

KARIN LEIDERMAN

CONTACT INFORMATION	Applied Mathematics & Statistics Colorado School of Mines Golden, CO 80401 USA	Voice: (303) 384-2311 E-mail: kleiderman@mines.edu Website: http://inside.mines.edu/~kleiderman
CURRENT POSITION	Colorado School of Mines Assistant Professor, Department of Applied Mathematics & Statistics	2016-Present
PROFESSIONAL EXPERIENCE	University of California Merced Assistant Professor, School of Natural Sciences, Applied Mathematics Unit	2012-2016
	Duke University Visiting Assistant Professor, Mathematics Department Postdoc advisors: Anita T. Layton & Michael C. Reed	2010-2012
	University of Utah Research Assistant, Department of Mathematics NSF RTG Teaching Fellow, Department of Mathematics Teaching Assistant, Department of Mathematics NSF IGERT Research Fellow, Department of Mathematics	2009-2010 2008-2009 2006-2007 2004-2006
	University of New Mexico Research Fellow, NM Center for Spatiotemporal Modeling of Cell Signaling Teaching Assistant, Department of Mathematics	2003-2004 2002-2003
EDUCATION	Ph.D., Mathematics , University of Utah Research: Mathematical Modeling of Thrombus Formation Under Flow Advisor: Aaron L. Fogelson	2010
	M.S., Mathematics , University of New Mexico Graduated with Distinction and Certificate in Computational Science and Engineering	2004
	B.S., Mathematics , University of New Mexico Minor in Biology	2001
RESEARCH INTERESTS	Mathematical Biology, computational modeling of blood clotting, biofluid dynamics, biomechanics, and biochemistry, porous media flow, regularization methods, and scientific computing.	
FUNDED GRANTS	Army Research Office , <i>Incorporating Uncertainty to Improve Accuracy in Mathematical Modeling of Coagulation</i> (2017-2020, Co-PI, \$179,569. Total award: \$499,894)	
	National Institutes of Health , NHLBI Systems Biology Collaborations (R01): <i>A systems biology approach to predicting bleeding in hemophilia</i> (2014-2019, PI of multi-PI grant, \$392,500. Total award: \$2,723,847)	
	National Science Foundation , DMS, Mathematical Biology Program. <i>Collaborative Research: Computational models of cilia and flagella in a Brinkman fluid.</i> (2014-2017, PI, \$149,762)	
	National Science Foundation , Division of Mathematical Sciences, Workforce in the Mathematical Sciences Program. <i>REU Site: Applied Research in Modeling and Data-Enabled Science (ARCHIMEDES).</i> (2014-2017, Co-PI with Dr. Roummel Marcia, UC Merced, \$276,000)	
	American Mathematical Society-Simons Foundation , Travel Grant. (2011-2013, \$4000)	

GRANTS
UNDER REVIEW

National Science Foundation, DMS Mathematical Biology Program *CAREER: Mathematical modeling to identify new regulatory mechanisms in blood clotting.* (2019-2024, PI \$564,974)

AWARDS

SIAM Student Paper Prize

July 2010

Awarded \$1000 prize for paper: *Grow with the Flow: A Spatial-Temporal Model of Platelet Deposition and Blood Coagulation under Flow*

Best Student Oral Presentation Award

January 2007

Society for Integrative and Comparative Biology Annual Meeting - Biomechanics Division

IN PREPARATION

underline indicates graduate student, † indicates postdoc

1. M. Kelley, L.M. Haynes, and **K. Leiderman**. *A mathematical model of thrombin-fibrin binding interactions*. Will be submitted to: Biophys. J.
2. K.G. Link, M.T. Stobb, M. Sorrells, M. Bortot, J.A. Di Paola, S.S. Sindi, A.L. Fogelson, **K. Leiderman**, and K.B. Neeves. *Identification of FV as a modifier of thrombin generation in hemophilia A using a mechanistic model of flow-mediated coagulation*. Will be submitted to: PNAS
3. M.T. Stobb, D.M. Monroe, S.S. Sindi, and **K. Leiderman**. *Assessing the impact of product inhibition in a chromogenic assay*. Will be submitted to: J. Biol. Chem.
4. K.G. Link, N. Danes, M. Sorrells, J.A. Di Paola, K.B. Neeves, **K. Leiderman** and A.L. Fogelson. *Cross-talk of quantitative models of platelet aggregation in extravascular injury: 1. A reduced order mathematical model and the effects of ADP-dependent platelet activation*. Will be submitted to: Biophys. J.
5. M. Sorrells, N. Danes, K.G. Link, J.A. Di Paola, A.L. Fogelson, **K. Leiderman**, and K.B. Neeves. *Cross-talk of quantitative models of platelet aggregation in extravascular injury: 2. An exploration of spatio-temporal effects using computational simulation and microfluidic assays*. Will be submitted to: Biophys. J.
6. N. Danes, **K. Leiderman**. *A density-dependent FEM-FCT algorithm with application to modeling platelet aggregation* Submitted to: Int. J. Numer. Meth. Biomed. Eng. Status: Under Review.
7. H.N. Nguyen[†], S.D. Olson and **K. Leiderman**. *Derivation of a regularized Brinkmanlet near a plane wall*. Submitted to: J. Eng. Math. Status: In Revision.
8. N. Ho, **K. Leiderman** and S.D. Olson. *A 3-dimensional model of flagellar swimming in a Brinkman Fluid*. Submitted to: J. Fluid Mech. Status: Under Review.
9. K.G. Link, M.T. Stobb, J.A. Di Paola, K.B. Neeves, A.L. Fogelson, S.S. Sindi, and **K. Leiderman**. *A local and global sensitivity analysis of a mathematical model of coagulation and platelet deposition under flow*. PLoS ONE, 2018; 13(7): e0200917.
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0200917>
10. Buchmann, A.L. Fauci, L.J., **Leiderman, K.**, Strawbridge, E.M, and Zhao, L. *Mixing and pumping by pairs of helices in a viscous fluid*. Phys. Rev. E, 2018; 97 (2), 023101.
<https://journals.aps.org/pre/abstract/10.1103/PhysRevE.97.023101>
11. R.M. Schoeman, K. Rana, N. Danes, M. Lehmann, J.A. Di Paola, A.L. Fogelson, **K. Leiderman**, K.B. Neeves. *A microfluidic model of hemostasis sensitive to platelet function and coagulation*. Cell. Mol. Bioeng., 2017; 10(1):3-15. (**Winner of 2018 CMBE Editors' Choice Award**)
<https://link.springer.com/article/10.1007/s12195-016-0469-0>

WORK

SUBMITTED/
IN REVISION

ACCEPTED/
PUBLISHED

12. **K. Leiderman**, W.C. Chang, M. Ovanesov, and A.L. Fogelson. *Synergy Between Tissue Factor and Factor XIa in Initiating Coagulation*. *Arterioscler. Thromb. Vasc. Biol.*, 2016: ATVB-116. <https://www.ahajournals.org/doi/abs/10.1161/ATVBAHA.116.308186>
13. **K. Leiderman** and S.D. Olson. *Swimming in a 2D Brinkman fluid: Computational modeling and regularized solutions*. *Phys. Fluids*, 2016; 28(2):021902. <https://aip.scitation.org/doi/abs/10.1063/1.4941258>
14. N. Ho, **K. Leiderman** and S.D. Olson. *Swimming Speeds of Filaments in Viscous Fluids with Resistance*. *Phys. Rev. E*, 2016; 93(4):043108. <https://journals.aps.org/pre/abstract/10.1103/PhysRevE.93.043108>
15. H.N. Nguyen[†], **K. Leiderman** and S.D. Olson. *A fast method to compute triply-periodic Brinkman flows*. *Computer & Fluids*, 2016; 133:55-67. <https://www.sciencedirect.com/science/article/pii/S0045793016301104>
16. S.D. Olson and **K. Leiderman**. *Effect of Fluid Resistance on Symmetric and Asymmetric Flagellar Waveforms*. *J. Aero Aqua Bio-mech.*, 2015; 4:12-17. https://www.jstage.jst.go.jp/article/jabmech/4/1/4_12/_article/-char/ja/
17. H.N. Nguyen[†] and **K. Leiderman**. *Computation of the singular and regularized image systems for doubly-periodic Stokes flow in the presence of a wall*. *J. Comp. Phys.* 2015; 297:442-461 <https://www.sciencedirect.com/science/article/pii/S0021999115003642>
18. **Leiderman, K.** and A.L. Fogelson. *An Overview of Mathematical Modeling of Thrombus Formation Under Flow*. *Thromb. Res.* 2014; 133(S1):S12-S14. <https://www.sciencedirect.com/science/article/pii/S0049384814001303>
19. Onasoga A.A., **Leiderman, K.**, Fogelson, A.L., Wang, M., Manco-Johnson, M.J., Di Paola, J.A., and K.B. Neeves. *The effect of FVIII deficiencies and replacement and bypass therapies on thrombus formation under venous flow conditions in microfluidic and computational models*. *PLoS ONE*. 2013; 8(11): e78732. <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0078732>
20. **Leiderman, K.**, Bouzarth, E.L., Cortez, R. and A.T. Layton. *A Regularization Method for the Numerical Solution of Periodic Stokes Flow*. *J. Comp. Phys.* 2013; 236:187-202. <https://www.sciencedirect.com/science/article/pii/S0021999112005803>
21. **Leiderman, K.** and A.L. Fogelson. *The Influence of Intraclot Transport on the Development of Platelet Thrombi Under Flow*. *Bull. Math. Biol. Oct.*, 2012:1-29. <https://link.springer.com/article/10.1007/s11538-012-9784-3>
22. Fogelson, A.L., Hussein, Y., and **K. Leiderman**. *The Influence of Thrombin-activated FXIa on Thrombin Production is Predicted to Depend Strongly on Platelet Count*. *Biophys. J.* 2012; 102(1):10-18. <https://www.sciencedirect.com/science/article/pii/S0006349511013142>
23. Wolberg, A.S., Aleman, M.M., **Leiderman, K.** and K.R. Machlus. *Procoagulant Activity in Hemostasis and Thrombosis: Virchow's Triad Revisited*. *Anesth. Analg.* 2012; 114(2):275-285. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3264782/>
24. **Leiderman, K.** and A.L. Fogelson. *Grow with the Flow: A Spatial-Temporal Model of Platelet Deposition and Blood Coagulation Under Flow*. *Math. Med. Biol.* 2011; 28(1):47-84.
Winner of SIAM Student Paper Prize in 2010
<https://academic.oup.com/imammb/article-abstract/28/1/47/679981>

25. Cortez, R., Cummins, B., **Leiderman, K.** and D. Varella. *Computation of Brinkman Flows Using Regularized Methods*. J. Comp. Phys. 229 (2010) 7609-7624.
<https://www.sciencedirect.com/science/article/pii/S002199911000327X>
26. **Leiderman, K.**, L.A. Miller, and A.L. Fogelson. *The Effect of Spatial Inhomogeneities on Flow Through the Endothelial Surface Layer*. J. Theor. Biol. 2008; May 21;252(2):313-25.
<https://www.sciencedirect.com/science/article/pii/S002251930800026X>
27. **Leiderman, K.** and S.L. Steinberg. *High-resolution models of motion of macromolecules in cell membranes*. Math. Comput. Simulat. 2008; April 4;77(4):383-399.
<https://www.sciencedirect.com/science/article/abs/pii/S0378475407001620>
28. Zhang J., **Leiderman, K.**, Pfeiffer, J.R., Wilson, B.S., Oliver, J.M., and S.L. Steinberg. *Characterizing the topography of membrane receptors and signaling molecules from spatial patterns obtained using nanometer-scale electron-dense probes and electron microscopy*. Micron. 2006; 37(1):14-34.
<https://www.sciencedirect.com/science/article/pii/S0968432805000764>
29. Oliver J.M., Pfeiffer, J.R., Surviladze, Z., Steinberg, S.L., **Leiderman, K.**, Sanders, M.L., Wofsy, C., Zhang, Z., Fan, H., Andrews, N., Bunge, S., Boyle, T.J., Kotula, P., and B.S. Wilson. *Membrane receptor mapping: membrane topography of FcεRI signaling*. Subcell. Biochem. 2004; 37:3-34.
https://link.springer.com/chapter/10.1007/978-1-4757-5806-1_1
30. Wilson B.S., Steinberg, S.L., **Leiderman, K.**, Pfeiffer, J.R., Surviladze, J., Zhang, J., Samelson, L.E., Yang, L.H., Kotula, P., and J.M Oliver. *Markers for detergent-resistant lipid rafts occupy distinct and dynamic domains in native membranes*. Mol. Biol. Cell. 2004; 15(6):2580-92.
<https://www.molbiolcell.org/doi/abs/10.1091/mbc.E03-08-0574>

BOOK
CHAPTERS

31. **K. Leiderman**, B.E. Bannish, M.A. Kelley, and A.M. Palmisano. *Mathematical models of thrombus formation and fibrinolysis*. Chapter in: Cardiovascular thrombus: from pathology and clinical presentations to imaging, pharmacotherapy and interventions, Springer, 2018.
<https://goo.gl/8b5CyV>
32. K.B. Neeves and **K. Leiderman**. *Mathematical models of hemostasis*, In: Trauma Induced Coagulopathy, Springer, 2016; 567-584.
https://link.springer.com/chapter/10.1007/978-3-319-28308-1_35

CONFERENCE
PROCEEDINGS
(ALL PEER-
REVIEWED)

33. Buchmann, A.L. Fauci, L.J., **Leiderman, K.**, Strawbridge, E.M, and Zhao, L. *Flow induced by bacterial carpets and transport of microscale loads*. IMA Proceedings. In: Applications of Dynamical Systems in Biology and Medicine, Springer, 2015; 35-53.
https://link.springer.com/chapter/10.1007/978-1-4939-2782-1_2
34. **Leiderman, K.**, Bouzarth, E.L., H.N. Nguyen[†]. *A regularization method for the numerical solution of doubly-periodic Stokes flow*. Biological Fluid Dynamics: Modeling, Computations, and Applications, 2014; 628:73.
<https://goo.gl/wMKdVq>

TEACHING
EXPERIENCE

Course Instructor , Colorado School of Mines	
Mathematical Biology	Fall 2018
Differential Equations	Fall 2017, Spring & Fall 2018
Spatial Processes in Biology (Mathematical Biology with PDEs)	Spring 2017
Introduction to Scientific Computing	Fall 2016
Course Instructor , UC Merced	
Undergraduate Numerical Analysis	Spring 2016
Undergraduate Differential Equations & Linear Algebra	Fall 2015
Graduate Partial Differential Equations	Fall 2013
Undergraduate Partial Differential Equations	Spring 2013 & 2014

TEACHING
EXPERIENCE
CONTINUED

Course Instructor, Duke University
Seminar in Mathematical Modeling. Special Topic: Mathematical Biology Fall 2011
Ordinary and Partial Differential Equations (Coordinator in Spring) Fall 2010 & Spring 2011

Teaching Fellow/Course Instructor, University of Utah
Mathematical Biology I & II (Teaching Assistant) Fall 2008, Spring 2009
Mathematical Biology Journal Club Fall 2006-Spring 2007
Quantitative Analysis (Business Calculus) Fall 2006
Accelerated Engineering Calculus Spring 2007

Course Instructor, University of New Mexico
Pre-Calculus Fall 2002

MENTORING,
SERVICE, AND
COMMITTEES

Colorado School of Mines
Postdoc Advisor for F. Mannan, Applied Math 2017-Present
Ph.D. Advisor for Nick Danes, Applied Math 2014-Present
Ph.D. Advisor for Michael Kelley, Applied Math 2016-Present
Ph.D. Advisor for Michael Stobb, Applied Math at UC Merced (Co-advising) 2014-Present
Faculty Search Committee, AMS 2016/2017, 2017/2018
Faculty Advisor, Society for Women in Math (SWiM), 2017
Faculty Advisor, Bridge Opportunities for Transfer Student Success Program Summer 2017

University of California, Merced
Postdoc Advisor for H.N. Nguyen, Applied Math 2013-2016
M.S. Advisor for T. Thompson, Applied Math 2013-2015
Ph.D. Thesis Committee for J. Davis, Applied Math 2013-2016
Ph.D. Thesis Committee for D. Martin, Applied Math 2013-2015
M.S. Thesis Committee for V. Magagula & S. Montroy, Applied Math 2012-2013
REU Mentor, Topic: Sensitivity analysis of a model of blood coagulation Summer 2014
Undergraduate Research Mentor, Four students, various problems in math biology 2012-2016
Faculty Search Committee, Applied Math 2012,2013
Graduate Admissions Committee, Applied Math 2012
Undergraduate Curriculum Committee, Applied Math 2015-2016
Graduate Curriculum Committee, Applied Math 2015-2016
Applied Mathematics Seminar Organizer 2013-2014
Executive Committee, Quantitative and Systems Biology 2014-2015

Duke University

Undergraduate Research Mentor, Topic: Mathematical model of blood coagulation Fall 2011
Mathematical Biology REU Mentor, Topic: Mathematical model of estrogen Summer 2011
Mathematical Biology Seminar Co-organizer 2011
Workshop Organizer, RTG Mathematical Biology Workshop Summer 2011

University of Minnesota Institute for Mathematics and Its Applications Sept 2013
Invited Research Mentor, Topic: Fluid flows induced by bacterial carpets

Referee: *Journal of Mathematical Biology, Mathematical Biosciences, Arteriosclerosis, Thrombosis, and Vascular Biology, Haemophilia, Thrombosis Research, Biophysical Journal, Journal of Royal Society Interface, International Journal for Numerical Methods in Engineering, AMS Contemporary Math, Journal of Thrombosis & Hemostasis, Mathematical Medicine and Biology, Computers and Fluids, Physical Review Letters, SPORA, Bulletin of Mathematical Biology*

Associate Editor: *SIAM Undergraduate Research Online (SIURO)* 2014 - present

Minisymposia/Special Sessions Organized/Co-Organized

Mathematically-based insights into health and disease, SIAM Central States August, 2017
Mathematical Modeling of Blood Coagulation, SIAM Life Sciences/Annual Meeting July, 2016
Computation of Periodic Flows and Their Applications, SIAM CSE Meeting March, 2015

MENTORING, SERVICE, AND COMMITTEES CONTINUED	<i>Multiscale Modeling in Biofluids</i> , SIAM Annual Meeting	August, 2013
	<i>Fluid/Structure Interaction in Biology</i> , SIAM Life Sciences Meeting	August, 2012
	<i>Mathematical Aspects of Blood Clotting</i> , SIAM Life Sciences Meeting	July, 2010
	<i>Swimming, Flying, Pumping and Clotting</i> , SIAM Life Sciences Meeting	August, 2008
CONFERENCES/ PRESENTATIONS	Gordon Research Conference (Hemostasis)	July 2018
	Invited Presentation: <i>Mathematical Modeling of Coagulation Under Flow</i>	
	Workshop for Women in Mathematical Biology , Minneapolis, MN	May 2018
	Institute for Mathematics and its Application, University of Minnesota	
	Invited Presentation: <i>Mathematical models of hemostasis and other things related to clotting</i>	
	9th Symposium on Hemostasis Chapel Hill, NC	April 2018
	Poster: <i>A Mathematical Model of Bivalent Binding of Thrombin and Fibrin</i>	
	Winner of Poster Prize	
	University of Colorado Boulder , Boulder, CO	April 2018
	Invited Applied Mathematics Colloquium Speaker	
	NREL-Mines Joint Bio Workshop , Golden, CO	Jan 2018
	Invited Presentation: <i>Mathematical Modeling of Hemostasis</i>	
	APS Fluid Dynamics Annual Meeting , Denver, CO	Nov 2017
	Contributed Presentation: <i>Toward a Mathematical Model of Hemostasis</i>	
	Boise State University , Boise, ID	Dec 2017
Invited Computational Mathematics Colloquium Speaker		
Society for Mathematical Biology Annual Meeting , Salt Lake City, UT	July 2017	
Invited Presentation: <i>Toward a Mathematical Model of Hemostasis</i>		
Utah Mathematical Biology Alumni Conference , Salt Lake City, UT	July 2017	
Invited Presentation: <i>Assessing the Significance of Product Inhibition in a Chromogenic Assay</i>		
Numerical Methods for PDEs and Applications , Djursholm, Sweden	May 2017	
Invited Presentation: <i>Toward a Computational Model of Hemostasis</i>		
Computational and Mathematical Biological Engineering , Pittsburgh, PA	April 2017	
Invited Presentation: <i>Toward a Mathematical Model of Hemostasis</i>		
Association for Women in Math Research Symposium , Los Angeles, CA	April 2017	
Invited Presentation: <i>Toward a Mathematical Model of Hemostasis</i>		
Colorado State University , Ft. Collins, CO	November 2016	
Invited Mathematics Colloquium Speaker		
SIAM Life Sciences/Annual Meeting , Boston, MA	July 2016	
<ul style="list-style-type: none"> • Invited Speaker in Association for Women in Math Workshop Presentation: <i>Modeling Prion Transport in Budding Yeast</i> • Minisymposium co-organizer: <i>Mathematical Modeling of Blood Coagulation</i> 		
Gordon Research Conference (Hemostasis)	August 2016	
Poster: <i>Assessing the Significance of Product Inhibition in a Chromogenic Assay</i>		

CONFERENCES/
PRESENTATIONS
CONTINUED

- 8th Symposium on Hemostasis** Chapel Hill, NC May 2016
Poster: *Assessing the Significance of Product Inhibition in a Chromogenic Assay*
- University of Nevada, Reno**, Reno, NV January 2016
Invited Mechanical Engineering Seminar Speaker
- Northwestern University**, Evanston, IL November 2015
Invited Applied Mathematics Seminar Speaker
- University of North Carolina Chapel Hill**, Chapel Hill, NC November 2015
Invited Biophysics and Biochemistry Seminar Speaker
- University of South Carolina**, Columbia, SC November 2015
Invited Mathematics Seminar Speaker
- Colorado School of Mines**, Golden, CO October 2015
Invited Biological and Chemical Engineering Colloquium Speaker
- SIAM CSE Meeting**, Salt Lake City, UT March 2015
- Invited Speaker in Workshop Celebrating Diversity
Presentation: *Mathematical Modeling of Thrombus Formation Under Flow*
 - Invited Presentation: *Modeling Cilia and Flagella in Brinkman Flow*
 - Minisymposium co-organizer: *Computation of Periodic Flows and Their Applications*
- Gordon Research Conference (Hemostasis)** August 2014
Poster: *The Influence of Hindered Transport on Platelet Thrombi Under Flow*
- SIAM Life Sciences Meeting**, Charlotte, NC August 2014
Invited Presentation: *Modeling Cilia and Flagella in Brinkman Flow*
- 7th Symposium on Hemostasis** Chapel Hill, NC May 2014
Invited Presentation: *Mathematical Modeling of Thrombus Formation Under Flow*
- SIAM Annual Meeting**, San Diego, CA July 2013
- Invited Speaker in AWM Workshop: Career Panel Presentation: *On the Road to My Career*
 - Minisymposium co-organizer: *Multiscale Modeling of Biofluids*
Presentation: *A Model of Particle Transport Through a Periodic Array of Beating Cilia*
- SIAM Mathematical Aspects of Material Sciences**, Philadelphia, PA June 2013
Invited Presentation: *A Regularization Method for the Numerical Solution of Periodic Stokes Flow With Application to Ciliary Beating*
- MBI Workshop on Mathematical and Computational Challenges in Cilia- and Flagella-Induced Fluid Dynamics**, Columbus, OH October 2012
Invited Presentation: *A Simple Model of Ciliary Beating in Doubly-Periodic Stokes Flow*
- SIAM Life Sciences Meeting**, San Diego, CA August 2012
Minisymposium co-organizer: *Fluid/Structure Interactions in Biology*
Presentation: *The Influence of Hindered Transport on Platelet Thrombi Under Flow*
- Notre Dame**, South Bend, IN November 2011
Invited Applied and Computational Mathematics Colloquium Speaker

CONFERENCES/
PRESENTATIONS
CONTINUED

- Tulane University**, New Orleans, LA October 2011
Invited Applied Mathematics Colloquium Speaker
- Society for Engineering Sciences Annual Technical Meeting**, Evanston, IL October 2011
Invited Presentation: *Mathematical Modeling of Thrombus Formation Under Flow*
- ICIAM and SIAM Annual Meeting**, Vancouver, BC July 2011
- Invited Speaker in AWM Workshop: Research Talks by Recent Ph.D.s. Presentation: *A Mathematical Model of Platelet Deposition and Blood Coagulation under Flow*
 - Minisymposium co-organizer: *Biological Fluid Dynamics: Models, Methods, and Application*
Presentation: *Modeling Flow through Porous Material in the Immersed Boundary Framework*
- European Conference on Theoretical and Mathematical Biology**, Poland June 2011
Invited Presentation: *Mathematical Modeling of Thrombus Formation Under Flow*
- Food and Drug Administration Workshop**, Gaithersburg, MD May 2011
Workshop on Risk Mitigation Strategies to Address Procoagulant Activity in Immune Globulin Products. Invited Presentation: *Findings from Two Mathematical Models of Thrombus Formation Under Flow: FXI and FXIa, When Do They Matter?*
- Illinois Institute of Technology**, Chicago, IL April 2011
Invited Bioengineering Seminar Speaker
- University of Florida Biomathematics Conference**, Gainesville, FL March 2011
Invited Presentation: *Mathematical Modeling of Thrombus Formation Under Flow*
- SIAM Life Sciences Meeting**, Pittsburgh, PA July 2010
Minisymposium co-organizer: *Mathematical Aspects of Blood Clotting*
Presentation: *A Spatial-Temporal Model of Platelet Deposition and Blood Coagulation under Flow*
- APS Division of Fluid Dynamics Annual Meeting**, Minneapolis, MN November 2009
Presentation: *A Computational Model of Platelet Deposition and Coagulation Under Flow*
- MBI Workshop on Computational Challenges in Integrative Biological Modeling**
Columbus, OH October 2009
Poster: *A Computational Model of Platelet Deposition and Coagulation Under Flow*
- APS Division of Fluid Dynamics Annual Meeting**, San Antonio, TX November 2008
Presentation: *Grow with the Flow: A Dynamic Tale of Blood Clot Formation*
- SIAM Life Sciences Meeting**, Montreal, Canada August 2008
Minisymposium co-organizer: *Swimming, Flying, Pumping and Clotting*
Presentation: *Grow with the Flow: A Dynamic Tale of Blood Clot Formation*
- Gordon Research Conference (Theoretical Biology & Biomathematics)** June 2008
Poster: *Grow with the Flow: A Dynamic Tale of Blood Clot Formation*
- Society for Integrative and Comparative Biology**, Annual Meeting, TX January 2008
Poster: *The Effect of Spatial Inhomogeneities on Flow Through the Endothelial Surface Layer*
- Utah Mathematical Biology IGERT Student Workshop**, Salt Lake City, UT July 2007
Workshop Organizer and Lecturer
Host: Charles S. Peskin, Theme: Modeling and Simulation in the Life Sciences

<p>CONFERENCES/ PRESENTATIONS CONTINUED</p>	<p>2007 IGERT Project Meeting, Arlington, VA May 2007 Invited Poster: <i>Mathematical and Physical Modeling of the Endothelial Glycocalyx</i></p> <p>SIAM Dynamical Systems Meeting, Snowbird, UT May 2007 Poster: <i>Mathematical and Physical Modeling of the Endothelial Glycocalyx</i></p> <p>MBI Workshop on Blood Flow in the Microcirculation, Columbus, OH January 2007 Presentation: <i>Mathematical and Physical Modeling of the Endothelial Glycocalyx</i></p> <p>Society for Integrative and Comparative Biology, Annual Meeting, AZ January 2007 Presentation: <i>Endothelial Mechanotransduction: Let's sugarcoat it!</i></p> <p>Joint SIAM/SMB Meeting on the Life Sciences, Raleigh, NC August 2006 Invited Presentation: <i>The Endothelial Glycocalyx: Flow, Permeability and Stress</i></p> <p>New Mexico Workshop on Computational Cell Biology, Santa Fe, NM January 2004 Poster: <i>Simulation of Anomalous Diffusion to Approximate Fluorescence Recovery Data</i></p> <p>International Symposium on Computational Cell Biology, Lenox, MA March 2003 Poster: <i>Topographical Analysis of the IgE Receptor Signaling Pathway of Mast Cells</i></p>
<p>PROFESSIONAL MEMBERSHIPS</p>	<p>Society for Industrial and Applied Mathematics (SIAM) Association for Women in Mathematics (AWM) Society for Mathematical Biology (SMB) American Physical Society-Division of Fluid Dynamics (APS-DFD)</p>
<p>COMPUTER SKILLS</p>	<p>Fortran, C, MATLAB, Mathematica, Maple</p>