Vita and Bibliography

Aaron L. Fogelson
Professor of Mathematics
Adjunct Professor of Biomedical Engineering
University of Utah

Academic Degrees:

B.A.	1977	Wesleyan University
M.S.	1979	Courant Institute of Mathematical Sciences, New York University
Ph.D.	1982	Courant Institute of Mathematical Sciences, New York University

Research Interests:

Modeling of Blood Clotting,
Modeling Complex Viscoelastic Materials including Physiological Gels,
Biological Fluid Dynamics, Scientific Computing,

Professional Experience

2014-17	Associate Dean for Reserach, College of Science
2006	Visiting Professor, Institute for High Performance Computing, Singapore (January)
2000-	Adjunct Professor of Bioengineering, University of Utah
1994-	Professor, University of Utah
1992-93	Visiting Associate Professor, University of Washington
1989-	Associate Professor, University of Utah (on leave 1992–93)
1989	Visiting Member, Courant Institute of Mathematical Sciences, New York University (April-July)
1985-89	Assistant Professor, University of Utah (on leave 1985–1986)
1985-86	Associate Research Scientist, Courant Institute of Mathematical Sciences, New York University
1983-85	Lecturer, University of California, Berkeley
1982-84	NSF Postdoctoral Fellow, University of California and Lawrence Berkeley Laboratory
1980-82	Lecturer, New York Universiy
1977-82	Research Assistant, New York University

Academic Honors:

2018	Editors' Choice Award for most outstanding paper Cellular and Molecular Bioengineering for 'A microfluidic model of hemostasis sensitive to platelet function and coagulation, with R.M. Shoeman et al.
2018	Best Paper Prize (2016-2017) Mathematical Medicine and Biology: A Journal of the IMA for 'A two-phase mixture model of platelet aggregation', with Jian Du.
1999-2000	John Simon Guggenheim Memorial Foundation Fellowship
1998-99	University of Utah Faculty Fellow Award
1996-99	NSF Creativity Award

1987-91	Alfred P. Sloan Research Fellowship
1982-84	NSF Postdoctoral Fellowship
1979-82	SIAM Institute of Mathematics for Society (SIMS) Fellowship
1977-79	Courant Institute Research Assistantship
1977	Summa Cum Laude, Wesleyan University
1976	Phi Beta Kappa

Research Grant Support:

2022-	NHLBI 1R01HL157631: Computational and Experimental Modeling of Subclinical Leaflet Thrombosis in Bioprosthetic Aortic Valves, B.E. Griffith UNC. PI, ALF Utah PI, Total Budget: $2,668,850.
2020-	NHLBI 1R01HL151984: An integrated computational and experimental approach to understanding the hemostatic response during treatment of bleeding ALF, K. Leiderman, K.B. Neeves (MPIs) Total Budget: $2,641,394.
2018-	NHLBI 1U01HL143336: Multiscale Modeling of Clotting Risk in Atrial Fibrilation, B.E. Griffith UNC, PI, ALF. Utah PI Total Budget: $2,757,900.
2018-	NIGMS 1R01GM131408: Modeling gastric mucus layer physiology, ALF PI, Total Budget: $1,500,000.
2017-2023	NSF DMS-1716898: Collaborative Research: Blood Clotting at the Extreme – Mathematical and Experimental Investigation of Platelet Deposition in Stenotic Arteries, ALF (PI), J. Du, D. Ku, Total budget: $553,191.
2015-2019	NSF DMS-1521748: The Best of Both: Toward a hybrid discrete and continuum multiscale platelet aggregation and coagulation model, R.M. Kirby, ALF., V. Shankar, Total budget: $449,751.
2015-2019	NHLBI 1R01HL126864: Upstream priming of platelets for adhesion to biomaterials V. Hlady, ALF (MPIs), Total budget: $1,490,000.
2014-2020	NHLBI 1R01HL120728: A Systems Biology Approach to Predicting Bleeding in Hemophilia, K.B. Neeves, ALF, K. Leiderman, J. Di Paola (MPIs), Total budget: $2,786,438.
2012-2017	NSF DMS-1160432 FRG:Collaborative Research: Chemically-active Viscoelastic Mixture Models in Physiology: Formulation, Analysis, and Computation, ALF (PI), J. Keener, J. Du, R. Guy, G. Wright, (co-PIs), Total budget: $1,100,000, Utah portion $686,490.
2012-2019	NSF RTG: Research Training in Mathematical and Computational Biology J. Keener (PI), F. Adler, A. Borisyuk, P. Bressloff, ALF (co-PIs), Total budget: $2,496,299.
2009-2014	NIGMS: Multiscale Computational Modeling of Platelet Deposition and Coagulation in Flow, ALF PI, R. Kirby, V. Turitto, C. Hall, co-PIs Total budget: $1,295,163.

2006-2013	NSF: Formation and Function of Physiological Gels ALF PI, J. Keener, R. Guy, and G. Wright, co-PIs Total budget: $2,000,000
2004-2012	NSF RTG: Research Training Group in Mathematical and Computational Biology (J. Keener PI, F. Adler, A. Borisyuk, P. Bressloff, ALF (co-PIs) Total budget: $2,400,000
2002-2009	NSF IGERT Grant J. Keener PI, ALF co-PI) Total budget: $2,940,000
2002-2007	NSF FRG Grant ALF PI, J. Keener co-PI Total budget: $1,014,555
1998-2003	NSF Research Grant ALF PI, Total budget: $310,000 and $53,000 supplement)
1997-1999	University of Utah Seed Grant M. Lewis (PI), ALF (co-PI) Total budget: $35,000
1996-1999	NSF Research Grant - Creativity Extension ALF PI, Total budget: $134,390)
1993-1997	NSF Research Grant (A.F. PI, $290,000)
1991-1993	NSF Research Grant (A.F. PI, $74,740)
1990-1991	University of Utah Research Commitee Grant ($5,000)
1988-1991	NSF Research Grant (A.F. PI, $45,240)
1988-1990	University of Utah Research Committee Grant ($5,000)
1986-1988	NSF Research Grant (A.F. PI, $48,100)
1985-1986	NSF Research Grant (with A. Chorin) ($13,350)

Professional Affiliations:

Society for Industrial and Applied Mathematicians
Biophysical Society
International Society on Thrombosis and Hemostasis
American Association for the Advancement of Science

Professional Activities:

Associate Editor, SIAM Journal for Applied Mathematics, 2017-

Associate Editor, Gels, 2021-

Guest Editor for a special issue Current Opinion in Biomedical Engineering devoted to Mathematical Modeling of Thrombosis, 2021-2022.

Member, AMS Birkhoff Prize Committee, 2020-2023.

Founding Treasurer, SIAM Northern States Section, 2019-

Organizing committee member for conference 'Utah MathBio Alumni Conference - JPK 70', Salt Lake City, UT, July 14-15, 2017.

Organizing committee member for conference 'Modeling Complex Fluids and Gels for Biological Applications', Salt Lake City, UT, May 4-6, 2017.

Member, Gene Golub SIAM Summer School Committee, 2012-2015

Vice-Chair, SIAM Activity Group on the Life Sciences, 2011-2013

Organizing committee member for SIAM Activity Group in the Life Sciences 2010 meeting

Chair of 2008 Gordon Research Conference on Theoretical Biology and Biomathematics, Barga, Italy. June 2008.

Guest editor for a special issue of Computer Methods in Applied Mechanics and Engineering devoted to Immersed Boundary Methods, 2008.

Organizer of symposium on Immersed Boundary methods at the 7th World Congress on Computational Mechanics, Los Angeles, July 2006.

Vice-Chair of 2006 Gordon Research Conference on Theoretical Biology and Biomathematics.

Chair of session on biofluids and biogels at the Gordon Research Conference on Theoretical Biology and Biomathematics, June 2004.

Co-organizer of International Conference on Mathematics in Biology, University of Utah, August 2000.

Co-organizer of Symposium of Adaptive Solution Methods for Partial Differential Equations, University of Utah, June 1998.

Chair of session on biofluid dynamics at the Gordon Research Conference on Theoretical Biology and Biomathematics, June 1996.

Co-organizer of minisymposium on biofluid dynamics, University of Utah, May 1996.

Organizer of session 'Mathematical Models in Biomedical Research', Biomedical Engineering Society Annual Meeting, Memphis State University, October 1993.

Workshop leader for Biological Fluid Dynamics Workshop: Modelling Flow with Immersed Elastic Structures, Pittsburgh Supercomputing Center, July 1991.

Organizer of Conference 'Computational Methods for Fluid Dynamics and the Evolution of Fronts and Interfaces,' University of Utah, October 1990.

Reviewer for:

National Science Foundation
(Panels: KDI-1998; Fluids-1999, 2001, 2006, 2012; Career-2000; FRG-2002, 2003; Mathematical Biology-2005, 2012, 2018; NSF-NIGMS 2007, 2008, 2019, 2022, NSF-Simons NITMB 2022, RTG-2015)

National Institutes of Health (MABS Study Section 2008, 2009, 2011).
National Heart Lung Blood Institute, Program Project Panel, 2021,
Department of Energy

Referee for:

Journal of Computational Physics,
Mathematics of Computation, *Bulletin of Mathematical Biology*,
Journal of Mathematical Biology, *American Journal of Physiology*,
Journal of Theoretical Biology, *Journal of Supercomputing*,
SIAM Journal of Applied Mathematics,
SIAM Journal of Scientific Computing,
Numerical Algorithms, *Mathematical Biosciences*,
Biophysical Journal, *PNAS*,
Journal of Thrombosis and Haemostasis, *Nature*,
Blood, *Physics of Fluids*,
Arterosclerosis Thrombosis and Vascular Biology,
Journal of Chemical Physics, *PLOS-Computational Biology*
Biomechanics and Modeling in Mechanobiology, *PLOS-ONE*, *PLOS-Computational Biology*, *Scientific Reports*, *Gels*.

Ph.D. Thesis Advisor for:

Nien-Tzu Wang, June 1997, *Computational Methods for Continuum Models of Platelet Aggregation.*

Andrew Kuharsky, September 1998, *Mathematical Modeling of Blood Coagulation.* Current Employment: Computational Finance.

Haoyu Yu, December 1999, *Three-dimensional Computational Modeling and Simulation of Platelet Aggregation on Parallel Computers.* First employment: Physiome Sciences.

Chung-Seon Yi, 2001, *Mathematical Models for Ionic Concentration Changes and Volume Shifts During Ischemia and Hypoxia.* First employment: Postdoc Virginia Tech.

Robert Guy, 2004, *Continuum Models of Platelet Aggregation: Closure Models, Computational Methods, and Simulation.* Current employment: Professor, University of California - Davis.

Elijah Newren, 2007, *Enhancing the Immersed Boundary Method: Stability, Volume Conservation, and Implicit Solvers.* First employment: Sandia National Laboratories, Albuquerque NM.

Karin Leiderman, 2010, *A Mathematical Model of Blood Coagulation and Platelet Deposition under Flow.* Current employment. Associate Professor, University of North Caroline – Chapel Hill.

Lindsay Crowl, 2010, *Blood Flow Dynamics: A Lattice Boltzmann Immersed Boundary Approach.* Current employment: Google.

Brittany Bannish, 2012, *Mathematical Models of Fibrinolysis.* co-advised with J.P. Keener. Current employment: Associate Professor University of Central Oklahoma.

Varun Shankar, 2014, *Radial Basis Function Methods for Fluid-structure Interaction and Numerical Solution of Partial Differential Equations in Platelet Aggregation.* co-advised with R.M. Kirby. Current employment: UU School of Computing.

Cheryl Zapata, 2016, Mathematical Modeling of Fibrin Gelation Dynamics and Structure Formation Under Flow. Current employment: Biomerieux Diagnostics.

Kathryn G Link, 2020, *Mathematical Models of Flow-–mediated Intravascular and Extravascular Blood Clotting.* Current employment: NSF Postdoctoral Fellow at University of California - Davis.

Priscilla Elizondo, 2020, *Mathematical Studies of Venous Thrombosis.* Current employment: Biomerieux Diagnostics.

Anna C. Nelson, 2021, *Kinetic Polymerization Models and the Roles of Fibrinogen in Fibrin Gel Formation.* Current employment: Postdoc Duke University.

Andrew Kassen, 2021, *Continuous Energy, Shared Memory Parallel, 3D Whole Blood Simulations.* Current employment: Intel.

Andrew Watson, 2021, *Mathematical Models of Platelet Interaction with a Reactive Surface under Flow.* Current Employment: SAS.

Hallie Elich, 2021, *A Fluid-Structure Interaction Model of Pumping in a Chain of Lymphangions*, Current Employment: Northrup-Grumman

Keshav Patel, Sradha Ramesh Bhatt (current).

M.Sc. Thesis Advisor for:

Elijah Newren, September 1998, *Multilevel Distributed-Memory Solutions of Poisson's Equation.*

Thomas Anderson (CES program) 2001-2003, *The effect of spatial heterogeneity on blood coagulation dynamics.*

Corbin Baldwin, 2023, *Addressing Oscillatory Behavior in Platelet Aggregation Models with WENO Schemes and Spectral Derivative Filtering*

Undergraduate Thesis Advisor for:

Gabriella Barnes 2019-2020, *Models of TFPI Inhibition in Coagulation.*

Yasmeen Hussain, 2006-2011, *Coagulation Models.*

REU Advisor for:

Michael Woodbury, 2002-2004, *Models of Blood Clot Lysis.*

Nathan Hancock, 2002-2004, *Molecular Bond Breaking Under Dynamic Forcing.*

Yasmeen Hussain, 2006-2011, *Coagulation Models.*

Gabrielle Barnes, 2019-2020.*Models of TFPI Inhibition in Coagulation*

Maycol Vilquez. 2019-2020. *Platelet Deposition and Coagulation* .

Post-Doctoral Advisor for:

David Eyre, Nien-Tzu Wang, Robert Guy, Grady Wright

Viktoria Hsu, Laura Miller, Jian Du, Lingxing Yao,

Mark Zajac, Sarthok Sircar, Tyler Skorczewski, Qinghai Zhang

Owen Lewis, Varun Shankar, *current:* Aaron Barrett, Alex Ginsberg

New Courses Developed:

-Advanced Numerical Analysis and Computation (Senior undergraduate)
-Mathematical Modeling (Senior undergraduate)
-Computational Fluid Dynamics (Graduate)
-Numerical Solution of Partial Differential Equations (Graduate)
-Mathematical Modeling of the Cardiovascular System (Graduate)
-Case Studies in Computational Engineering and Science (Graduate)
-Mathematical Modeling of Blood Clotting (Graduate)
-Fluids and Complex Fluids (with C. Hohenegger) (Graduate)

Courses Taught:

Lower Division Undergraduate: Calculus, Business Calculus, Mathematics for Life Scientists (2 semester sequence), Linear Algebra, Engineering Mathematics (Linear Algebra and ODEs), Engineering Mathematics (PDEs), Engineering Mathematics (Complex Variable)

Upper Division Undergraduate/Beginning Graduate: Mathematical Biology (2 semester sequence), Dynamic Systems and Chaos, Introduction to PDEs, Introduction to Numerical Analysis (2 semester sequence), Advanced Numerical Analysis and Computation, Mathematical Modeling

Graduate: Analysis of Numerical Methods (2 semester sequence), Numerical Solution of PDEs, Computational Fluid Dynamics, Fluid Mechanics, Mathematical Cell Physiology, Mathematical Modeling of the Cardiovascular System, Stochastic Processes in Biology (with Paul Bressloff), Mathematical Modeling of Blood Clotting, Mathematical Systems Physiology

Major Committee Assignments:

Departmental: Executive Committee, Hiring Committee, Instructorship Committee, Graduate Committee, Space Committee (building renovation), IGERT Steering Committee

University: Computational Engineering and Science Masters Program Steering Committee, Center for High Performance Computing Faculty Advisory Board, Internal Review Committees for Department of Meteorology and the School of Computing, Research Seed Grant Committee, Research Instrumentation Fund Committee, Graduate Education Strategy Group

Community Activities:

Teaching mathematics weekly at Lowell Elementary School (until 2003); Board of Directors and Treasurer, Utah School of Jewish Studies (until 2001); Main author: 'An Independent Look at Salt Lake School District Enrollment Data:

Historical Trends and the (Un)Reliability of Projections', 34 page report presented to the Salt Lake City School Board, June 19, 2001; Board of Trustees, University of Utah Hillel (until 2006)

Presentations:

1982	Duke University
1982	National Institute of Health
1983	Lawrence Berkeley Laboratory
1983	Courant Institute
1983	SIAM National Meeting, Denver
1984 (invited)	AMS-Summer Seminars on Large-Scale Computations in Fluid Mechanics, San Diego
1985	Biophysical Society Annual Meeting, Baltimore
1985	University of Maryland
1985	University of North Carolina
1985	Duke University
1985	University of Waterloo
1985	Northeastern University
1985	Yale University
1985	Colorado State University
1985	University of New Mexico
1985	Los Alamos National Laboratory
1985	University of Utah
1985	Stanford University
1985	IMACS 11th World Congress, Oslo, Norway
1986	Courant Institute
1986 (invited)	SIAM Workshop on Cross-Disciplinary Research in Multiphase Flow, Leesburg, VA
1986	American Physical Society Annual Fluid Mechanics Meeting, Columbus, OH
1986	University of Utah
1987	Conference on Nonlinearities in Biology and Medicine, Los Alamos, NM
1987 (invited)	AMS-MAA Joint Meeting, Salt Lake City, UT
1987	Mt. Sinai Medical Center, New York
1988	Tulane University
1988	Courant Institute
1988	University of California at Los Angeles
1988	Cedars Sinai Medical Center, Los Angeles
1988 (invited)	National Heart, Lung and Blood Institute, DTB Annual Meeting, Bethseda, MD
1988	Duke University (Biomathematics Center)
1988	Duke University (Department of Computer Science)
1989	Tulane University
1990 (invited)	AMS-SIAM Special Session on Mathematical Biology, Albuquerque, NM
1990 (invited)	Gordon Research Conference on Theoretical Biology
1990 (invited)	University of Utah Conference on Computational Methods for Fluid Dynamics and the Evolution of Fronts and Interfaces, Salt Lake City, UT

1991 (invited) Joint AMS-IMS-SIAM Summer Research Conference on Biofluiddynamics, Seattle, WA
1991 (invited) Pittsburgh Supercomputing Center's Biological Fluid Dynamics Workshop: Modeling Flows with Immersed Elastic Structures, Pittsburgh, PA
1991 (invited) Center for Biopolymer at Interfaces Semi-annual Meeting, University of Utah
1991 University of Michigan
1991 Washington State University
1992 University of Utah, Mechanical Engineering
1992 Brigham Young University, Chemical Engineering
1992 (invited) MSRI Workshop on Biofluid Dynamics
1993 University of Washington, Applied Mathematics
1993 University of British Columbia
1993 Gordon Research Conference: Biorheology of Cell Adhesion
1993 (invited) Biomedical Engineering Society Annual Meeting, Memphis, TN
1993 Tulane Univeristy
1994 University of Utah, College of Science
1994 University of Utah, Mathematics (Numerical Analysis)
1995 University of Utah, Mathematics (Math-Biology)
1996 University of Utah, Biofluid Dynamics Symposium, May 1996
1996 Gordon Research Conference on Theoretical Biology
1996 UU-BYU-USU Joint Meeting on Nonlinear Analysis
1997 University of Utah, Bioengineering
1998 (invited) Workshop on Cardiac Valve Prostheses, Hilton Head South Carolina, February 1998
1998 University of Tennessee, Department of Bioengineering
1998 (invited) Biomedical Engineering Society Annual Meeting, Cleveland Ohio
1999 (invited) Compuational Modeling in Biological Fluid Dynamics Workshop, IMA, Minneapolis
1999 University of Utah, Applied Mathematics
1999 Worcester Polytechnic Institute
1999 North Carolina State University (Biomathematics)
1999 North Carolina State University (Numerical Analysis)
1999 (invited) Bioengineering Division, 1999 International Mechanical Engineering Congress and Exposition, Nashville, Tennessee, November 1999.
2000 (invited) International Workshop on Numerical Simulations of Polymer and Cell Dynamics, Bad Honnef, Germany, June 13-16, 2000.
2001 Tulane University, Mathematics Colloquium
2001 (invited) SIAM Annual Meeting, San Diego, July 10-13.
2001 (invited) University of Utah, GSAC Colloquium
2002 (invited) SIAM Annual Meeting, Philadelphia, July 7-11.
2002 (invited) SMB Annual Meeting, Knoxville, July 15-16.
2003 University of Utah, Undergrad Colloquium.
2003 Illinois Institute of Technology, Biomedical Engineering Seminar.
2003 (plenary) SMB Annual Meeting, Dundee, Scotland, August 6-9, 2003.
2003 University of Michigan, Distinguished Lecture in Mathematical Biology.

2004 University of Arizona
2004 XVIIIth International Fibrinogen Workshop,
University of North Carolina, Chapel Hill,
July 17-20, 2004.
2004 University of Utah, Biology Department
2005 (invited) CRM, Universite de Montreal, Workshop on Mini-invasive
procedures in medicine and surgery: Mathematical and numerical challenges,
Montreal May 23-27, 2005
2005 (invited) Biomedical Engineering Society Fall Meeting, Baltimore MD, Sept 29-Oct 1, 2005
2005 Bowdoin College mathematics colloquium
2006 (invited) Institute for High Performance Computing, Singapore
2006 Claremont Colleges mathematics colloquium
2006 (plenary) Physiological Flow Network Meeting, Oxford, UK
2006 Nottingham University, 'Bridging the physical/life science divide' lecture, Nottingham UK.
2006 University of California, Irvine
2006 (keynote) VIIth World Congress on Computational Mechanics, Los Angeles, CA, July 16-22, 2006.
2006 (keynote) Computational Methods Session, 5th World Congress on Biomechanics,
Munich, Germany, July 29-August 4.
2006 (invited) Thrombosis Modeling Session, 5th World Congress on Biomechanics,
Munich, Germany, July 29-August 4.
2006 (invited) Conference on Applications of Mathematics in Biology, Physiology,
and Medicine, Courant Institute of Mathematical Sciences,
New York University, Oct 20-21, 2006
2007 (invited) Conference on Frontiers in Applied and Computational Mathematics,
New Jersey Institute of Technology, Newark, NJ, May 15-16, 2007.
2007 Brown University Center for Fluid Mechanics
2007 Tulane University Mathematics Colloquium
2007 Tulane University Applied Mathematics Seminar
2008 University of North Carolina, Department of Hematology/Oncology
2008 University of North Carolina, Mathematics
2008 (invited) FDA/NIH/NSF Workshop 'Computer Methods
for Cardiovascular Devices', Bethesda, MD, March 18-19.
2008 (invited) SIAM Materials Science Meeting, Philadelphia PA, May 11-14.
2008 (invited) IPAM Workshop, Los Angeles CA, May 19-23.
2008 (keynote) European Society for Minimally Invasive Neural Therapy (ESMINT) 2008 Teaching
Course, Lisbon, Portugal, September 6-12, 2008.
2008 (invited) Society for Advancement of Chicanos and Native Americans in Science (SACNAS)
2008 Annual Meeting, Salt Lake City, October 9-12, 2008.
2009 University of Utah, Department of Biomedical Informatics.
2009 (invited) Mathematical Biosciences Institute Conference 'Computational Challenges in
Integrative Biological Modeling, Columbus, OH, Oct 5-8, 2009.
2009 University of Arizona, Applied Mathematics Colloquium.
2009 UC Davis, Mathematical Biology Seminar.
2009 Illinois Institute of Technology, Biomedical Engineering Seminar.

2009	University of Connecticut Health Center, Center for Cell Analysis and Modeling Seminar.
2010	University of Houston, Department of Mathematics.
2010	Emory University, Department of Mathematics.
2010	5th Symposium on Hemostasis, University of North Carolina, April 29-May 1, 2010.
2010	SIAM Life Science Meeting, Pittsburgh, PA, July 12-16, 2010.
2010	Gordon Research Conference on Hemostasis, Waterville Valley, NH, July 25-29, 2010.
2010 (invited)	IMA Workshop on Medical Device-Biological Interactions at the Material-Tissue Interface, Minneapolis, MN, Sept 13-15, 2010
2010 (invited)	Swiss-Japanese International Seminar on Medical Engineering Based on Vessel Biology, Zurich, Nov 15-16, 2010
2011	Florida State Univeristy, Mathematics Colloquium
2011	Duke University, Mathematical Biology Colloquium
2011	Duke University, Presentation to Duke-UNC 'Clotters' Club'
2011	University of Pennsylvania, Systems Biology Seminar
2011	Colorado School of Mines, Chemical Engineering Seminar
2011 (invited)	NCTS Workshop on Fluid-Structure Interaction Problems, Hsinchu, Taiwan, May 26-29, 2011
2011	ETH, Zurich, Switzerland, Electrical Engineering Seminar
2011 (invited)	Oxford-Notre-Dame Workshop on Interdisciplinary Biomedical Research, London, UK, July 18-19, 2011
2011	UCSD Mechanical and Aerospace Engineering Department. November 30, 2011
2012	Montana State University Mathematics Department Colloquium, March 2012.
2012	University of California Davis SIAM Student Research Conference Keynote Lecture, May 2012
2012 (invited)	Second International Conference on Scientific Computing, Nanjing, China, May 22-25, 2012.
2012 (invited)	International Society for Thrombosis and Hemostasis - SSC Annual Meeting Biorheology Session, Liverpool, England, June 27-30, 2012.
2012	Gordon Research Conference on Hemostasis, Waterville Valley, NH, July 22-27, 2012.
2012 (invited)	Pacific Northwest Numerical Analysis Seminar, Boise State University, October 27, 2012.
2012	University of Minnesota Mathematics Department Colloquium, November 2012.
2012	University of Minnesota Mathematical Biology Seminar, November 2012.
2012 (invited)	Fluid Structure Interactions in Soft Matter Systems, School and Workshop, Prato, Italy, November 26-30, 2012.
2013	Temple University Mathematics Department Colloquium, February, 2013.
2013	Moscow State University Biophysics Department Seminar, May 24, 2013.
2013	Russian National Childrens' Center for Hematology, Immunology and Oncology seminar, Moscow, Russia, May 28, 2013.
2013 (invited)	NIMBios Investigative Workshop on Modeling Blood Cell Interactions, Knoxville, TN, June 4-7, 2013.
2013 (invited)	SJTU-INS Workshop on Fluid-Structure Interaction Problems, Shanghai Jiao Tong University, Shanghai, China, July 27-30, 2013.
2013 (invited)	MBI Workshop: Mathematics Guiding Bioartifical Heart Valve Design, Ohio State University, October 28-31, 2013

2014 (invited) World Congress on Biomechanics, Boston, July 7-11, 2014.
2014 Gordon Research Conference on Hemostasis, Waterville Valley, NH, July 27-Aug 1, 2014.
2014 (invited) Fluid Dynamics in Living Systems Conference, Arlington, VA, September 15-16, 2014.
2015 (invited) SIAM Computational Science and Engineering Conference, Salt Lake City, UT, March 14-18, 2015.
2016 (invited) Genentech Corporation, South San Francisco, CA, March 10, 2016.
2016 XXVIth International Fibrinogen Workshop, Skukuza, Kruger National Park, South Africa, June 21-24, 2016.
2016 (invited) SIAM Life Sciences Conference, Boston, MA, July 11-14, 2016.
2016 Gordon Research Conference on Hemostasis, Stowe, Vermont, July 24-29, 2016.
2017 Modeling Complex Fluids and Gels for Biological Applications, Salt Lake City, UT, May 4-6, 2017.
2017 University of Wisconsin, Computational and Applied Mathematics Seminar, December 9, 2017.
2018 World Congress on Biomechanics, Dublin Ireland, July 9-12, 2018.
2018 Gordon Research Conference on Hemostasis, Waterville Valley, NH, July 29-August 3, 2018.
2018 University of Utah, Mathematical Biology Seminar, October 31, 2018.
2018 University of North Carolina, Applied Mathematics Colloquium, November 30, 2018.
2019 Temple University, Applied and Computational Mathematics Seminar, March 27, 2019.
2019 International Society of Thrombosis and Hemostasis, Melbourne, Australia, July 5-10, 2019.
2019 (invited) 2nd Annual Symposium on Multiscale Cell Fate, University of California, Irvine, October 28-29, 2019.
2020 (invited) 9th International Bio-Fluid Mechanics and Vascular Biology Symposium, University of Arizona, February 13-16, 2020.
2022 International Society of Thrombosis and Hemostasis, London, UK July 9-13, 2022. Talk on hemophilia.
2022 International Society of Thrombosis and Hemostasis, London, UK July 9-13, 2022. Poster on TFPI.
2022 SIAM Life Sciences Conference, Boston, MA, July 13, 2022. Virtual talk.
2022 Gordon Research Conference on Hemostasis, Waterville Valley, NH, July 31-August 5, 2022.
2024 Mathematical Biology Seminar, Brandeis University, March 2024.

Bibliography:
Journal Papers – 6067 citations

99. Michael T. Stobb, Keith B. Neeves, Dougald M. Monroe, Suzanne S. Sindi, Karin Leiderman, Aaron L. Fogelson, Mathematical modeling identifies clotting factor combinations that modify thrombin generation in normal and factor VIII, IX, or XI deficient blood, *Journal of Thrombosis and Hemostasis*, 2023, submitted..

98. Barrett, ALF; Forest, M.; Gruninger, Cole; Lim, Sookkyung; Griffith, Boyce, Flagellum Pumping Efficacy in Shear-Thinning Viscoelastic Fluids, *Journal of Fluid Mechanics*, 2023, submitted.

97. Jian Du, ALF, A Computational Investigation of Occlusive Arterial Thrombosis, 2023, *Biomechanics and Modeling in Mechanical Biology*, 2023, doi: 10.1007/s10237-023-01765-8.

96. Dougald Monroe, Christine Baird, Julie Peterson, Alan Mast, Marilyn Manco-Johnson,Michael Stobb, Suzanne Sindi, ALF, Karin Leiderman,Keith Neeves, 2022, Low normal factor V enhances thrombin generation in hemophilia A by a substrate competition mechanism with factor Xa, *Blood*, under revision.

95. Jian Du, Bindi M. Nagda, Owen L. Lewis, Daniel B. Szyld, ALF, A computational framework for the swelling dynamics of mucinlike polyelectrolyte gels, 2023, *Journal of Non-Newtonian Fluid Mechanics*, 313, 104989.

94. Aaron Barrett, Jordan A. Brown, Margaret Anne Smith, Andrew Woodward, John P. Vavalle, Arash Kheradvar, Boyce E. Griffith, ALF, A Model of Fluid-Structure and Biochemical Interactions with Applications to Subclinical Leaflet Thrombosis, *International Journal for Numerical Methods in Biomedical Engineering*, 2022, 39:e3700.

93. Anna C. Nelson, ALF, Understanding the effect of fibrinogen interactions on fibrin gel structure, 2023, *Physical Review E*, 107, 024413.

92. Kenji Miyazawa, ALF, Karin Leiderman, Inhibition of platelet-surface-bound proteins during coagulation under flow II: AT and heparin, *Biophysical Journal*, 2023, 122, 230-240.

91. Kenji Miyazawa, ALF, Karin Leiderman, Inhibition of platelet-surface-bound proteins during coagulation under flow I: The role of TFPI, *Biophysical Journal*, 2023, 122, 99-113.

90. Jian Du, Owen Lewis, James P. Keener, ALF 'Modeling and Simulation of the Ion-Binding-Mediated Swelling Dynamics of Mucin-like Polyelectrolyte Gels', *Gels*, 2021, 7(4) 244; https://doi.org/10.3390/gels7040244.

89. Andrew Kassen, Aaron Barrett, Varun Shankar, ALF, 'Immersed boundary simulations of cell-cell interactions in whole blood', *Journal of Computational Physics*, 2022, 469. 111499.

88. ALF, Anna C. Nelson, Cheryl Zapata-Allegro, James P. Keener, Development of Fibrin Branch Structure Before and After Gelation', 2022, *SIAM Journal on Applied Mathematics*, 82, 267-293, doi: 10.1137/21M140102.

87. Aaron Barrett, ALF, Boyce E. Griffith, 'A Hybrid Semi-Lagrangian Cut Cell Method for Advection-Diffusion Problems with Robin Boundary Conditions in Moving Domains', 2022, *Journal of Computational Physics*, 449, 110805.

86. Varun Shankar, Grady B. Wright, ALF, 'An Efficient High-Order Meshless Method for Advection-Diffusion Equations on Time-Varying Irregular Domains, 2021, *Journal of Computational Physics*, 445, 110633.

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