

XU ZHANG - Curriculum Vitae

Department of Mathematics
Oklahoma State University
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Stillwater, OK, 74078

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Education Background

2013 Ph.D. Mathematics, Virginia Tech (Advisor: Tao Lin)
2009 M.S. Mathematics, Virginia Tech
2008 M.S. Computational Mathematics, Sichuan University, China (Advisor: Xiaoping Xie)
2005 B.S. Computational Mathematics, Sichuan University, China

Academic Appointments

2022 – **Associate Professor**
Department of Mathematics, Oklahoma State University
2019 – 2022 **Assistant Professor**
Department of Mathematics, Oklahoma State University
2016 – 2019 **Assistant Professor**
Department of Mathematics and Statistics, Mississippi State University
2013 – 2016 **Golomb Visiting Assistant Professor** (Mentor: Zhiqiang Cai)
Department of Mathematics, Purdue University

Secondary Appointments

2023 – **Watson Faculty Fellow**
Department of Finance, Oklahoma State University

Honors and Awards

2023 **Distinguished Early Career Faculty Award**, Oklahoma State University
2021 **Ralph E. Powe Junior Faculty Enhancement Award**, Oak Ridge Associated Universities
2021 **Holistic Science Prize**, Oklahoma State University
2012 **Givens Associate**, Argonne National Laboratory
2011 **C. B. Ling Memorial Scholarship**, Virginia Tech

Research Interests

Numerical Analysis, Scientific Computing, and Applied Mathematics including

- Numerical Methods for Partial Differential Equations

- Immersed Finite Element Methods for Interface Problems
- A Posteriori Error Estimation, Superconvergence, and Adaptive Finite Element Methods
- Computational Plasma Physics, Particle-In-Cell Method
- Inverse Problems in Partial Differential Equations

Research Grants

External Grants

- **National Science Foundation**, DMS-2224003, *Conference: The Seventh Annual Meeting of SIAM Central States Section*, October 2022-September 2023, **PI**, \$20,000 (Co-PI: Xukai Yan)
- **National Science Foundation**, DMS-2110833, *Collaborative Research: Lab-Data-Enabled Modeling, Numerical Methods, and Validation for a Three-Dimensional Interface Inverse Problem for Plasma-Material Interactions*, August 2021-July 2024, **PI**, \$212,822.
- **ORAU Ralph E. Powe Junior Faculty Enhancement Award**, *Adaptive Unfitted-Mesh Numerical Methods for 3D Multi-Physics Problems*, June 2021-May 2022, **PI**, \$10,000.
- **Simons Foundation Collaboration Grant for Mathematicians**, *Collaboration on Numerical Methods for Multi-Physics Interface Problems*, June 2021-May 2026, **PI**, \$42,000. (renounced due to receiving an NSF grant).
- **National Science Foundation**, DMS-1720425, *Topics in Immersed Finite Element Methods*, September 2017- August 2020 (no cost extension to August 2021), **PI**, \$125,042. (transferred to DMS-2005272 in 2019 due to the change of PI's institution).
- **SEC Faculty Travel Program Grant**, July 2017-June 2018, **PI**, \$1,428.
- **AMS-Simons Travel Grant**, July 2015-June 2017, (**PI**) \$4,000.

Internal Grants

- **Oklahoma State University Arts and Sciences Research Grant**, 2021- 2022, **PI**, \$9,889.
- **Mississippi State University Special Research Initiative Grant**, 2019, **PI**, \$5,000.

Publications

Citations Counts: 1190+ @Google Scholar 770+ @AMS MathSciNet
H-index: 18+ @Google Scholar 15+ @AMS MathSciNet

Articles Published in Peer-Reviewed Journals

34. Yuan Chen, Xu Zhang. Solving Navier-Stokes interface problems with stationary and moving interfaces on unfitted meshes. **Journal of Scientific Computing**, 98 (2024), 19.
33. Yuan Chen, Songming Hou, Xu Zhang. Semi and fully discrete error analysis for elastodynamic interface problems using immersed finite element methods. **Computers & Mathematics with Applications**, 147 (2023), 92-110.

32. Cuiyu He, Shun Zhang, Xu Zhang. Error analysis of Petrov-Galerkin immersed finite element methods. **Computer Methods in Applied Mechanics and Engineering**, 404 (2023), 115744.
31. Jing Wang, Xu Zhang, Qiao Zhuang. An immersed Crouzeix-Raviart finite element method for Navier-Stokes interface problems. **International Journal on Numerical Analysis and Modeling**, 19 (2022), no.4, 563–586.
30. David Lund, Xiaoming He, Xu Zhang, Daoru Han. Weak scaling of the parallel immersed-finite-element particle-in-cell (PIFE-PIC) framework with lunar plasma charging simulations. **Computational Particle Mechanics**, 9 (2022), 1279–1291.
29. Ruchi Guo, Xu Zhang. Solving three-dimensional interface problems with immersed finite elements: a-priori error analysis. **Journal of Computational Physics**, 441 (2021), 110445.
28. Derrick Jones, Xu Zhang. A conforming-nonconforming mixed immersed finite element method for unsteady Stokes equations with moving interfaces. **Electronic Research Archives** 29 (2021), no.5, 3171–3191.
27. Daoru Han, Xiaoming He, David Lund, Xu Zhang. PIFE-PIC: parallel immersed finite element particle-in-cell for kinetic simulations of plasma-material interactions. **SIAM Journal on Scientific Computing**, 43 (2021), no.3, C235–C257.
26. Derrick Jones, Xu Zhang. A class of nonconforming immersed finite element methods for Stokes interface problems. **Journal of Computational and Applied Mathematics**, 392 (2021), 113493.
25. Yuan Chen, Xu Zhang. A P_2 - P_1 partially penalized immersed finite element method for Stokes interface problems. **International Journal on Numerical Analysis and Modeling**, 18 (2021), no.1, 120–141.
24. Yuan Chen, Songming Hou, Xu Zhang. A bilinear partially penalized immersed finite element method for elliptic interface problems with multi-domains and triple junction points. **Results in Applied Mathematics**, 8 (2020), 100100.
23. Cuiyu He, Xu Zhang. Residual based a posteriori error estimation for immersed finite element methods. **Journal of Scientific Computing**, 81 (2019), no.3, 2051–2079.
22. Yuan Chen, Songming Hou, Xu Zhang. An immersed finite element method for elliptic interface problems with multi-domain and triple junction points. **Advances in Applied Mathematics and Mechanics**, 11 (2019), no.5, 1005–1021.
21. Tao Lin, Dongwoo Sheen, Xu Zhang. A nonconforming immersed finite element method for elliptic interface problems. **Journal of Scientific Computing**, 79 (2019), no.1, 442–463.
20. Lin Mu, Xu Zhang. An immersed weak Galerkin method for elliptic interface problems. **Journal of Computational and Applied Mathematics**, 362, (2019), 471–483.
19. Ruchi Guo, Tao Lin, Xu Zhang. Nonconforming immersed finite element spaces for elliptic interface problems. **Computers & Mathematics with Applications**, 75 (2018), no.6, 2002–2016.
18. Jinwei Bai, Yong Cao, Yuchuan Chu, Xu Zhang. An improved immersed finite element particle-in-cell method for plasma simulation. **Computers & Mathematics with Applications**, 75 (2018), no.6, 1887–1899.

17. Ruishu Wang, Ran Zhang, Xu Zhang, Zhimin Zhang. Supercloseness analysis and polynomial preserving recovery for a class of weak Galerkin methods. **Numerical Methods for Partial Differential Equations**, 34 (2018), no.1, 317–335.
16. Waixiang Cao, Xu Zhang, Zhimin Zhang, Qingsong Zou. Superconvergence of immersed finite volume methods for one-dimensional interface problems. **Journal of Scientific Computing**, 73 (2017), no.2-3, 543–565.
15. Waixiang Cao, Xu Zhang, Zhimin Zhang. Superconvergence of immersed finite element methods for interface problems. **Advances in Computational Mathematics**, 43 (2017), no.4, 795–821.
14. Yong Cao, Yuchuan Chu, Xiaoshi Zhang, Xu Zhang. Immersed finite element methods for unbounded interface problems with periodic structures. **Journal of Computational and Applied Mathematics**, 307 (2016), 72–81.
13. Qing Yang, Xu Zhang. Discontinuous Galerkin immersed finite element methods for parabolic interface problems. **Journal of Computational and Applied Mathematics**, 299 (2016), 127–139.
12. Tao Lin, Qing Yang, Xu Zhang. Partially penalized immersed finite element methods for parabolic interface problems. **Numerical Methods for Partial Differential Equations**, 31 (2015), no.6, 1925–1947.
11. Tao Lin, Qing Yang, Xu Zhang. A priori error estimates for some discontinuous Galerkin immersed finite element methods. **Journal of Scientific Computing**, 65 (2015), no.3, 875–894.
10. Tao Lin, Yanping Lin, Xu Zhang. Partially penalized immersed finite element methods for elliptic interface problems. **SIAM Journal on Numerical Analysis**, 53 (2015), no.2, 1121–1144. (A highly cited paper in Mathematics in Web of Science)
9. Wenqiang Feng, Xiaoming He, Yanping Lin, Xu Zhang. Immersed finite element method for interface problems with algebraic multigrid solver. **Communications in Computational Physics**, 15 (2014), no.4, 1045–1067.
8. Tao Lin, Dongwoo Sheen, Xu Zhang. A locking-free immersed finite element method for planar elasticity interface problems. **Journal of Computational Physics**, 247 (2013), 228–247.
7. Tao Lin, Yanping Lin, Xu Zhang. A method of lines based on immersed finite elements for parabolic moving interface problems. **Advances in Applied Mathematics and Mechanics**, 5 (2013), no.4, 548–568.
6. Tao Lin, Yanping Lin, Xu Zhang. Immersed finite element method of lines for moving interface problems with nonhomogeneous flux jump. **Contemporary Mathematics**, 586 (2013), 257–265.
5. Xiaoming He, Tao Lin, Yanping Lin, Xu Zhang. Immersed finite element methods for parabolic equations with moving interface. **Numerical Methods for Partial Differential Equations**, 29 (2013), no.2, 619–646.
4. Wenqiang Feng, Xiaoming He, Zhu Wang, Xu Zhang. Non-iterative domain decomposition methods for a non-stationary Stokes-Darcy model with Beavers-Joseph interface condition. **Applied Mathematics and Computation**, 219 (2012), no.2, 453–463.

3. Tao Lin, Xu Zhang. Linear and bilinear immersed finite elements for planar elasticity interface problems. **Journal of Computational and Applied Mathematics**, 236 (2012), no.18, 4681–4699.
2. Guozhu Yu, Xiaoping Xie, Xu Zhang. Parameter extension for combined hybrid finite element methods and application to plate bending problems. **Applied Mathematics and Computation**, 216 (2010), no.11, 3265–3274.
1. Xu Zhang, Guozhu Yu, Xiaoping Xie. Fully discrete finite element approximation of a fluid-structure interaction problem. **Sichuan Daxue Xuebao**, 47 (2010), no.5, 941–947.

Papers Published in Peer-Reviewed Conference Proceedings

2. Derrick Jones, Xu Zhang. A high order immersed finite element method for parabolic interface problems. *ITM Web of Conferences*, 29 (2019), 01007.
1. Chartese Jones, Xu Zhang. An efficient numerical method for one-dimensional hyperbolic interface problems. *ITM Web of Conferences*, 29 (2019), 01002.

Ph.D. Dissertation

1. Xu Zhang. Nonconforming immersed finite element methods for interface problems, Virginia Tech, (2013).

Presentations

Invited Colloquium/Seminar Talks

- Oklahoma State University, Computational and Applied Math Seminar, Feb 29, 2024
- University of Oklahoma, Analysis Seminar, Feb 26, 2024
- University of Georgia, Applied Math Seminar, Nov 14, 2023
- Baylor University, Applied Math Seminar, Mar 13, 2023
- Texas State University, NMDSE Seminar, Mar 3, 2023
- Wichita State University, Mathematics Lecture Series, Sep 2, 2022
- University of Georgia, Applied Math Seminar, Mar 10, 2021
- Virginia Tech, FEM/DG Seminar, Feb 22, 2021
- Tufts University, Computational and Applied Math Seminar, Apr 29, 2019
- Baylor University, Applied Math Seminar, Apr 18, 2019
- Oklahoma State University, Colloquium, Feb 8, 2019
- University of Houston, Colloquium, Dec 10, 2018
- Oklahoma State University, Applied Math Seminar, Oct 9, 2018
- University of South Carolina, Applied and Computational Math Seminars, Apr 16, 2018
- Louisiana Tech University, Applied Math Seminar, LA, Apr 6, 2018
- Auburn University, Applied Mathematics Seminar Oct 6, 2017
- University of Alabama, Applied Mathematics Seminar, Sep 15, 2017
- University of Science and Technology China, Applied Mathematics Seminar, May 26, 2017

- University of Southern Mississippi, Mathematics Colloquium, Feb 10, 2017
- Sichuan University, Applied Mathematics Seminar, Jun 27, 2016
- Sun Yat-Sen University, Applied Mathematics Seminar, Jun 14, 2016
- Bowling Green State University, Applied Mathematics Seminar, Apr 8, 2016
- New Mexico Tech, Colloquium Feb 23, 2016
- Florida International University, Colloquium, Feb 12, 2016
- Mississippi State University, Colloquium, Feb 9, 2016
- Oak Ridge National Laboratory, Computational and Applied Math Seminar, Jan 26, 2016
- North Carolina State University, Applied Math Seminar, Oct 13, 2015
- Chinese Academy of Sciences, Computational Math Seminar, Aug 19, 2015
- Peking University, Beijing, Computational Math Seminar, Jul 25, 2015
- Virginia Tech, Blacksburg, FE/DG Seminar, Mar 24, 2015
- James Madison University, Colloquium, Mar 23, 2015
- Missouri University of Science and Technology, Applied Math Seminar, Mar 21, 2014
- Purdue University, CCAM Lunch Seminar, Sep 13, 2013
- Michigan Technological University, Colloquium, Jan 21, 2013

Conference/Workshop Talks

- 9th Annual Meeting of SIAM Central States Section, UMKC, Oct 5-6, 2024
- 16th World Congress on Computational Mechanics, Vancouver, Canada, July 21-26, 2024
- 8th Annual Meeting of SIAM Central States Section, Univ of Nebraska Lincoln, Oct 7-8, 2023
- SIAM Southeastern Atlantic Section Annual Meeting, Virginia Tech, March 25-26, 2023
- AMS Southeastern Sectional Meeting, Georgia Tech, March 18-19, 2023
- AMS Fall Central Sectional Meeting, University of Texas, El Paso, Sep 17-18, 2022
- SIAM Annual Meeting, Pittsburgh, Jul 11-15, 2022
- KU Numerical Analysis Day, University of Kansas, Mar 26, 2022
- 4th Annual Meeting of the SIAM Texas-Louisiana Section, UTRGV, Nov 5-7, 2021
- Midwest Numerical Analysis Day, Rolla, Oct 29-30, 2021
- AMS Fall Central Sectional Meeting, (virtual), Oct 9-10, 2021
- Finite Element Circus, (virtual), Nov 6-7, 2020
- Finite Element Circus, Virginia Tech, Blacksburg, VA, Nov 1-2, 2019
- Conference on Computational Mathematics and Applications, Las Vegas, Oct 25-27, 2019
- 5th Annual Meeting of SIAM Central States Section, Iowa State University, Oct 19-20, 2019
- SIAM Conference on Computational Science and Engineering, Spokane, Feb 25-Mar 1, 2019
- 4th Annual Meeting of SIAM Central States Section, University of Oklahoma, Oct 5-7, 2018
- SIAM Annual Meeting, Portland, Jul 9-13, 2018
- Finite Element Circus, University of Tennessee, Knoxville, Mar 16-17, 2018
- Finite Element Rodeo, Louisiana State University, Baton Rouge, Feb 23-24, 2018
- 3rd Annual Meeting of SIAM Central States Section, Fort Collins, Sep 29-Oct 1, 2017

- Workshop on Fluid Dynamics and Numerical Methods, Jilin University, Jun 11, 2017
- Scientific Computing Around Louisiana, Tulane University, Mar 17-18, 2017
- SIAM Conference on Computational Science and Engineering, Atlanta, Feb 27-Mar 3, 2017
- Joint Mathematics Meetings, Atlanta, Jan 4-7, 2017
- 2nd Annual Meeting of SIAM Central States Section, Little Rock, Sep 30-Oct 2, 2016
- Joint Mathematics Meetings, Seattle, Jan 6-9, 2016
- Finite Element Circus, University of Massachusetts, Dartmouth, Oct 16-17, 2015
- International Congress on Industrial and Applied Mathematics, Beijing, Aug 10-14, 2015
- Advance Numerical Methods in Mathematical Sciences, Texas A&M University, May 4-7, 2015
- Midwest Numerical Analysis Day, Wright State University, Apr 25, 2015
- 1st Annual Meeting of SIAM Central States Section, Missouri S&T, Apr 11-12, 2015
- Finite Element Circus, George Mason University, Mar 27-28, 2015
- SIAM Conference on Computational Science and Engineering, Salt Lake City, Mar 14-18, 2015
- Finite Element Circus, IMA, University of Minnesota, Oct 24-25, 2014
- Structure-Preserving Discretization of PDEs, University of Minnesota, Oct 22-24, 2014
- SIAM Annual Meeting, Chicago, Jul 7-11, 2014
- Midwest Numerical Analysis Day, University of Wisconsin, Milwaukee, May 3, 2014
- Finite Element Circus, Wayne State University, Mar 28-29, 2014
- U.S. National Congress on Computational Mechanics, Raleigh, Jul 22-25, 2013
- Joint Mathematics Meeting, San Diego, Jan 9-12, 2013
- MCS Division Student Seminars, Argonne National Laboratory, Aug 1, 2012
- International Conference on Scientific Computing and Applications, Las Vegas, Apr 1-4, 2012
- Joint Mathematics Meeting, Boston, Jan 4-7, 2012
- FEMTEC 2011, South Lake Tahoe, May 9-13, 2011
- SIAM Conference on Computational Science and Engineering, Reno, Feb 28-Mar 4, 2011
- SEA Regional Conference on Differential Equations, Virginia Tech, Oct 1-2, 2010
- SIAM Annual Meeting, Pittsburgh, July 12-16, 2010
- SIAM SEA Section Conference, North Carolina State University, Mar 20-21, 2010
- SIAM Student Conference, Virginia Tech, Feb 20, 2010

Conference Participations (without presentation)

- Numerical Analysis of Multiphysics Problems, ICERM, Feb 12-16, 2024
- New Trends in Computational and Data, Caltech, Dec 19-21, 2022
- Chemnitz Finite Element Symposium, (virtual), Sep 2021
- Finite Element Circus, (virtual), Apr 2021
- Mathematics of Reduced Order Models, ICERM, Feb 2020
- Celebrating 75 Years of Mathematics of Computation, ICERM, Nov 2018
- Advances in PDEs: Theory, Computation and Application to CFD, ICERM, Aug 2018
- Current Trends and Challenges in Numerical Solution of PDE, Purdue University, Jul 2017

- Workshop on Discontinuous Galerkin Methods and Related Approaches, IMA, Jun 2017
- Polytopal Element Methods in Mathematics and Engineering, Georgia Tech, Oct 2015
- SEARCDE, University of North Carolina, Greensboro, Oct 2015
- SIAM Conference on Computational Science and Engineering, Boston, Feb 2013
- John H. Barrett Lectures, University of Tennessee, Knoxville, May 2012

Short-term Visiting

- Givens Associate, Mathematics and Computer Science Division, Argonne National Laboratory, May-August, 2012
- Beijing Computational Science Research Center, May-August, 2015
- Department of Applied Mathematics, The Hong Kong Polytechnic University, June 2015, May 2016, May 2017, July 2023
- Department of Mathematics, University of Macau, Dec 2023

Students Advising

Ph.D. Students

1. **Derrick T. Jones**, Ph.D. Mathematics, graduated in 2021
Dissertation title: *A class of immersed finite element methods for Stokes interface problems*
First job: Senior Professional Staff I, The Johns Hopkins University Applied Physics Laboratory

M.S. Students

1. Hoang Nam Tran, M.S. Mathematics, 2021-present
2. Madylan Rusinek, M.S. Mathematics, 2023-present

Undergraduate Students

1. Brock Price, B.S., Mathematics, graduated in 2019
2. Jiahong Liu, B.S., Mathematics, graduated in 2023
3. Jaiden Hughes, B.S., Mathematics, graduated in 2023

Teaching Experience

Oklahoma State University (Fall 2019-present)

MATH 6010	Advanced Seminar in Mathematics (Summer 20)
MATH 5580	Case Studies in Applied Mathematics (S24)
MATH 5563	Finite Element Methods for Partial Differential Equations (S23, S21)
MATH 5543	Numerical Analysis for Differential Equations (S24, S22)
MATH 5473	Financial Calculus (F24, F23)
MATH 5010	Seminar in Mathematics (Summer 22)
MATH 5000	Master's Research and Thesis (F23, S24)
MATH 4590	Professional Practice in Mathematics (S23)
MATH 4513	Introduction to Numerical Analysis (F24, F22, F21, F20, F19)
MATH 2890	Numerical Approaches to Differential Equations, honors add-on (S21, S20)
MATH 2233	Differential Equations (S24, S23, F22, S22, F21, F20, S20, F19)

Mississippi State University (Fall 2016-Spring 2019)

MA 4323	Numerical Analysis II (S19)
MA 4313	Numerical Analysis I (F18)
MA 3253	Differential Equations I (S18, F17, S17)
MA 3113	Introduction to Linear Algebra (F16)
MA 2743	Calculus IV (F18)

Purdue University (Fall 2013-Spring 2016)

MA 52000	Boundary Value Problems of Differential Equations (Summer 14)
MA 26600	Ordinary Differential Equations (F15, F14, F13)
MA 26500	Linear Algebra (S16, S15, S14)

Virginia Tech (Fall 2010-Spring 2013)

MATH 2015	Elementary Calculus with Trig II (F10)
MATH 1205	Calculus I (S13, F12, S12, F11)

Professional Service*Professional Organization*

- **President**, SIAM Central States Section, 2024-2025

Editorial Board

- **Review Editor**, *Frontiers in Applied Mathematics and Statistics - Numerical Analysis and Scientific Computation*, 2023-present
- **Managing Guest Editor**, *International Journal of Numerical Analysis and Modeling* volume 19, no.6, 2022. A special issue for the 2021 Midwest Numerical Analysis Day
- **Guest Editor**, *Journal of Computational and Applied Mathematics* volume 362, 2019. A special issue for the 3rd Annual Meeting of SIAM Central States Section
- **Managing Guest Editor**, *International Journal of Numerical Analysis and Modeling* volume 15, no.4-5, 2017

Conferences/Workshops Organization

- Co-organizer (with Xukai Yan), The 7th Annual Meeting of SIAM Central States Section, Stillwater, OK, October 1-2, 2022
- Co-organizer (with Mohsen Razzaghi, Hyeona Lim), International Conference on Computational Methods and Applications in Engineering, Timisoara, Romania, May 22-25, 2018
- Co-organizer (with Yanping Lin, Zhonghua Qiao), Workshop on Numerical Analysis and Mathematical Modeling, Hong Kong, May 29-30, 2017

Mini-Symposiums/Special Sessions Organization

- Co-organizer (with Xiaoming He), Mini-symposium on *Advances in Numerical Methods for Partial Differential Equations and Applications*, 8th Annual Meeting of SIAM Central States Section, Lincoln, NE, October 7-8, 2023.
- Co-organizer (with Qiao Zhuang and Ruchi Guo), Mini-symposium on *Recent Advances in Numerical Algorithms for Partial Differential Equations and Applications*, 7th Annual Meeting of SIAM Central States Section, Stillwater, OK, October 1-2, 2022
- Co-organizer (with Xiaoming He), Mini-symposium on *Recent Advances in Numerical Methods for Partial Differential Equations*, 6th Annual Meeting of SIAM Central States Section, Virtual, October 2-3, 2021
- Co-organizer (with Ruchi Guo), Mini-symposium on *Recent Advances in Developing Numerical Methods for Interface Problems*, 5th Annual Meeting of SIAM Central States Section, Ames, IA, October 19-20, 2019
- Co-organizer (with Cuiyu He), Mini-symposium on *A Posteriori Error Estimation for Various Finite Element Methods*, SIAM Conference on Computational Sciences and Engineering, Spokane, WA, February 25-March 1, 2019
- Co-organizer (with Lin Mu), Mini-symposium on *Recent Advances in Finite Element Methods for Multi-Physics Problems*, SIAM Annual Meeting, Portland, OR, July 9-13, 2018
- Co-organizer (with Uday Banerjee), Mini-symposium on *Advances on Nonstandard Finite Element Methods for Interface Problems*, SIAM Conference on Computational Sciences and Engineering, Atlanta, GA, February 27-March 3, 2017
- Co-organizer (with Jeb Collins), Mini-symposium on *Recent Advances on Numerical Methods for Interface Problems*, 2nd Annual Meeting of SIAM Central States Section, Little Rock, AR, September 3-October 2, 2016
- Co-organizer (with Huanzhen Chen, Xiaoming He, and Do Young Kwak), Mini-symposium on *Structured-Mesh Methods for Interface Problems*, International Congress on Industrial and Applied Mathematics, Beijing, China, August 10-14, 2015
- Organizer, Mini-symposium on *Recent Advances in Numerical Methods for Interface Problems*, 1st Annual Meeting of SIAM Central States Section, Rolla, MO, April 11-12, 2015

Referee for Selected Journal Articles

- Advances in Applied Mathematics and Mechanics
- Applicable Analysis
- Applied Mathematics and Computation
- Applied Numerical Mathematics
- BIT Numerical Mathematics
- Communications in Computational Physics
- Communications on Applied Mathematics and Computation
- Computers & Mathematics with Applications
- Computer Physics Communications
- Discrete and Continuous Dynamical Systems - Series B

- ESAIM: Mathematical Modelling and Numerical Analysis
- International Journal of Applied Mathematics and Computer Science
- International Journal for Numerical Methods in Engineering
- International Journal of Numerical Analysis and Modeling
- Journal of Computational and Applied Mathematics
- Journal of Computational and Nonlinear Dynamics
- Journal of Computational Mathematics
- Journal of Scientific Computing
- Journal of Computational Physics
- Mathematics of Computation
- Mathematical Models and Methods in Applied Sciences
- Numerical Algorithms
- Numerical Mathematics: Theory, Methods and Applications
- Numerical Methods for Partial Differential Equations
- SIAM Journal on Numerical Analysis
- SIAM Journal on Scientific Computing

Panelist, Proposal and Book Reviewer

- NSF Panelist, Division of Mathematical Sciences, 2022
- AMS MathSciNet Reviewer, 2019
- University of Missouri Research Board Panelist, 2014

University and Departmental Service

University-Level Committee

- Faculty & Staff Community Special Committee, Spring 2023

Department-Level Committee @Oklahoma State University

- Faculty Adviser of SIAM Student Chapter, 2023-present
- Colloquium Committee, 2023-2024
- Personnel Committee, 2022-2023
- Appointments Committee, 2021-2022, 2023-2024
- Graduate Committee, 2020-2021
- High School Math Contest Committee, 2019-2020

Department-Level Committee @Mississippi State University

- Search Committee, 2017-2019
- Graduate Program and Recruitment Committee, 2017-2019
- Colloquium Committee, 2016-2019
- Computing and Technology Committee, 2016-2019
- Numerical Analysis Course Committee, 2016-2019
- Webpage Committee, Chair, 2017-2019

Seminar Series Organization

- Computational and Applied Math seminar, Oklahoma State University, 2023-present
- Finite Element Method (FEM) seminar, Oklahoma State University, 2022
- Numerical Analysis seminar, Oklahoma State University, 2019-2020
- Computational and Applied Math seminar, Mississippi State University, 2016-2019
- eXtend Finite Element Methods (XFEM) seminar, Purdue University, 2015

Committee Member for Graduate Students

- Walid Aarsalane, M.S. in Aerospace Engineering, graduated in 2018
- Lakjayani Hewawasan, M.S. in Mathematics, graduated in 2019
- Nicki Boardman, Ph.D. in Mathematics, graduated in 2020
- Oussama Ben Said, Ph.D. in Mathematics, graduated in 2021
- Farzana Fafeez, Ph.D. in Mathematics, graduated in 2021
- Uddhaba Pandey, Ph.D. in Mathematics, graduated in 2022
- Erisa Wante, M.S. in Mathematics, graduated in 2022
- Rajan Adhikari, Ph.D. in Mathematics, 2020-present
- Nathan Crosby, Ph.D. in Computer Science, 2020-present
- Haridas Das, Ph.D. in Mathematics, 2021-present
- Rubayet Rahman, Ph.D. in Mathematics, 2021-2023
- Marcus Mellor, Ph.D. in Electrical Engineering, 2023-present

Community Service

- Math Kangaroo OSU-Stillwater Center: Manger, 2023-present
- Certified USA Swimming Official: Stroke and Turn, 2023-present
- Stillwater Chinese School: Math Club Lecturer, 2022-present
- Stillwater Chinese School: Summer Camp Math Lecturer, 2022
- Starkville-MSU Chinese School: Co-Principal, 2018-2019

Other Information

Members of Professional Societies

- American Mathematical Society (AMS)
- Society of Industrial and Applied Mathematics (SIAM)
- SIAM Activity Group on Computational Science and Engineering (SIAG/CSE)
- USA Swimming (non-athlete member)

Media Exposure and News

- OSU News: *Math professor receives competitive research grant*, September 1, 2021 ([link](#))
- The Sunflower News: *OKC associate professor visits WSU to share his research*, September 6, 2022 ([link](#))