



- A. Barbaro, P. Degond. *Phase transition and diffusion among socially interacting self-propelled agents*, Discrete and Continuous Dynamical Systems Series B 19(5):1249–1278, 2014.
- A. Barbaro, L. Chayes, M. R. D’Orsogna. *Territorial development based on graffiti: a statistical mechanics approach*, Physica A 392: 252–270, 2013.
- D. Uminsky, C. E. Wayne, A. Barbaro. *A multi-moment vortex method for 2D viscous fluids*, Journal of Computational Physics 231(4): 1705–1727, 2012.
- R. Hegemann, L. Smith, A. Barbaro, A. Bertozzi, S. Reid, G. Tita. *Geographical influences of an emerging network of gang rivalries*, Physica A, 390(21–22): 3894–3912, 2011.
- A. Barbaro, B. Einarsson, B. Birnir, S. Sigurðsson, H. Valdimarsson, Ó. K. Pálsson, S. Sveinbjörnsson, Þ. Sigurðsson. *Modelling and simulations of the migration of pelagic fish*, ICES Journal of Marine Science, 66(5): 826 - 838, 2009.
- A. Barbaro, K. Taylor, P. Trethewey, L. Youseff, B. Birnir. *Discrete and continuous models of the behavior of pelagic fish: application to the capelin*, Mathematics and Computers in Simulation, 79: 3397–3414, 2009.
- L. Youseff, A. Barbaro, P. Trethewey, B. Birnir, J. R. Gilbert. *Parallel Modeling of Fish Interaction*, 11th IEEE International Conference, on Computational Science and Engineering: 234–241, 2008.
- M. Kilmer, E. Miller, A. Barbaro, D. Boas. *3D shape-based imaging of absorption perturbation for diffuse optical tomography*, Applied Optics, 42(16): 3129–3144, 2003.

## APPOINTMENTS

- Assistant Professor**, Case Western Reserve University 2012–present
- PIC Assistant Adjunct Professor**, University of California, Los Angeles 2010–2012
- Postdoc advisor: Andrea Bertozzi
- Research in Industrial Projects for Students (RIPS) mentor**
- Summer REU program at IPAM, UCLA Summer 2010
- Assistant Adjunct Professor**, University of California, Los Angeles 2008–2010
- Postdoc advisors: Andrea Bertozzi, Lincoln Chayes
- Consulting researcher**, Marine Research Institute of Iceland, Reykjavík, Iceland Summer 2008
- Researcher, Hourly**, University of California, Santa Barbara
- Supported by Professor Björn Birnir’s grant from Hafrannsóknastofnunin (The Marine Research Institute of Iceland)
- Research Assistant**, University of California, Santa Barbara
- Supported by Professor Björn Birnir’s NSF research grant Summer 2006
  - Assisted Professor William Jacob in running Math Inquiry workshops for area community and elementary schools and visited classrooms. Program supported by the EAF. Fall 2005
- Teaching Associate**, University of California, Santa Barbara Summer and Fall 2007
- Teaching Assistant**, University of California, Santa Barbara 2003–2008

## WORKSHOP AND MINISYMPOSIUM ORGANIZATION

- Co-Organizer**, Topical Workshop, ICERM August 21–25, 2017  
Entitled “Pedestrian Dynamics: modeling, validation, and calibration”
- Co-Organizer**, Minisymposium at SIAM’s Life Sciences Conference, Boston, MA July 2016
- Co-Organizer**, Minisymposium at SIAM’s Dynamical Systems Conference, Snowbird, UT May 2015
- Co-Organizer**, Minisymposium at AWM Anniversary Conference, ICERM September 2011
- Co-Organizer**, Minisymposium at SIAM’s DSPDE Conference, Barcelona June 2010

**Co-Organizer**, Workshop, IPAM  
Entitled “Agent-Based Complex Systems”

October 12–14, 2009  
Funded by the Office of Naval Research

## SYNERGISTIC ACTIVITIES

**Invited Panelist:** Nebraska Conference for Undergraduate Women in Mathematics January 2015  
**Invited Speaker:** Women in Math Seminar, Akron University March 2014  
**Invited Presentation:** Science Café Cleveland February 2014  
**Diversity Speaker:** Texas A&M April 2012  
**Minisymposium Co-Organizer and Speaker:** AWM Anniversary Conference at Brown University  
“40 Years and Counting: AWM’s Celebration of Women in Mathematics” September 17-18, 2011  
**Founder and Co-Organizer of the SPWM Reunion Research Talks**  
Joint Mathematics Meetings 2008–2013  
**Founder and Co-Organizer of the Hypatian Seminar (UCSB)** Fall 2005–Spring 2008  
The seminar is still active: <http://www.math.ucsb.edu/~hypatian/index.html>  
**Public School Workshop Leader (UCSB)** Fall 2006–Spring 2008

## SELECTED PRESENTATIONS

SIAM Analysis of Partial Differential Equations Conference, Scottsdale, AZ December 2015  
Colloquium, Portland State University November 2015  
Colloquium, UC Santa Barbara October 2015  
ICIAM conference, Beijing, China August 2015  
SIAM Dynamical Systems Conference, Snowbird, UT May 2015  
KI-Net Workshop on Collective Dynamics and Model Verification at Arizona State U. April 2015  
ICMS workshop on Gradient flows, Edinburgh, UK April 2015  
Applied Math Seminar, North Carolina State University April 2015  
Applied Math Seminar, Simon Fraser University, Vancouver, BC, Canada November 2014  
AIMS conference, Madrid, Spain July 2014  
Undergraduate Colloquium, CWRU April 2014  
Applied PDEs Seminar, Imperial College, London March 2014  
Women in Math Lunch Seminar, University of Akron March 2014  
Science Café Cleveland February 2014  
Workshop at Mathematisches Forschungsinstitut Oberwolfach, Germany December 2013  
Seminar at Westfälische Wilhelms-Universität, Münster, Germany July 2013  
Applied Mathematics Colloquium, UCLA May 2013  
Colloquium, Cleveland State University April 2013  
Colloquium, Tufts University March 2013  
Kinetic workshop, CSCAMM, University of Maryland November 2012  
ESF workshop in kinetic theory, CRM, Barcelona, Spain September 2012  
AIMS conference, Orlando, Florida July 2012  
Undergrad seminar talk, UC Riverside May 2012  
Seminar, Claremont McKenna April 2012  
Seminar Series, Texas A&M (two talks) April 2012  
Presentation, SUMS conference, Brown University March 2012  
Seminar talk, UMass Amherst October 2011  
AWM Anniversary Conference, ICERM (organized minisymposium and spoke) September 2011  
SIAM Dynamical Systems Conference, Snowbird, Utah May 2011  
Seminar talk, UPC, Barcelona, Spain April 2011

Mathematics Colloquium, Claremont Colleges	March 2011
Seminar, Berkeley	February 2011
Seminar, CSU Northridge	February 2011
SPWM reunion, Joint Math Meetings, New Orleans (also organized the talks)	January 2011
Joint Math Meetings, New Orleans	January 2011
IPAM reunion conference for Optimal Transport, Kinetic Transport (two talks)	December 2010
American Society of Criminology Meeting, San Francisco	November 2010
Joint Brown and BU seminar	September 2010
Modeling Complex Dynamics in Biological Systems Workshop, Universite Paul Sabatier, Toulouse, France (two talks)	June 2010
SIAM's DSPDEs conference in Barcelona, Spain (also organized minisymposium)	June 2010
Seminar, University of Redlands	March 2010
Women in Math Seminar, USC	March 2010
2010 Mathematics Festival, UCLA (Two sessions for grade-school students)	February 2010
2nd Annual Southern California Women in Math Symposium	February 2010
IPAM's Optimal Transport Reunion Workshop, Lake Arrowhead	December 2009
UCSB's Hypatian Seminar	November 2009
Seminar, University of Chicago	November 2009
Agent-based Complex Systems Workshop, IPAM (also organized the workshop)	October 2009
Seminar Talk, UMass Amherst	September 2009
Kinetic and Mean-field Models in the Socio-Economic Sciences, ICMS	July 2009
Culminating workshop for Quantum and Kinetic Transport, IPAM	June 2009
Core Seminar for Quantum and Kinetic Transport, IPAM	May 2009
FRG workshop: Kinetic Description of Multiscale Phenomena, CSCAMM	March 2009
Center for Scientific Computing and Mathematical Modeling, U. Maryland	February 2009
Focus Group Meeting: Multiscale Methods in Biology, MBI	November 2008
Hafrannsóknastofnunin (The Marine Research Institute), Reykjavík, Iceland	July 2008
Crime Modeling Seminar, UCLA	January 2008
SPWM Reunion Session, Joint Mathematics Meetings, San Diego, CA	January 2008
Háskóli Íslands, Reykjavík, Iceland	August 2007
Háskóli Íslands, Reykjavík, Iceland	June 2007
MAA Student Chapter Seminar, CSULA	May 2007
Workshop on Applications in Mechanics and Control, USC	December 2006

## COLLABORATORS

Abdulaziz Alsenafi (CWRU), Andrea Bertozzi (UCLA), Björn Birnir (UCSB), Douglas Brubaker (CWRU Proteomics and Bioinformatics), Martin Burger (Westfälische Wilhelms-Universität, Münster, Germany), José Antonio Carrillo (Imperial College, UK), José Alfredo Cañizo (U. de Granada, Spain), Mark Chance (CWRU Proteomics and Bioinformatics), Lincoln Chayes (UCLA), Pierre Degond (Imperial College, London), Maria D'Orsogna (CSUN), Sam Mesiano (CWRU Reproductive Biology), Alex Rodriguez-Palacios (CWRU Gastroenterology), Jesús Rosado (U. de Buenos Aires - CONICET), Sven Sigurdsson (U. of Iceland), Laura Smith (California State U., Fullerton), David Uminsky (USF), Eugene Wayne (BU)