

Sergey Lapin

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EDUCATION

Ph.D., Applied Mathematics	University of Houston 2005
M.S., Applied Mathematics	University of Houston 2001
M.S., Mathematics	Kazan State University 1999
B.S. (<i>summa cum laude</i>), Mathematics	Kazan State University 1996

PROFESSIONAL EXPERIENCE

Professor (*Career Track*), Dept. of Mathematics and Statistics, WSU (2019 – present)
Faculty Fellow, Honors College, Washington State University (2016 – present)
Adjunct Instructor, Central China Normal University (Summer 2020)
Associate Professor (*Career Track*), Dept. of Mathematics and Statistics, WSU (2014 – 2019)
Adjunct Professor, Institute of Comp. Mathematics and IT, Kazan Federal University (Nov. 2015 – Jan. 2018)
Visiting Professor, Summer China Program, Shanghai International Studies University (Summer 2014)
Assistant Professor, Dept. of Mathematics, Washington State University (August 2007 – May 2014)
Postdoctoral Fellow, Dept. of Mathematics, University of Houston (August 2005 – July 2007)
Research Assistant, Dept. of Mathematics, University of Houston (June 2003 – May 2005)
Research Assistant, AGL, Dept. of Geosciences, University of Houston (June 2002 – May 2003)
Instructor, Dept. of Mathematics, University of Houston (August 2000 – May 2002)
Teaching Assistant, Dept. of Mathematics, University of Houston (August 1999 – May 2000)
Research Assistant, Dept. of Computational Mathematics and Cybernetics, Kazan State University (August 1996 – June 1999)

RESEARCH INTERESTS

Numerical modeling, scientific computing, mathematical biology, modeling of fluid flow

AWARDS

- **Mid - Career Achievement Award.** College of Arts and Sciences, WSU, 2021.
- **Outstanding Faculty Member Award.** WSU's Interfraternity Council, Panhellenic Association, and United Greek Association, 2018.
- **Honors Faculty Award.** Washington State University Honors College, 2018.
- **Exceptional Professor Award.** The Associated Students of Washington State University (ASWSU), 2016.

- **Thesis Advisor Award.** Washington State University Honors College, 2016.

TEACHING AND MENTORING

TEACHING EXPERIENCE

Note: * – course developed or redesigned

Washington State University

- Math 105* – Exploring Mathematics (*asynchronous online course*)
- Math 171 – Calculus I
- Math 172 – Calculus II
- Math 182 – Honors Calculus II
- Math 201 – Mathematics for Business and Economics
- Math 202 – Business Calculus
- Math 273 – Calculus III
- Math 283* – Honors Calculus III (*synchronous online and face-to-face course*)
- Math 220 – Linear Algebra (*synchronous online and face-to-face course*)
- Math 230* – Honors Linear Algebra (*synchronous online and face-to-face course*)
- Math 315 – Differential Equations (*synchronous online and face-to-face course*)
- Math 440/540 – Applied Mathematics I (*synchronous online and face-to-face course*)
- Math 441/541 – Applied Mathematics II
- Math 448/548 – Numerical Analysis (*synchronous online and face-to-face course*)
- Math 544* – Matrix Computations (*synchronous online and face-to-face course*)
- Math 545* – Numerical Analysis of Evolution Equations
- Math 546* – Numerical Analysis of Elliptic Equations (*synchronous online and face-to-face course*)
- Math 588* – Introduction to Finite Element Method (*synchronous online and face-to-face course*)
- Honors 270* – Research Methods in the Social Sciences (*asynchronous online course*)
- Honors 370* – Global Issues in the Social Sciences (*asynchronous online course*)
- Honors 380* – Global Issues in Arts and Humanities (*synchronous online and face-to-face course*)
- Honors 390* – Global Issues in the Sciences (*synchronous online and face-to-face course*)

Central China Normal University

Introduction to Probability and Statistics 2

Shanghai International Studies University

Calculus I

Introduction to Probability and Statistics

University of Houston

Math 1310 – College Algebra

Math 1330 – Elementary Functions

Math 1431 – Calculus I

Math 2311 – Introduction to Probability and Statistics

Kazan State University

Introduction to Computer Networks

GRADUATE STUDENTS SUPERVISED

1. Charlotte Orr (MS, *in progress*)
2. Edgardo Pena (MS, *in progress*)
3. Chaitra Hande (MS, 2019; joint with Lynn Schreyer)
4. Caylan Kolste (MS, 2018)
5. Adam Schrum (MS, 2016)

6. Tyler Campbell (MS, 2016)
7. Fatima Arabi (MS, 2014)
8. Ala Alzaalig (MS, 2013)
9. Mindy Morgan (MS, 2013)
10. Lydia Miller (MS, 2013)
11. Rochelle Dietz (MS, 2011)
12. Andrew Stevens (MS, 2009)
13. Lois Kwon (MS, 2009; joint with Elissa Schwartz)

GRADUATE STUDENT COMMITTEE SERVICE

- Jesus Lopez, PhD committee, Department of Mathematics and Statistics, *in progress*
- Anthony Sorensen, PhD committee, School of the Environment, *in progress*
- Claire Puleio, MS committee, School of the Environment, 2021
- Seong Park, PhD committee, Department of Mathematics and Statistics, *in progress*
- Henry Ogu, MS committee, Department of Mathematics and Statistics, 2021
- Paula Kimmerling, PhD committee, Department of Mathematics and Statistics, *in progress*
- Allison Fisher, PhD committee, Department of Mathematics and Statistics, *in progress*
- Sharon Veerayah, PhD committee, Department of Mathematics and Statistics, *in progress*
- Priyanka Rao, MS committee, Department of Mathematics and Statistics, 2021
- Chaitra Hande, MS committee, Department of Mathematics and Statistics, 2021
- Anallely V Rojas, MS committee, Department of Mathematics and Statistics, 2020
- Zahra Al Dushaishi, MS committee, Department of Mathematics and Statistics, 2019
- Ryan Lattanzi, MS committee, Department of Mathematics and Statistics, 2019
- Valerie Cheaton, MS committee, Department of Mathematics and Statistics, 2018
- Mikhail Gongadze, MS committee, Department of Mathematics and Statistics, 2018
- Shan Li, PhD committee, Department of Mathematics and Statistics, 2018
- Mohammed Kaabar, MS committee, Department of Mathematics, 2016
- Konstantinos Lazaridis, MS committee, Department of Mathematics, 2016
- Casey Bylund, MS committee, Department of Mathematics, 2015
- Eric Johnson, MS committee, Department of Mathematics, 2014
- Jared Aurentz, PhD committee, Department of Mathematics, 2014
- Nirmalya Chatterjee, PhD committee, Department of Crop and Soil Science, 2013
- Behrang Asgharian, PhD committee, School of Mechanical and Materials Engineering, 2013
- Jamilah Alruwaili, MS committee, Department of Mathematics, 2013
- Li Wang, PhD committee, Department of Biological Systems Engineering, 2012
- Corby Harwood, PhD committee, Department of Mathematics, 2011
- Bonni Kealy, PhD committee, Department of Mathematics, 2011
- Greg Vogel, MS committee, Department of Mathematics, 2010
- Amit Sharma, MS committee, School of Materials and Mechanical Engineering, 2009
- Marca Bruff, MS committee, Department of Mathematics, 2009
- I-Ming Lee, MS committee, Department of Mathematics, 2008

UNDERGRADUATE STUDENTS SUPERVISED

1. Ellen Hilbun (Bioengineering), Fall 2020 – Spring 2021
2. Alyssa Akamine (Biology), Fall 2020 – Spring 2021
3. Megan Wong (Biology), Spring 2020 – Spring 2021

4. Hailey Chamberlain (Mathematics), Fall 2019 (*Hacker Scholarship in undergraduate research recipient*)
5. Kyle Norbert (Physics), Spring 2020
6. Thomas McCutcheon (Mathematics), Spring 2019 – Spring 2020 (*Honors thesis with excellence*)
7. Colby Harris (Finance and Accounting), Spring 2019 – Spring 2020
8. Rachael Cortner (Mathematics), Fall 2018 – present
9. Kiera Lucas (Biology), Fall 2017 – Fall 2019 (*Washington Research Foundation grant recipient*)
10. Camille Culbertson (Neuroscience), Fall 2017 – Spring 2019
11. Miranda Cornille (Mathematics), Fall 2017 – Fall 2018
12. Benjamin Hellwig (Mathematics), Fall 2017 – Spring 2018 (*Hacker Scholarship in undergraduate research recipient*)
13. Grace Jones (Mathematics), Spring 2016 – Spring 2018 (*WSU CAS Undergraduate grant recipient, Honors thesis with excellence*)
14. Chris Marshall (Mathematics), Spring 2015 – Spring 2016 (*WSU CAS Undergraduate grant recipient*)
15. Allison Fisher (Mathematics, Gonzaga University), Spring 2015
16. Rebecca Mitchell (Microbiology), Fall 2014 – Spring 2016 (*Auvil scholarship recipient, Honors thesis with excellence*)
17. Nathaniel Blair (Mathematics), Fall 2013 – Spring 2014
18. Lillian Wardo (Mathematics) Summer 2013 – Spring 2014 (*WSU CAS Undergraduate grant recipient*)
19. Audri Sedgwick (Biology, University of Idaho), Summer 2012 (*supported by UBM program*)
20. Mariah Eckwright (Mathematics, University of Idaho), Summer 2012 (*supported by UBM program*)
21. Mary Yovanoff (Mechanical Engineering, University of Idaho), Spring 2012 – Fall 2012
22. Raeanne Marks (Mathematics), Spring 2012 – Fall 2012
23. William Bonner (Mathematics), Summer 2011 – Summer 2012
24. Patrick Gavin (Electrical Engineering), Fall 2010 – Spring 2012 (*NASA scholarship recipient*)
25. Gretchen Marx (Zoology; joint with Daniela Bermudez), Summer 2010 – Summer 2011 (*supported by UBM program*)
26. Abigail Moody (MicroBiology; joint with Daniela Bermudez), Summer 2010 – Summer 2011 (*supported by UBM program*)
27. Drea Rae Killingsworth (Geology; joint with Katherine Cooper), Spring 2010 – Spring 2011 (*WSU CAS Undergraduate grant recipient*)
28. Andrew Piazza (Mathematics; joint with Elissa Schwartz), Spring 2010 – Spring 2011
29. Joseph Kristofzski (Mechanical Engineering), Spring 2010
30. Daniel De Pinto (Mathematics), Spring 2009 – Spring 2011 (*supported by UBM program*)
31. Amelia Hancock (Mathematics), Spring 2009 – Fall 2010 (*WSU CAS Undergraduate grant recipient, Honors thesis with excellence*)
32. Kramer Wahlberg (Bioengineering), Summer 2009 – Spring 2010 (*supported by UBM program*)
33. Melissa Johns (Civil Engineering), Summer 2009 – Spring 2010 (*supported by UBM program*)
34. James Hensley (Mathematics), Summer 2009
35. Svetlana Stadnik (Physics), Spring 2009
36. Kelli Wuerth (Biology), Summer 2008
37. Peter Klosterman (Mathematics), Summer 2008 (*supported by UBM program*)
38. Brain Stock (Mathematical Biology, Harvey Mudd College), Summer 2008 (*supported by UBM program*)

SCHOLARSHIP

GRANTS AND RESEARCH AWARDS

- **AIM SQuaRE Award “Mathematical modeling of the relationship between cardiovascular function and ballistocardiogram”**

Funded by American Institute of Mathematics, 2021

- **Partnership Development Between Washington State University and Urgench University (Uzbekistan) for Improving English in STEM Research and Curriculum.** Principal Investigator. American Councils. \$4,852. 2020

- **AIM Workshop “Modeling the eye as a window on the body”.**

Funded by American Institute of Mathematics, Oct. 2018.

- **Modeling Refugee Movement Incorporating a Spatial and Social Homophilous Network.** Co-Principal Investigator. NSF. \$406,697. 2017. *Denied*.

- **AIM SQuaRE Award “Ocular Blood Flow and Its Role in Development of Glaucoma”.**

Funded by American Institute of Mathematics, 2014 – 2017.

- **Modeling of Optimal Harvesting for Sustainable Use of Forest Resources.** WSU IRTA Grant, 2015. *Denied*.

- **Faculty Excellence Grant.** Jody Buckley Faculty Excellence Endowment Fund. \$2,500. 2013.

- **Modeling Transport and Fate of Urban Stormwater Pollutants in the Vadose Zone under GSIs.** Co-Principal Investigator. Chicono Endowment Grant. \$6,000. January 2012 – January 2013

- **Numerical Modeling of Wave Propagation in Heterogeneous Media.** Principal Investigator. WSU New Faculty Seed Grant. \$18,100. May 2009 – August 2010

PUBLICATIONS

1. A. Dimitrov, G. Guidoboni, W. Hall, R. Invernizzi, S. Lapin, T. McCutcheon, J. Pennington
“Modeling of biological systems: from algebra to calculus and computer simulations”
Book: Foundation for Undergraduate Research in Mathematics (FURM) book series. Springer. In Press
2. L. Carichino, S. Cassani, S. Lapin, A.V. Vercellin
“Modeling the eye as a window on the body”
Journal for Modeling in Ophthalmology, Issue 4, pp. 4-10, 2020
3. L. Carichino, A. C. V. Vercellin, S. Lapin, G. Guidoboni, S. Cassani, A. De Silvestri, C. Tinelli, G. Milano, B. Siesky, A. Harris
“Waveform Parameters of Retrobulbar Vessels in Glaucoma Patients with Different Demographics and Disease Severity”
European Journal of Ophthalmology, 2019
<https://doi.org/10.1177/1120672119848259>
4. A. Lapin, S. Zhang, S. Lapin
“Analysis of finite difference approximations of an optimal control problem in economics”
Advances in Applied Mathematics and Mechanics, Vol. 11, No. 6, pp. 1358-1375
5. A. Lapin, S. Zhang, S. Lapin
“Numerical solution of a parabolic optimal control problem arising in economics and management” *Applied Mathematics and Computation, 2019, vol.361, pp.715-729*
6. A. Lapin, S. Zhang, S. Lapin
“Numerical solution of a parabolic optimal control problem in economics”

Journal of Physics: Conference Series, vol.1158(3), 2019

7. S. Lapin, L. Wang, J. Wu, W.J. Elliot, F.R. Fiedler
“Accuracy of the Muskingum-Cunge method for constant-parameter diffusion-wave channel routing with lateral inflow” ArXiv:1802.04428, 2018
8. L. Carichino, G. Guidoboni, A. C. V. Vercellin, G. Milano, C. A. Cutolo, C. Tinelli, A. De Silvestri, S. Lapin, J. C. Gross, B. Siesky, A. Harris
“Computer-aided identification of novel ophthalmic artery waveform parameters in healthy subjects and glaucoma patients”
Journal for Modeling in Ophthalmology, 2016, vol.1 (2), pp.59-69
9. L. Carichino, G. Guidoboni, A. C. V. Vercellin, G. Milano, C. A. Cutolo, C. Tinelli, A. De Silvestri, S. Lapin, B. Siesky, A. Harris
“Computer-aided ophthalmic artery waveform analysis in healthy individuals and glaucoma patients”
Investigative Ophthalmology & Visual Science, 2016, vol.57(12)
10. A. Khapalov and S. Lapin
“Dynamic discrete models for the granular matter formation process”
IMA Journal of Applied Mathematics, 2016, doi:10.1093/imamat/hxw016
11. E. Laitinen, A. Lapin and S. Lapin
“Explicit algorithms to solve a class of state constrained parabolic optimal control problems”
Russian Journal of Numerical Analysis and Mathematical Modeling, 2015, vol.30(6), pp.351-362
12. E. Laitinen, A. Lapin and S. Lapin
“Easily implementable iterative methods for variational inequalities with nonlinear diffusion - convection operator and constraints to gradient of solution”
Russian Journal of Numerical Analysis and Mathematical Modeling, 2015, vol.30(1), pp.43-54
13. N.K. Vaidya, L. Miller, M. Morgan, T. Jones, S. Lapin and E. Schwartz
“Modelling the epidemic spread of an H1N1 influenza outbreak in a rural university town”
Epidemiology and Infection, 2015, vol.143, pp.1610-1620
14. E. Schwartz, M. Morgan, and S. Lapin
“Pandemic 2009 H1N1 influenza in two settings in a small community: the workplace and the university campus”
Epidemiology and Infection, 2015, vol.143, pp. 1606-1609
15. L. Wang, J.Q. Wu, W.J. Elliot, F.R. Fiedler and S. Lapin
“Linear diffusion-wave channel routing using a discrete Hayami convolution method”
Journal of Hydrology, 2014, vol.509, pp.282-294
16. L. Miller, M. Morgan, T. Jones, S. Lapin and E. Schwartz
“Individual-based Computational Model used to Explain 2009 H1N1 Epidemic in Rural Campus Community”
Journal of Biological Systems, 2013, vol.21(4)
17. E. Laitinen, A. Lapin and S. Lapin
“Iterative solution methods for variational inequalities with nonlinear main operator and constraints to gradient of solution”
Lobachevskii Journal of Mathematics, 2012, vol.33(4), pp.341-352
18. N. Chatterjee, S. Lapin and M. Flury
“Capillary forces between sediment particles and an air-water interface”
Environmental Science and Technology, 2012, vol.46, pp. 4411-4418

19. E. Laitinen, A. Lapin and S. Lapin
“Iterative solution methods for constrained saddle point problems with applications to free boundary and optimal control problems”
in *Proceedings of AfriCOMP 11, 2011*
20. E. Laitinen, A. Lapin and S. Lapin
“On the iterative solution methods for finite-dimension inclusions with applications to optimal control problems”
Computational Methods in Applied Mathematics, 2010, vol.10(3), pp.283-301
21. M. Asle Zaeem, S. Lapin and K. I. Matveev
“The effect of vibration on flow rate of non-Newtonian fluid”
in *Proceedings of 2009 SIAM Conference Mathematics for Industry, 2010, pp.137-142*
22. L. Wang, J. Wu, S. Lapin, F. Fiedler and W. Elliot
“Implementation of channel-routing routines in the Water Erosion Prediction Project (WEPP) model ”
in *Proceedings of 2009 SIAM Conference Mathematics for Industry, 2010, pp.120-128*
23. G. Guidoboni, R. Glowinski, N. Cavallini, S. Canic and S. Lapin
“Kinematically coupled time-splitting scheme for fluid-structure interaction in blood flow.”
Applied Mathematics Letters, 2009, vol. 22 (5), pp.684-688
24. S. Lapin, A. Lapin, J. Periaux and P.M. Jacquart
“A Lagrange multiplier based domain decomposition method for the solution of a wave problem with discontinuous coefficients”
in *Partial Differential Equations: Modelling and Numerical Methods, Springer-Verlag, 2008, pp.131-147*
25. N. Barlas, K. Josic, S. Lapin and I. Timofeyev
“Non-uniform decay of predictability and return of skill in stochastic oscillatory models.”
Physica D:Nonlinear Phenomena, 2007, vol. 232 (2), pp.116-127
26. S. Canic, Z. Krajcer and S. Lapin
“Design of optimal endoprosthesis using mathematical modeling”
Endovascular Today, May 2006, pp. 48-50
27. S. Canic and S. Lapin
“Numerical modeling of the design of bifurcated prostheses used in the treatment of Abdomial Aortic Aneurysm”
Scientific Notes of Kazan State University, 2006, vol.148 (3), pp.1-15
28. S. Canic, K. Ravi-Chandar, Z. Krajcer, D. Mirkovic and S. Lapin
“Mathematical model analysis of Wallstent® and AneuRx®: dynamic responses of bare-metal endoprosthesis compared with those of stent-graft”
Texas Heart Institute Journal, 2005, vol.32, pp. 502-506
29. R. Glowinski and S. Lapin
“Solution of a wave equation by a mixed finite element-fictitious domain method”
Computational Methods in Applied Mathematics, 2004, vol. 4, pp. 431-444
30. A. Lapin and S. Lapin
“Identification of nonlinear coefficient in a transport equation”.
Lobachevskii Journal of Mathematics, 2004, vol.14, pp. 69-84
31. K. Baumann, C. Bergeron, T. Burden, S. Kadiouglu, H. Huang, S. Lapin, B.McGee, J. Restrepo, A.Taylor, and R. Westbrook.
“In-situ thermal remediation of contaminated soil”
Canadian Applied Mathematics Quarterly, 2004, vol. 12, n. 1, pp. 25-37

32. R. Glowinski, A. Lapin and S. Lapin
“A penalty approach to the numerical simulation of the constrained wave motion”
Journal of Numerical Mathematics, 2003, vol. 11, No. 4, pp. 289-300
33. R. Glowinski, S. Lapin, J. Periaux, P.M. Jacquart and H.Q. Chen
“Domain decomposition methods for wave propagation in heterogeneous media”
in *Numerical Mathematics and Advanced Applications: Proceedings of ENUMATH 2005*
Springer-Verlag, 2006, pp. 1203-1211
34. R. Glowinski and S. Lapin
“Iterative solution of linear variational problems in Hilbert spaces: some conjugate gradients success stories.”
in *Conjugate gradient algorithms and finite element methods*, Springer-Verlag, 2004, pp. 223-245
35. B. Ananthasayanam, E. Chan, P. Chen, J. Gibert, P. Gremaud, S. Lapin and A. Royal
“Effect of interstitial gas on powder flow”
CRSC Technical Report, North Carolina State University, Raleigh, March 2004, pp. 55-71
36. S. Kisin, S. Lapin and H.-W. Zhou
“Joint VSP and surface seismic tomography”
SEG Expanded Abstracts, 2003, pp. 2342-2344
37. R. Glowinski, A. Lapin and S. Lapin
“On the numerical simulation of the constrained wave motion: a penalty approach”
in *Proceedings of The Six International Conference on Mathematical and Numerical Aspects of Wave Propagation Held at Jyväskylä, Finland, 30 June - 4 July 2003*
38. S. Lapin, X. H. Nguyen, J. Oh, D. Vasiliu, P. Yin, N. Zhang and D. Misemer
“Optimal design for a varying environment”
IMA Preprint, July 2002, No. 1866-5
39. S. Lapin
“The fictitious domain method for the mixed finite element approximation of the wave equation”
in *Proceedings of Russian-Finnish Workshop "Numerical Methods for Continuous Casting and Related Problems"*, Kazan, Russia, 2001, pp. 72-81
40. R. Dautov, A. Egorov and S. Lapin
“Numerical modeling of the problem of artificial freezing in filtrating soil” (In Russian)
in *Proceedings of the Conference "Function theory, its applications and related problems"*
Kazan, Russia, 1999, pp. 79-80

CURRENT COLLABORATIONS

International

- Dr. S. Zhang (Tianjin University of Finance and Economics, Tianjin, China)
- Dr. E. Laitinen (University of Oulu, Oulu, Finland)

National and local

- Dr. G. Guidoboni (University of Missouri)
- Dr. A. Harris (Indiana University)
- Dr. L. Schreyer (Department of Mathematics and Statistics, WSU)

SERVICE

- ***International and National service***
- Journal reviewer for
 - Applied Mathematics Modeling

- Electronic Journal of Differential Equations
- Numerical Algorithms
- Water Resources Research
- Korea-Australia Rheology

Washington State University and Department of Mathematics and Statistics service

- WSU Data Analytics Curriculum Committee, 2020 – present
- Chair of new faculty search committee, 2019
- WSU Grade Appeals Board, 2018– present
- WSU Faculty Affairs Committee, vice chair, 2018 – present
- Faculty Advisor ARCL (Associated Russian Cultural Learners), 2018 – present
- Faculty Advisor Delta Sigma Phi fraternity, 2018 – present
- New faculty search committee, 2018
- WSU Faculty Senate Library Committee, 2016 – 2018
- WSU Department of Foreign Languages RUSSIAN 105 Instructor, 2014 – 2018
- WSU Honors College thesis proposals reviewer, 2012– present
- WSU Honors College thesis advisor, 2010 – present
- Department of Mathematics and Statistics, Chair of the Colloquia committee, 2018 – present
- Department of Mathematics and Statistics Undergraduate Research Coordinator, 2016 – present
- Department of Mathematics and Statistics Colloquia committee, 2015 – present
- Department of Mathematics and Statistics Undergraduate majors advising, 2013 – present
- Undergraduate Math Club Advisor, 2008 – 2009, 2012
- New faculty search committee, 2013
- PhD qualifying exam committee, Fall 2010, Fall 2012
- Undergraduate recruitment committee, 2009 – 2011
- Representing Department of Mathematics in WSU Fall preview events, 2009 – 2010
- Representing the Department of Mathematics to visit and present at high schools in the State of Washington, demonstrating how mathematics can be used to solve various engineering and science problems, in *ImagineU at WSU*, an undergraduate recruitment program
 - Faculty mentor for NSF – sponsored UBM program, 2008 – 2012
 - Mentor WSU OISS International Scholar mentoring program, 2011– 2012

Local community service

- Pullman School District Calendar Committee member, 2018 – present
- Pullman School District Curriculum Advisory Council member, 2017 – present
- Pullman School District English Language Development Advisory Committee member, 2016 – 2019

CONFERENCES, PRESENTATIONS & RESEARCH VISITS

- Invited talk at Pacific Northwest MAA conference, Seattle University, April 21, 2018
- Invited talk at Gonzaga University, November 1, 2017
- Invited talk at Tianjin University of Finance and Economics, China, January 20, 2017
- Invited talk at University of Houston – Downtown, November 18, 2016
- Visiting Scholar, Kazan Federal University, Russia, November 2015
- Invited talk at WSU exchange forum with Shanghai EPB and Shanghai Geodetic Institute delegation, April 10, 2015
- University of Idaho, Department of Mathematics Colloquium, August 30, 2012
Talk: Dynamics of oxygen-dependent mechanisms during (Riboflavin/UV-A)-induced collagen cross linking in the corneal stroma
- WSU Puyallup Research Station Seminar, May 11, 2012
Talk: Mathematical Modeling in Biological and Environmental Sciences

- WSU Academic Showcase 2012
Poster: Modeling of the Dynamic Granular Matter Formation Process
- SIAM Conference on Parallel Processing for Scientific Computing, Savannah, GA, February 15 – 17, 2012
Talk: Parallel Computational Model of HIV Infection
- Co-organizer of 23rd Pacific Northwest Numerical Analysis Seminar, Washington State University, Pullman, WA, October 2, 2010
Talk: The Effect of Vibration on Flow Rate of Non-Newtonian Fluid
- SIAM Conference on Life Sciences, Minisymposium Organizer: *Mathematical Modeling in Biological and Environmental Sciences*, Pittsburgh, PA, July 12 – 15, 2010
Talk: Modeling Immune Dynamics of Equine Infectious Anemia Virus
- WSU Academic Showcase 2010
Poster: The Effect of Vibration on a Mean Flow Rate of Non-Newtonian Fluid
Poster: Simulating HIV Infection Using Matlab, C and Python
Poster: An epidemic model of H1N1 in Pullman in fall 2009
- SIAM Conference on Mathematics for Industry, San Francisco, CA, October 9 – 10, 2009
Talk: The Effect of Vibration on Flow Rate of Non-Newtonian Fluid
- WSEAS International Conference on Computational and Information Science, Houston, TX, April 30 – May 2, 2009
Talk: The Effect of Vibration on Flow Rate of Non-Newtonian Fluid
- MAA Pacific Northwest Section Conference, Minisymposium Organizer: *Mathematical Modeling in Biological and Environmental Sciences*, Ellensburg, WA, April 3 – 4, 2009
Talk: Mathematical Model of Strain Competition in Retroviruses
- WSU Academic Showcase 2009
Poster: Modeling Immune Dynamics of Equine Infectious Anemia Virus
- University of Idaho, Department of Mathematics Colloquium, March 27, 2008
Talk: Domain Decomposition Method for Wave Propagation in Heterogeneous Media
- University of Houston Downtown Colloquium, April 4, 2007
Talk: Lagrange Multiplier Based Domain Decomposition Method for Wave Propagation in Heterogeneous Media
- University of Tennessee at Chattanooga Colloquium, March 8, 2007
Talk: Lagrange Multiplier Based Domain Decomposition Method for Wave Propagation in Heterogeneous Media
- SIAM Conference on Computational Science and Engineering, Minisymposium Organizer: *Computational Methods for Heterogeneous Systems*, Costa Mesa, CA, February 19 – 23, 2007
Talk: Domain Decomposition Method for Wave Propagation in Heterogeneous Media
- Joint AMS-SMM International Meeting, Houston, May 13 – 15, 2004
- Workshop on Nonlinear Wave Equations, Fields Institute, University of Toronto, Toronto, March 15 – 19, 2004
- SIAM Gators Student Conference, University of Florida, Gainesville, March 3 – 4, 2004
Poster: Optimal Design of Endovascular Prostheses used in Non-surgical Treatment of Aortic Abdominal Aneurysm
- HSEMB Annual Meeting, Houston, February 12 – 13, 2004
- RedRaider Minisymposium "Mathematical and Computational Modeling of Biological Systems", Texas Tech University, Lubbock, November 5 – 8, 2003
- IPAM Inverse Problems Workshop, UCLA, Los-Angeles, September 15 – 18, 2003
- Industrial Mathematical and Statistical Modeling Workshop for Graduate Students, North Carolina State University, Raleigh, July 21 – 29, 2003
- PIMS Industrial Problem Solving Workshop, Univ. of Calgary, Calgary, May 2003
- IMA Graduate Industrial Mathematical Modeling Camp, Banff Research Station, Banff, May 2003
- IMA Workshop for Mathematical Modeling in Industry, IMA, Minneapolis, June 2002

- LACSI Symposium, Santa Fe, New Mexico, October 15 – 18, 2001
- 12-th International Summer School, Juvaskyla, Finland, August 2001

PROFESSIONAL AFFILIATIONS

- Society for Industrial and Applied Mathematics (SIAM)
- Society for Mathematical Biology (SMB)