

Shilpa Khatri

CONTACT INFORMATION

University of California, Merced
School of Natural Sciences
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Merced, CA 95343

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EMPLOYMENT

Applied Mathematics, School of Natural Sciences, University of California, Merced (UCM)

Assistant Professor, Aug 2014 - current

Joint Applied Mathematics and Marine Sciences Fluids Lab, Department of Mathematics, University of North Carolina at Chapel Hill (UNC-CH)

Postdoctoral Fellow, Aug 2011 - July 2014

Computational Science and Engineering Laboratory, Swiss Federal Institute of Technology Zurich (ETHZ)

Postdoctoral Fellow, Dec 2009 - July 2011

EDUCATION

Courant Institute of Mathematical Sciences, New York University (NYU)

Ph.D. in Mathematics, Sept 2009

Department of Defense National Defense Science and Engineering Graduate Fellow

M.S. in Mathematics, May 2005

University of North Carolina at Chapel Hill (UNC-CH)

B.S. in Mathematics (Applied Math option), Minor in Chemistry, May 2003

FUNDING

- National Institutes of Health (co-I)
Data-Driven Approaches to Modeling COVID-19 Dynamics in Reopening Structured Institutions, \$412,974, under review, in collaboration with S. Sindi (PI), T. Hurd, and E. Rutter.
- UCM Health Sciences Research Institute: COVID-19 Seed Grant Funding Proposal 2020 (co-PI)
Mathematical Modeling to Mitigate the Spread of COVID-19 Dynamics on College Campuses, \$15,000, 2020-2021, in collaboration with S. Sindi (PI), T. Hurd, and E. Rutter.
- UCM Academic Senate: Faculty Research Grant (co-PI)
Droplet Cloud Interactions in Stratification Trapped Oil Plumes, \$10,000, 2020-2021, in collaboration with D. Kleckner (PI).
- National Science Foundation: Mathematical Sciences, DMS-1853608 (PI)
Collaborative Research: The Physical Biology of Leaves in Wind and Waves, \$109,865 at UCM, 2019-2022, in collaboration with L. Miller (PI at UNC).
- Department of Defense: Defense University Research Instrumentation Program (PI)
Multiscale Ultrafast Volumetric Imaging (MUVI) Center, \$690,668, 2019-2020, in collaboration with D. Kleckner and B. Liu.
- National Science Foundation: Mathematical Sciences, DMS-1819052 (co-PI)
Close Evaluation of Layer Potentials, \$200,000, 2018-2021, in collaboration with C. Carvalho (PI) and A. Kim.
- Army Research Office: Conference and Symposia Grant (PI)
Microscale Ocean Biophysics, \$20,400, 2018-2019, in collaboration with D. Bromley, H. Fu, R. Holzman, S. Humphries, T. Kiørboe, and R. Stocker.
- Hellman Family Faculty Fund (PI)
Subsurface Trapping of Oil Droplets Rising in Density Gradients, \$20,000, 2016-2018.
- Army Research Office: Conference and Symposia Grant (PI)
Microscale Ocean Biophysics, \$20,027, 2016-2017, in collaboration with R. Holzman, S. Humphries, T. Kiørboe, U. Shavit, and R. Stocker.

- National Science Foundation: Physics, PHY-1505061 (PI)
Collaborative Research: Flow and Nutrient Exchange Driven by Pulsating Coral, \$203,114 at UCM, 2015-2019, in collaboration with L. Miller (PI at UNC).
- Department of Defense: National Defense Science and Engineering Graduate Fellowship, 2003-2006.

PUBLICATIONS

* indicates SK as primary author and \diamond indicates SK as senior author

\dagger indicates students, postdocs, visiting assistant professors mentored or co-mentored by SK at the time of the work
Note in mathematics author order is often alphabetical

- T. L. Mandel \dagger , D. Z. Zhou \dagger , L. Waldrop \dagger , M. Theillard, D. Kleckner, **S. Khatri** \diamond , *Retention of rising oil droplets in density stratification*, *Physical Review Fluids*, *accepted*
- 19. **S. Khatri** \ast , A. D. Kim, R. Cortez, C. Carvalho, *Close evaluation of layer potentials in three dimensions*, *Journal of Computational Physics*, 423:109798, 2020
- 18. E. Yoo \dagger , **S. Khatri**, F. Blanchette, *Hydrodynamic forces on randomly formed marine aggregates*, *Physical Review Fluids*, 5(4):044305, 2020
- 17. C. Carvalho \dagger , **S. Khatri**, A. D. Kim, *Asymptotic approximation for the close evaluation of double-layer potentials*, *SIAM Journal on Scientific Computing*, 42(1):A504-A533, 2020
- 16. J. E. Samson, L. A. Miller \diamond , D. Ray, R. Holzman, U. Shavit, **S. Khatri** \diamond , *A novel mechanism of mixing by pulsing corals*, *The Journal of Experimental Biology*, 222(15):1-13, 2019
- 15. L. D. Waldrop, Y. He, **S. Khatri** \diamond , *What can computational modeling tell us about the diversity of odor-capture structures in the Pancrustacea?*, *Journal of Chemical Ecology*, 44(12):1084-1100, 2018
- 14. C. Carvalho \dagger , **S. Khatri** \ast , A. D. Kim, *Asymptotic analysis for close evaluation of layer potentials*, *Journal of Computational Physics*, 355:327-341, 2018
- 13. J. E. Samson, N. A. Battista, **S. Khatri**, and L. A. Miller, *Pulsing corals: A story of scale and mixing*, *Biomath* 6(2):1712169, 2017
- 12. M. Panah, F. Blanchette \diamond , and **S. Khatri** \diamond , *Simulations of a porous particle settling in a density-stratified ambient fluid*, *Physical Review Fluids*, 2(11):114303, 2017
- 11. C. Carvalho \dagger , **S. Khatri**, and A. D. Kim, *Local analysis of near fields in acoustic scattering*, 13th International Conference on Mathematical and Numerical Aspects of Wave Propagation, Minneapolis, MN, 2017
- 10. N. A. Battista, J. E. Samson, **S. Khatri**, and L. A. Miller, *Under the sea: Pulsing corals in ambient flow*, *Mathematical Methods and Models in Biosciences*, International Conference BIOMATH 2017, Kruger Park, 2017
- 9. L. D. Waldrop \dagger , L. A. Miller, **S. Khatri** \diamond , *A tale of two antennules: the performance of crab odour-capture organs in air and water*, *Journal of The Royal Society Interface*, 13(125):20160615, 2016
- 8. **S. Khatri** \ast and A.-K. Tornberg, *An embedded boundary method for soluble surfactants with interface tracking for two phase flows*, *Journal of Computational Physics*, 256:768-790, 2014
- 7. R. Camassa, **S. Khatri** \ast , R. M. McLaughlin, J. C. Prairie, B. L. White, and S. Yu, *Retention and entrainment effects: Experiments and theory for porous spheres settling in sharply stratified fluids*, *Physics of Fluids*, 25(8):081701, 2013
- 6. J. C. Prairie, K. Ziervogel, C. Arnosti, R. Camassa, C. Falcon, **S. Khatri**, R. M. McLaughlin, B. L. White, and S. Yu, *Delayed settling of marine snow at sharp density transitions driven by fluid entrainment and diffusion-limited retention*, *Marine Ecology Progress Series*, 487:185-200, 2013
- 5. R. Camassa, **S. Khatri** \ast , R. McLaughlin, K. Mertens \ast , D. Nenon, C. Smith, and C. Viotti \ast , *Numerical simulations and experimental measurements of dense-core vortex rings in a sharply stratified environment*, *Computational Science & Discovery*, 6(1):014001, 2013
- 4. **S. Khatri** \ast and A.-K. Tornberg, *A numerical method for two phase flows with insoluble surfactants*, *Computers & Fluids*, 49(1):150-165, 2011
- 3. **S. Khatri** \ast and A.-K. Tornberg, *A numerical method for soluble surfactants on moving interfaces*, *Proceedings in Applied Mathematics and Mechanics*, Special Issue: Sixth International Congress on Industrial and Applied Mathematics and GAMM Annual Meeting, 7(1):1024509-1024510, 2007

THESES

2. **S. Khatri**, *A Numerical Method for Two Phase Flows with Insoluble and Soluble Surfactants*, Doctoral thesis, Courant Institute of Mathematical Sciences, New York University, 2009
1. **S. Khatri**, *Surface Stress Induced Entrainment in Stratified Fluids*, Honors thesis, Dept. of Mathematics, University of North Carolina at Chapel Hill, 2003

INVITED
SEMINAR
PRESENTATIONS

Department of Aerospace & Mechanical Engineering, University of Southern California, virtual due to COVID-19, (Oct 14, 2020)

Applied and Interdisciplinary Mathematics Seminar, University of Michigan, virtual due to COVID-19, (September 25, 2020)

Applied Mathematics Seminar, University of Utah (April 6, 2020) (cancelled due to COVID-19)

Department of Mathematics, Simon Fraser University, Vancouver, CA (January 18, 2019)

Applied Math Seminar, Tulane University, New Orleans, LA, USA (Sept 28, 2018)

Association for Women in Mathematics Student Chapter, Tulane University, New Orleans, LA, USA (Sept 20, 2018)

Math Biology Seminar, University of California, Davis, CA, USA (April 9, 2018)

Fluid Mechanics Seminar, Stanford University, Palo Alto, CA, USA (Jan 16, 2018)

Applied Mathematics Colloquium, University of North Carolina, Chapel Hill, NC, USA (Oct 27, 2017)

Environmental Engineering, University of California, Berkeley, CA, USA (April 28, 2017)

Applied Mathematics, School of Natural Sciences, University of California, Merced, CA, USA (April 21, 2017)

Center for Computational Science, Tulane University, New Orleans, LA, USA (Sept 27, 2016)

Environmental Fluid Mechanics and Hydrology Program, Stanford University, Palo Alto, CA, USA (Feb 22, 2016)

Department of Mathematics, College of Charleston, Charleston, SC, USA (Feb 24, 2014)

Department of Mathematics, University of Louisville, Louisville, KY, USA (Feb 21, 2014)

Science Seminar Series, Sarah Lawrence College, Bronxville, NY, USA (Feb 18, 2014)

Applied Mathematics, School of Natural Sciences, University of California, Merced, CA, USA (Feb 10, 2014)

Department of Mathematics and Statistics, California State University, Long Beach, CA, USA (Jan 31, 2014)

Department of Mathematics, State University of New York at New Paltz, New Paltz, NY, USA (Jan 24, 2014)

Applied Math Lab Seminar, Courant Institute of Mathematical Sciences, New York University, New York, NY, USA (Dec 12, 2013)

Applied and Computational Mathematics Seminar, University of Wisconsin-Madison, Madison, WI, USA (Oct 18, 2013)

Seminario di Fisica Matematica, University of Milano-Bicocca, Milan, Italy (Mar 8, 2013)

Kolloquium Thermo- und Fluidodynamik, ETHZ, Zurich, Switzerland (Mar 6, 2013)

Graduate Math Association Visions Seminar, UNC-CH, Chapel Hill, NC, USA (Nov 12, 2012)

Differential Equations Seminar and Applied Math Club, North Carolina State University, Raleigh, NC, USA (Nov 7, 2012)

Lunch Bunch Seminar, Marine Sciences, UNC-CH, Chapel Hill, NC, USA (Mar 28, 2012)

Applied Mathematics and Analysis Seminar, Duke University, Durham, NC, USA (Mar 26, 2012)

Applied Mathematics Colloquium, UNC-CH, Chapel Hill, NC, USA (Jan 13, 2012)

Computational Science and Engineering Laboratory, ETHZ, Zurich, Switzerland (Apr 07, 2009)

INVITED
CONFERENCE
PRESENTATIONS

Numerical Analysis, Royal Institute of Technology (KTH), Stockholm, Sweden (Aug 30, 2007)

Department of Information Technology, Uppsala University, Uppsala, Sweden (Aug 22, 2007)

Linné Flow Center Seminar, Royal Institute of Technology (KTH), Stockholm, Sweden (Apr 12, 2007)

2020 SIAM Conference on Mathematics of Planet Earth, virtual due to COVID-19, (Aug 11, 2020)

14th World Congress on Computational Mechanics and 8th European Congress on Computational Methods in Applied Sciences and Engineering, Paris, France (July 19-24, 2020) (cancelled due to COVID-19)

2020 SIAM Conference on the Life Sciences, virtual due to COVID-19, (July 1, 2020)

The 9th International Congress on Industrial and Applied Mathematics, Valencia, Spain (July 19, 2019)

Women in Numerical Methods for PDEs and their Applications, Banff International Research Station, Banff, CA (May 17, 2019)

GFS follow on: Mathematics of form in active and inactive media, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK (March 25, 2019)

Microscale Ocean Biophysics 5.0, Whistler, CA (January 13, 2019)

International Conference on Spectral and High Order Methods 2018, London, UK (July 10, 2018)

2017 SIAM Conference on Analysis of Partial Differential Equations, Baltimore, MD, USA (Dec 12, 2017)

Formation and deformation in solid and fluid mechanics, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK (Sept 19, 2017)

Numerical Methods for PDEs and their applications, Institut Mittag-Leffler, Stockholm, Sweden (May 31, 2017)

Celebrating Charlie S. Peskin's 70th Birthday, 2016 SIAM Conference on the Life Sciences, Boston, MA, USA (July 11, 2016)

The 8th International Congress on Industrial and Applied Mathematics, Beijing, China (Aug 10, 2015)

Frontiers in Applied and Computational Mathematics 2015, New Jersey Institute of Technology, Newark, NJ, USA (Jun 06, 2015)

2014 SIAM Conference on Nonlinear Waves and Coherent Structures, Churchill College, University of Cambridge, Cambridge, UK (Aug 14, 2014)

2014 SIAM Annual Meeting, Chicago, IL, USA (Jul 10, 2014)

Workshop on Thin Liquid Films and Fluid Interfaces: Models, Experiments and Applications, Banff International Research Station, Banff, Canada, USA (Dec 11, 2012)

International Conference on Numerical Methods in Multiphase Flows, Pennsylvania State University, State College, PA, USA (Jun 14 2012)

Frontiers in Applied and Computational Mathematics 2012, New Jersey Institute of Technology, Newark, NJ, USA (May 19, 2012)

Workshop on Surfactant Driven Thin Film Flows, Fields Institute, Toronto, Canada (Feb 23, 2012)

WingX Project, Systems Biology of the Drosophila Wing, part of SystemsX.ch, the Swiss Initiative in Systems Biology, Zurich, Switzerland (Dec 01, 2010)

Frontiers in Applied and Computational Mathematics 2008, New Jersey Institute of Technology, Newark, NJ, USA (May 19, 2008)

2008 Spring Eastern American Mathematical Society Meeting, Courant Institute, New York, NY, USA (Mar 16, 2008)

CONTRIBUTED CONFERENCE PRESENTATIONS	<p><i>71st Annual Division of Fluid Dynamics Meeting</i>, American Physical Society, Atlanta, GA, USA (Nov 19, 2018)</p> <p><i>69th Annual Division of Fluid Dynamics Meeting</i>, American Physical Society, Portland, OR, USA (Nov 20, 2016)</p> <p><i>2015 SIAM Conference on Computational Science and Engineering</i>, Salt Lake City, UT, USA (Mar 18, 2015)</p> <p><i>Joint Mathematics Meetings</i>, Baltimore, MD, USA (Jan 16, 2014)</p> <p><i>66th Annual Division of Fluid Dynamics Meeting</i>, American Physical Society, Pittsburgh, PA, USA (Nov 26, 2013)</p> <p><i>65th Annual Division of Fluid Dynamics Meeting</i>, American Physical Society, San Diego, CA, USA (Nov 18, 2012)</p> <p><i>International Congress on Industrial and Applied Mathematics</i>, Zurich, Switzerland, (Jul 18 2007)</p> <p><i>Offshore Mechanics and Arctic Engineering Conference</i>, Vancouver, Canada, (Jun 2004)</p>
POSTERS AND VIDEOS	<p><i>Modern Advances in Computational and Applied Mathematics: A workshop in honor of the birthdays of Charles L. Epstein and Leslie Greengard</i>, Yale University, New Haven, CT, USA (June 9-10, 2017)</p> <p><i>Microscale Ocean Biophysics Meeting</i>, Aspen Center for Physics Winter Conference, Aspen, CO, USA (Jan 11-16, 2015)</p> <p><i>Microscale Interactions in Aquatic Environments</i>, Les Houches Physics School, Les Houches, France (Mar 10-15, 2013)</p> <p><i>23rd International Congress of Theoretical and Applied Mechanics</i>, Beijing, China (Aug 19-24, 2012)</p> <p><i>64th Annual Division of Fluid Dynamics Meeting</i>, American Physical Society, Baltimore, MD, USA (Nov 20-22, 2011)</p> <p><i>Opening Workshop for Program on Random Media</i>, Statistical and Applied Mathematical Sciences Institute, Research Triangle Park, NC, USA (September 24, 2007)</p>
HONORS AND AWARDS	<p>Hellman Faculty Fellows Fund, <i>Hellman Fellow</i>, UCM (2016-2017)</p> <p>Office of Postdoctoral Affairs, <i>Service Award for outstanding service and dedication to science education and outreach</i>, UNC-CH (2013)</p> <p>Graduate School of Arts and Sciences, <i>Henry MacCracken Fellowship</i>, NYU (2003-2008)</p> <p>Department of Defense, <i>National Defense Science and Engineering Graduate Fellowship</i> (2003-2006)</p> <p>University of North Carolina at Chapel Hill, <i>Highest Honors in Mathematics and Distinction</i>, UNC-CH (2003)</p> <p>Chancellor's Award, <i>The Archibald Henderson Prize in Mathematics</i>, UNC-CH (2003)</p>
MENTORING OF STUDENTS AND POSTDOCTORAL RESEARCH ASSOCIATES	<p><u>Postdoctoral Mentor at UCM</u></p> <ul style="list-style-type: none"> • Tracy Mandel, UCM postdoctoral research associate, co-mentor (Sept 2018 - Aug 2019) Current Position: Assistant Professor at University of New Hampshire • Camille Carvalho, UCM visiting assistant professor, co-mentor (July 2016 - June 2018) Current Position: Assistant Professor at UCM • Lindsay Waldrop, UCM postdoctoral research associate (Aug 2015 - Jul 2016) Current Position: Assistant Professor at Chapman University <p><u>Graduate Advisor at UCM</u></p> <ul style="list-style-type: none"> • Sarah Downs, UCM AM graduate student, co-advisor (Aug 2020 - current) • Diego Tapia Silva, UCM Physics graduate student, co-advisor (July 2020 - current) • Adam Binswanger, UCM AM graduate student, co-advisor (Aug 2019 - current) • De Zhen Zhou, UCM Physics graduate student, co-advisor (June 2019 - current)

- Eunji Yoo, UCM AM graduate student, co-advisor (May 2018 - current)
- Shayna Bennett, UCM AM graduate student (Aug 2017 - current)
Received NSF Graduate Research Fellowship (Apr 2018)
UCM GradSLAM runnerup (2020)
- Jordan Collignon, UCM AM graduate student (Aug 2017 - May 2018)
- Matea Santiago, UCM AM graduate student (Aug 2015 - current)
Expected graduation by Summer 2021

Thesis Committee Member at UCM

- Sina Mohammadi, Chapman University Biological Sciences graduate student, doctoral committee member (Fall 2020 - current)
- Dana Ferranti, Tulane University Math graduate student, oral exam committee member (Fall 2020)
- Lori Lewis, UCM AM graduate student, masters committee member (Oct 2019 - May 2020)
- Ashley Arevalo, UCM QSB graduate student, doctoral committee member (April 2016 - current)
- Chuanjin Lan, UCM ME graduate student, doctoral committee member (Mar 2015 - Apr 2016)

Undergraduate Research Advisor at UCM

- Gabrielle Hobson, UNC undergraduate student (June 2019 - current)
APS Division of Fluids Dynamics, 1st Prize, Student Poster Awards (Nov 2019)
- Joshua Roe, UCM undergraduate student, co-advisor (Aug 2018 - May 2020)
Undergraduate Thesis in Physics (2019)
Awarded Best Undergraduate Thesis Presentation (2019)
- De Zhen Zhou, UCM undergraduate student, co-advisor (Jan 2017 - May 2019)
Undergraduate Thesis in Physics (2018)
- Diane Leal Delgado, UCM undergraduate student (May 2018 - Dec 2018)
- Jacob Stehle, UCM undergraduate student (May 2017 - May 2018)
- Roberto Bertolini, University of Rochester undergraduate student, co-advisor (Mar 2017 - Dec 2017)
- REU faculty mentor (Summer 2016)

Research Mentor at UNC

- Sarah Spivey, UNC-CH undergraduate student (May 2013 - May 2014)
- Arthur Wood, UNC-CH undergraduate student (Fall 2012 - May 2014)
- Graham O'Conner, UNC-CH undergraduate (July 2013 - Dec 2013)
Independent study course
- Lauren Colberg, UNC-CH undergraduate student (Fall 2012 - Dec 2013)
- David Nenon, UNC-CH undergraduate student, co-mentor (Fall 2011 - Dec 2012)

TEACHING EXPERIENCE

Boundary Integral Equation Methods, UCM, jointly taught (Fa 2020)
 Introduction to Linear Algebra and Differential Equations, UCM, jointly taught (Fa 2020)
 Partial Differential Equations I, UCM (Sp 2016, Sp 2017, Sp 2019, Sp 2020)
 Introduction to Linear Algebra and Differential Equations, UCM (Fa 2015, Fa 2016, Sp 2018, Fa 2019)
 Long Calculus II, Tulane University (Fa 2018)
 Intermediate Differential Equations, UCM (Fa 2017)
 Partial Differential Equations II, UCM (Sp 2015)
 First Course in Differential Equations, UNC-CH (Sp 2012, Sp 2013, Sp 2014 - 2 sections)
 Going with the Flow: the Mathematics of Fluid Dynamics, UNC-CH (Fa 2012)
 The Mathematics and the Mechanics of Moving, UNC-CH, TA (Sp 2012)
 Calculus of Functions of Several Variables, UNC-CH (Fa 2011)

Numerical Methods for Partial Differential Equations, ETHZ, jointly taught (Sp 2011)

Simulations using Particles, ETHZ, jointly taught (Sp 2010)

Linear Algebra, NYU (Fa 2007)

Calculus of Functions of Several Variables, UNC-CH, grader (Sum 2002)

Introduction to Scientific Programming, UNC-CH, TA (Fa 2001)

ACTIVITIES
ORGANIZED

- *Microscale Ocean Biophysics Meeting* (June 2021)
Co-organizer of the interdisciplinary conference of approximately 80 participants
- *Applied Mathematics Seminar*, UCM (Fall 2020)
Co-organizer of weekly departmental seminar series
- *Applied Mathematics Graduate Visitation*, UCM (2016 - current)
Organizer of annual three day visitation by accepted graduate students
- *Applied Mathematics Research Retreat*, UCM (2016, 2017, 2019, 2020)
Organizer of annual departmental research retreat every August including faculty and students
- *Applied Mathematics Seminar*, UCM (Spring 2019)
Organizer of weekly departmental seminar series
- *SIAM Conference on Computational Science and Engineering*, Spokane, Wa (Feb 2019)
Co-organizer of minisymposium
- *Microscale Ocean Biophysics Meeting*, Whistler, BC, Canada (Jan 2019)
Co-organizer of the interdisciplinary conference of approximately 80 participants
Applied for and awarded ARO Conference and Symposia Grant to fund
- *Microscale Ocean Biophysics Meeting*, Eilat, Israel (Nov 2016)
Co-organizer of the interdisciplinary conference of approximately 70 participants
Applied for and awarded ARO Conference and Symposia Grant to fund
- *Diversity seminar*, UCM (Fall 2014 - Fall 2016)
Organizer of monthly seminar in the Applied Mathematics Department on topics dealing with diversity and equity
- *Applied Mathematics Seminar*, UCM (Fall 2015)
Organizer of weekly departmental seminar series
- *Frontiers in Applied and Computational Mathematics 2015*, NJIT, Newark, NJ (Jun 2015)
Invited to be an organizer of a minisymposium
- *SIAM Conference on Nonlinear Waves & and Coherent Structures*, University of Cambridge, Cambridge, UK (Aug 2014)
Co-organizer of minisymposium
- *SIAM Annual Meeting*, Chicago, IL (July 2014)
Co-organizer of minisymposium
- *Applied Math Seminar*, UNC-CH (2011-2014)
Assisted faculty mentors in organizing the weekly applied math seminar
- *Chacha Days Finale*, UNC-CH (Aug 2013)
Co-organizer of a week long series of talks
- *Summit on Women in Science*, UNC-CH (May 2013)
Co-organizer of university wide summit on diversity issues in science
- *cSplash*, NYU (Spring 2006)
Co-organizer of one day lectures series for New York City metropolitan area students
- *Graduate Student/Postdoc Seminar*, NYU (2003-2006)
Co-organizer of seminar series aimed at graduate students

SERVICE TO THE
DEPARTMENT

Applied Mathematics Vice Chair of Graduate Studies, paid position, UCM (Spring 2020 - current)
Served informally in this role several years prior to 2020

Applied Mathematics Graduate Admissions and Recruitment, UCM (Spring 2015 - current)

Applied Mathematics Faculty Hiring Committee, UCM (Fall 2019 - Spring 2020)

Applied Mathematics Faculty Hiring Committee, UCM (Fall 2016 - Spring 2017)
Applied Mathematics Graduate Education Committee, UCM (Mar 2015 - Jul 2016)
NSF Research Experiences for Undergraduates Faculty Mentor, UCM (Summer 2016)
Joint Fluids Lab project coordinator and website management, UNC-CH (Fall 2011 - Spring 2014)

SERVICE TO THE
UNIVERSITY

COVID-19 Modeling Task Force, UCM (May 2020 - current)
Public Health COVID-19 Workgroup, UCM (May 2020 - current)
WSTEM member, UCM (2014 - current)
Senate Faculty Committee on Research, UCM (Jan 2019 - Jul 2020)
GradSLAM Judge, UCM (2018, 2020)
Fiscal Year 2020 Department of Defense (DoD) - Basic Research Program for Historically Black Colleges and Universities and Minority-Serving Institutions (HBCU/MI), Office of Research Development internal reviewer, UCM (June 2019)
Volunteer at NC Science Expo, UNC-CH (Apr 2012, Apr 2013, Apr 2014)

SERVICE TO THE
PROFESSION

Association for Women in Mathematics mentor (mentee: Francesca Bernardi), UNC-CH and UCM (Fall 2013 - current)
National Science Foundation Panelist (2016, 2018)
Spring Northern California Forum for Diversity in Graduate Education, Physical Sciences and Mathematics Panelist, UCM (Apr 8, 2017)
Northern California Forum for Diversity in Graduate Education, Physical Sciences and Mathematics Panelist, Sonoma State University (Apr 18, 2015)
Volunteer at Sonya Kovalevsky Day for Middle/High School Girls, UNC-CH (May 2012)
cSplash lecturer, NYU (Spring 2008, Spring 2009)
Canada/USA Mathcamp mentor, Reed College, Portland, OR, paid position (Summer 2005)
Shodor Education Foundation Intern, Durham, NC, paid position (2002-2003)
Review of Academic Journals: *Journal of Computational Physics*, *Journal of Fluid Mechanics*, *Science*, *Journal of the Royal Society Interface*, *Physical Review Fluids*, *Journal of Engineering Mathematics*, and *Chemical Engineering Science*, *Invertebrate Biology*

EXTENDED
PROFESSIONAL
TRAVEL

Tulane University, New Orleans, LA (Fall 2018)
California Institute of Technology, Pasadena, CA (Winter 2010)
Royal Institute of Technology, Stockholm, Sweden (AY 2006-2007, Feb 2008, Sum 2008 and 2009)

PROFESSIONAL
DEVELOPMENT

Participant in Antiracism in Environmental Systems, UCM ES 292 (Fall 2020)
Faculty Success Program, National Center for Faculty Development and Diversity (Fall 2016)
Future Faculty Fellowship Program, Center for Faculty Excellence, UNC-CH (May 2012)