swarms<br>AMS Sectional Meeting<br>St. Paul, Minnesota                             | Apr. 2010 |
| 10. Asymptotic dynamics of attractive-repulsive swarms<br>SIAM Annual Meeting<br>San Diego, California                    | Jul. 2008 |
| 9. On the swarming of locusts<br>SIAM Dynamical Systems Meeting<br>Snowbird, Utah   | May 2007  |
| 8. A nonlocal continuum model for biological aggregation<br>SIAM Dynamical Systems Meeting<br>Snowbird, Utah              | May 2005  |
| 7. A nonlocal continuum model for localized biological aggregations<br>Dynamics Days Conference<br>Long Beach, California | Jan. 2005 |
| 6. Dynamics of a two-dimensional continuum model for swarming<br>SIAM Dynamical Systems Meeting<br>Snowbird, Utah         | May 2003  |

5. Pattern selection of Faraday waves forced with two frequencies  
SIAM Dynamical Systems Meeting  
Snowbird, Utah May 2001
4. Pattern selection of two-frequency forced Faraday waves  
APS Division of Fluid Dynamics Conference  
Washington, District of Columbia Nov. 2000
3. Pattern selection of two-frequency forced Faraday waves  
International Congress of Theoretical and Applied Mechanics  
Chicago, Illinois Sep. 2000
2. Faraday wave pattern selection in the presence of competing instabilities  
APS Division of Fluid Dynamics Conference  
New Orleans, Louisiana Nov. 1999
1. Faraday waves: Normal form symmetries and pattern selection  
SIAM Dynamical Systems Meeting  
Snowbird, Utah May 1999

#### **Presentations on teaching**

11. The cloud or bust: Promises and challenges of cloud computing  
Educause Learning Initiative Annual Conference, Austin, TX Feb. 2011
10. Inverting a math class: Technological tools and reciprocal course design  
Biomathematics and Ecology Education and Research Conference, Portland, OR Dec. 2011
9. How I learned to stop worrying and abandon in-class lecturing  
Talking About Teaching Series, Macalester College Apr. 2011
8. Dimensional analysis and atomic bombs  
Project MOSAIC online seminar Apr. 2011
7. Assessing real-time learning with blogs and clickers  
Swarthmore College, Dept. of Mathematics Nov. 2010
6. Assessing real-time learning with blogs and clickers  
George Mason University, Dept. of Mathematical Sciences Nov. 2010
5. Clickers and blogs in mathematics education  
University of British Columbia, Dept. of Mathematics Oct. 2009
4. Clickers in the classroom: Assessing real-time learning  
Collaborative Assessment for Liberal Learning Consortium, St. Olaf College Apr. 2009
3. Clickers in the classroom: Assessing real-time learning  
Talking About Teaching Series, Macalester College Feb. 2009
2. Blogging for teaching and learning  
Talking About Teaching Series, Macalester College Apr. 2008

1. Blogging for teaching and learning Apr. 2007  
 Center for Excellence in Teaching, University of Southern California

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## V. GRANTS, AWARDS AND RECOGNITION

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### **External grants**

National Science Foundation DMS-1009633 2010 - 2013  
 Pattern-forming dynamical systems in theory and experiment  
 Principal investigator, \$258,000 single-investigator grant

National Science Foundation DMS-0639749/0740484 2006 - 2010  
 Modeling and control of pattern-forming dynamical systems  
 Principal investigator, \$209,679 single-investigator grant

### **Internal grants**

Macalester College, Wallace Research Grant 2012  
 Phase change in desert locusts  
 \$4,400 grant (with additional matching by funds from my NSF grant)

Macalester College, Mellon Curricular Pathways 2011  
 Death, devastation, war, blood, horror, and mathematics  
 \$2,400 course development grant

### **Research awards and fellowships**

New Directions Research Professorship, IMA, University of Minnesota 2009 - 2010

Henderson Dissertation Year Fellowship, Northwestern University 2001 - 2002

NSF-IGERT Graduate Training Fellowship, Northwestern University 2000 - 2002

Royal E. Cabell Graduate Fellowship 1996 - 1997

### **Teaching honors**

Winner, Jack and Marty Rossmann Excellence in Teaching Award 2010  
 Macalester College

Assistant Director, Center for Excellence in Teaching 2006 - 2007  
 University of Southern California

Nominee, Copenhaver Award for Teaching with Technology 2006  
 University of California at Los Angeles

Winner, Robert Sorgenfrey Distinguished Teaching Award 2004  
 Department of Mathematics, University of California at Los Angeles

Nominee, Distinguished Alumni Undergraduate Teaching Award 2003  
 Duke University

Fellow, Searle Center for Teaching Excellence  
Northwestern University

2000 - 2001

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## VI. TEACHING EXPERIENCE

### **Macalester College**

2007 - present

Death, Devastation, Blood, War, Horror and Mathematics; Applied Calculus;  
Differential Equations; Scientific Computation; Mathematical Modeling; Partial  
Differential Equations

### **University of Southern California**

2006 - 2007

Preparing Future Faculty Seminar (co-teacher)

### **University of California, Los Angeles**

2003 - 2006

Applied Numerical Methods I; Applied Numerical Methods II; Nonlinear  
Dynamical Systems

### **Duke University**

2002 - 2003

Applied Mathematical Analysis II; Partial Differential Equations

### **Northwestern University**

1998 - 1999

Calculus of One Variable (teaching assistant)

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## VII. ADVISING AND SUPERVISION

### **Capstone / thesis advisor**

Jon Bassen (capstone presentation prize)

2010 - 2011

B.A. in mathematics and computer science, Macalester College, 2011

Fast computation of locust swarms

Matthew Hurni (capstone presentation prize)

2010 - 2011

B.A. in mathematics, Macalester College, 2011

The mathematics of surveying

Amelia McNamara (Ezra Camp Award in mathematics)

2009 - 2010

B.A. in mathematics and English, Macalester College, 2010

Linear stability of generalized two-layer, two-component reaction-diffusion systems

Emily Merrill

2009 - 2010

B.A. in mathematics and enviro. studies, Macalester College, 2010

Phase change dynamics and spatial dynamics of desert locusts

Andrew Johnson B.A. in mathematics and economics, Macalester College, 2009 Modeling the movement of the pea aphid, <i>Acyrtosiphon pisum</i>	2008 - 2009
Stephanie Abascal B.A. in mathematics and biology, Macalester College, 2008 Pharmacokinetics of Bisphenol-A	2007 - 2008
Innocent Dlamini (capstone presentation prize) B.A. in mathematics and physics, Macalester College, 2008 Interventions for the HIV epidemic in Swaziland	2007 - 2008
Christopher Dragga (Konhauser Award in computer science) B.A. in mathematics and computer science with honors, Macalester College, 2008 Ad-hoc mobile computer networks	2007 - 2008
Sarah Sutter (Ezra Camp award in mathematics) B.A. in mathematics, music and Russian, Macalester College, 2008 Chaotic generation of musical variations	2007 - 2008
Andrew Leverentz (Busenberg Prize in applied mathematics) B.S. in mathematics, Harvey Mudd College, 2008 Asymptotic dynamics of attractive-repulsive swarms Received an MAA "Best Poster" prize at 2008 Joint Math Meetings	2007 - 2008
Ryan Letchworth (highest honors for thesis) B.S. in math/physics/electrical engineering, Duke University, 2004 Numerical wavelet methods for PDE	2003 - 2004
<b><u>Summer research advisor</u></b>	
Jon Bassen B.A. in mathematics and computer science, Macalester College, 2011 High-efficiency GPU-parallelized computations of locust swarms	2011
Trevor McCalmont B.A. in mathematics, Macalester College, 2012 (expected) Aphid aggregation: experiment and modeling	2011
John Paige B.A. in mathematics, Macalester College, 2014 (expected) Aphid aggregation: experiment and modeling	2011
Dylan Marriner B.A. in mathematics, Harvey Mudd College, 2013 (expected) Swarm dynamics in the presence of sensing asymmetry	2011
Louis Ryan B.A. in mathematics, Harvey Mudd College, 2012 (expected) Swarm dynamic transitions due to behavioral heterogeneity	2011

Elise Delmas B.A. in mathematics and English, Macalester College, 2011 Control of Turing patterns	2010
Amelia McNamara B.A. in mathematics and English, Macalester College Control of Turing patterns	2009, 2010
Joe Novak B.A. in mathematics, Macalester College, 2009 Semiochemical-mediated aphid-ant interactions	2009
Manan Gupta B.A. in chemistry and computer science, Wofford College Turing pattern formation in the CDIMA chemical reaction	2009
Chris Wulf B.A. in chemistry, Wofford College, expected 2010 Turing pattern formation in the CDIMA chemical reaction	2009
Grace Goetzke B.A. in biology, Macalester College, expected 2010 Tuberculosis screening for international students at Macalester College	2008
Andy Johnson B.A. in mathematics and economics, Macalester College, expected 2009 Congregation and aggregation behavior of pea aphids	2008
Emily Merrill B.A. in mathematics, Macalester College, expected 2010 Control of Turing patterns via external forcing	2008
Zach Wickens B.A. in chemistry and mathematics, Macalester College, expected 2010 Control of Turing patterns via external forcing	2008
Wyatt Toolson B.S. in mathematics, Harvey Mudd College, 2007 Models of rolling locust swarms	2005
Sheldon Logan B.S. in engineering, Harvey Mudd College, 2006 Models of rolling locust swarms	2005
Catherine Beni (National Physical Sciences Consortium Graduate Fellow) B.S. summa cum laude in mathematics, UCLA, 2005 Network models of epidemics	2004
Ben Cook B.S. in mathematics and physics, Duke University, 2003 Cooperative search strategies for underwater autonomous vehicles	2002

**Independent study / research supervisor**

Allison Harris B.A. in chemistry, Macalester College, expected 2010 Constructing a reactor for the pattern-forming CDIMA chemical reaction	2009
Amelia McNamara B.A. in mathematics and English, Macalester College, expected 2010 Turing pattern formation	2009
Stephanie Abascal B.A. in mathematics and biology, Macalester College, 2008 Nonlinear dynamical systems	2008
Zack Permutt B.S. in mathematics, UCLA, 2006 Control of Turing pattern formation	2005
Saroj Srisai B.S. in applied mathematics, Northwestern University, 2001 Impulsively forced Faraday waves	2000

**Honors thesis committee member (Macalester College)**

Christopher Dragga (computer science) B.A. in computer science and mathematics, Macalester College, 2008 Implementing Bluetooth Support in Wifi-Based Mobile Ad-Hoc Networks Advisor: Libby Shoop	2007 - 2008
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**Capstone project second reader (Macalester College)**

Emily Gras B.A. in mathematics and physics, Macalester College, 2008 Models of Traffic Flow Advisor: Daniel Flath	2007 - 2008
Nisse Greenberg B.A. in mathematics, Macalester College, 2008 Using Expectation Maximization to Separate Data into Groups Advisor: Danny Kaplan	2007 - 2008

**Internship Supervisor (Macalester College)**

Innocent Dlamini B.A. in mathematics and physics, Macalester College, 2008 Tutoring middle school students in mathematics	2008
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## VIII. SERVICE

**Service to profession**

<i>Ad-hoc referee</i> for American Mathematical Monthly, Army Research Office, BMC Public Health, Bulletin of Mathematical Biology, Discrete and Continuous Dynamical Systems, Journal of the Acoustical Society of America, Journal of Mathematical Biology, Journal of Nonlinear Science, Journal of Physics A, Journal of Statistical Physics, Journal of Theoretical Biology, Mathematics Reviews, Nonlinearity, Physica A, Physica D, Physical Review E, Physical Review Letters, SIAM Journal on Applied Dynamical Systems, SIAM Textbooks, SIAM Undergraduate Research Online	Ongoing
<i>Associate editor</i> , SIAM Review	2011 -
<i>Co-Organizer</i> , Minisymposium: Collective Motion and Swarming International Congress on Industrial and Applied Mathematics	Jul. 2011
<i>Co-Organizer</i> , Workshop: Insect Self-Organization and Swarming Mathematical Biosciences Institute, Ohio State University	Mar. 2011
<i>Contributing Editor</i> , DSWeb Magazine Society for Industrial and Applied Mathematics	2007 - 2010
<i>Co-Organizer</i> , Undergraduate Research Poster Session Society for Industrial and Applied Mathematics Annual Meeting	Jul. 2010
<i>Co-Organizer</i> , Special Session: Pattern formation in biological systems AMS Sectional Meeting	Apr. 2010
<i>Co-Organizer</i> , Undergraduate Research Poster Session Society for Industrial and Applied Mathematics Annual Meeting	Jul. 2009
<i>Co-Organizer</i> , Minisymposium: Forced chemical patterns SIAM Conference on Applications of Dynamical Systems	May 2009
<i>Co-Organizer</i> , Minisymposium: Undergraduate Research in Dynamical Systems Society for Industrial and Applied Mathematics Annual Meeting	Jul. 2008
<i>Co-Organizer</i> , Undergraduate Research Poster Session Society for Industrial and Applied Mathematics Annual Meeting	Jul. 2008
<i>Co-Organizer</i> , Minisymposium: Individual and Collective Motion in Biology SIAM Conference on Applications of Dynamical Systems	May 2007
<i>Co-Organizer</i> , Minisymposium: Models of Biological Swarms SIAM Conference on Applications of Dynamical Systems	May 2005
<i>Co-Organizer</i> , Interdisciplinary Workshop: Biological and Artificial Swarms Institute for Pure and Applied Mathematics, University of California at Los Angeles	Oct. 2003

*Co-Organizer*, Minisymposium: Swarming in Biological and Multi-Agent Systems  
SIAM Conference on Applications of Dynamical Systems May 2003

*Past Chair, Chair, Chair-Elect*, Forum on Graduate Student Affairs  
American Physical Society 2000 - 2003

### **Service to college / university**

*Member*, Student Learning Committee 2011 -

*Elected member*, Educational Policy and Governance Committee 2010 -

*Member*, Institute for Global Citizenship Dean Search Committee 2010 - 2012

*Member*, Institute for Global Citizenship Steering Committee 2010 -

*Member*, Classroom Spaces and Learning Facilities Advisory Committee 2010 - 2011

*Member*, Scholarly Publishing Advisory Committee  
Macalester College 2008 - 2010

*Member*, Advisory Board  
Serie Center for Scholarship and Teaching, Macalester College 2008 - 2009

*Volunteer interviewer/scribe*, Midterm Course Interview Program  
Serie Center for Scholarship and Teaching, Macalester College 2008 -

*Volunteer*, Allies Program  
Lealtad-Suzuki Center, Macalester College 2008 -

*Member*, Teaching Partners Program  
Center for Scholarship and Teaching, Macalester College 2008

*Member*, Institutional Animal Care and Use Committee  
Macalester College 2007 - present

*Mentor*, LGBT Mentoring Program  
University of California at Los Angeles 2004 - 2006

*Member*, LGBT Resource Center Advisory Board  
University of California at Los Angeles 2003 - 2006

### **Service to department**

*Co-organizer*, Preceptor Orientation Workshop 2010 - present

*Member*, Statistics Search Committee  
Macalester College, Department of Mathematics and Computer Science 2009

*Organizer*, Departmental Seminar  
Macalester College, Department of Mathematics and Computer Science 2008 - 2009

<i>Liaison</i> , 3/2 Engineering Program Macalester College, Department of Mathematics and Computer Science	2008 - 2009
<i>Coordinator</i> , Departmental Podcast Initiative Macalester College, Department of Mathematics and Computer Science	2007 - 2009
<i>Volunteer Speaker</i> , Pi Mu Epsilon Honor Society University of California at Los Angeles, Department of Mathematics	Winter 2005
<i>Member</i> , Differential Equations Curriculum Subcommittee University of California at Los Angeles, Department of Mathematics	2004

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## IX. MEMBERSHIP IN PROFESSIONAL SOCIETIES

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American Mathematical Society (AMS)  
Mathematical Association of America (MAA)  
Society for Industrial and Applied Mathematics (SIAM)  
Society for Mathematical Biology (SMB)