

Martina Bukač

Associate Professor
Applied and Computational Mathematics
and Statistics
University of Notre Dame
Notre Dame, IN 46556

Office: 201F Crowley Hall
Email: mbukac@nd.edu
Homepage: <https://mart-gh.github.io/website/index.html>

Education

- Ph.D. in Mathematics, University of Houston (2012).
Dissertation: A fluid-structure interaction model capturing longitudinal displacement in arteries: modeling, computational method, and comparison with experimental data
Advisors: Sunčica Čanić & Roland Glowinski
- B.S. and M.S. in Applied Mathematics, University of Zagreb, Croatia (2008).
Undergraduate Thesis: Numerical approximation of Newtonian fluid flow through elastic tube
Advisor: Josip Tambača

Research Interests

Numerical analysis; Fluid-structure interaction; Poroelasticity; Numerical methods for partial differential equations; Computational fluid dynamics; Coupled problems; Mathematical biology

Professional Experience

- Wallenberg Visiting Professor (October 2025 - November 2025)
Institut Mittag-Leffler, Sweden
- Concurrent Associate Professor (Oct. 2020 - present)
University of Notre Dame, Department of Aerospace and Mechanical Engineering
- Associate Professor (Sep. 2020 - present)
University of Notre Dame, Department of Applied and Computational Mathematics and Statistics
- Concurrent Assistant Professor (May. 2018 - Sep. 2020)
University of Notre Dame, Department of Aerospace and Mechanical Engineering
- Assistant Professor (Sep. 2014 - Aug. 2020)
University of Notre Dame, Department of Applied and Computational Mathematics and Statistics
- Postdoctoral associate (Sep. 2012 - Aug. 2014)
University of Pittsburgh, Department of Mathematics

Awards and Honors

- Rev. Edmund P. Joyce, C.S.C. Award for Excellence in Undergraduate Teaching (2021)

Publications

Book chapters

1. Tukovic, Z., Bukac, M., Cardiff, P., Jasak, H., and Ivankovic, A. Added mass partitioned fluid-structure interaction solver based on a Robin boundary condition for pressure, in *OpenFOAM Selected papers of the 11th Workshop.* Eds J. Nobrega, H. Jasak. Springer International Publishing Switzerland (2019) ISBN 978-3-319-60846-4.
2. Bukac, M., Čanic, S. Muha, B., and Glowinski, R. An Operator Splitting Approach to the Solution of Fluid-Structure Interaction Problems in Hemodynamics, in *Splitting Methods in Communication, Imaging, Science, and Engineering.* Eds R. Glowinski, S. Osher, W. Yin. Springer International Publishing Switzerland (2016) ISBN 978-3-319-41589-5.
3. Čanic, S., Muha, B., and Bukač, M. Fluid-structure interaction with multiple structural layers: theory and numerics, in *Fluid-structure interaction in biomedical applications*, Invited Contribution to Book Series: "Advances in Mathematical Fluid Mechanics" Eds. T. Bodnar, G.P. Galdi, S. Necasova. Birkhauser Basel, Springer (2014) ISBN 978-3-0348-0821-7.

Peer-reviewed journal publications

1. Nie, J., Bukač, M. and Trenchea, C. Stability of geotactic bioconvection: analytical bounds and numerical thresholds. To appear in *SIAM Journal on Life Sciences*.
2. Bukač, M., Mikuš, I., Muha, B. and Vlah, D. Reduced Order Modeling of Partial Differential Equations on Parameter-Dependent Domains Using Deep Neural Networks. *Computers and Mathematics with Applications*, 216: 282-300, 2026.
3. Parrow, C. and Bukač, M. Stability and Error Analysis of a Partitioned Robin-Robin Method for Fluid Poroelastic Structure Interaction. *Journal of Scientific Computing*, 106: 40, 2026.
4. Aznaran, F., Bukač, M., Muha, B. and Salgado, A. Analysis and finite element approximation of a diffuse interface approach to the Stokes-Biot coupling. *IMA Journal of Numerical Analysis*, 00: 1–46, 2025.
5. Parrow, C. and Bukač, M. A Robin-Robin strongly coupled partitioned method for fluid-poroelastic structure interaction. *Journal of Numerical Mathematics*, 33(3): 289–312, 2025.
6. Kunštek, P., Bukač, M., and Muha, B. Mass conservation in the validation of fluid-poroelastic structure interaction solvers. *Applied Mathematics and Computation*, 487: 129081, 2025.
7. Bukač, M., Čanić, S., Muha, B., and Wang, Y. A bioartificial organ scaffold architecture design. *PLOS Computational Biology*, 20(11): e1012079, 2024.
8. Edwards, M., Bukač, M. and Trenchea, C. A second-order partitioned method for bioconvective flows with concentration dependent viscosity. *Annals of Mathematical Sciences and Applications*, 9 (1): 141–184, 2024.
9. Bukač, M., Muha, B. and Salgado, A. J. Analysis of a diffuse interface method for the Stokes-Darcy coupled problem. *ESAIM: Mathematical Modelling and Numerical Analysis*, 57: 2623–2658, 2023.
10. Bukač, M., Fu, G., Seboldt, A. and Trenchea, C. Time-adaptive partitioned method for fluid-structure interaction problems with thick structures. *Journal of Computational Physics*, 473: 111708, 2023.
11. Throop, A., Bukač, M. and Zakerzadeh, R. Prediction of wall stress and oxygen flow in patient-specific abdominal aortic aneurysms: the role of intraluminal thrombus. *Biomechanics and Modeling in Mechanobiology*, 21(6): 1761–1779, 2022.

12. Throop, A., Badr, D., Durka, M., Bukač, M. and Zakerzadeh, R. Analyzing the Effects of Multi-layered Porous Intraluminal Thrombus on Oxygen Flow in Abdominal Aortic Aneurysms. *Oxygen*, 2(4): 518-536, 2022.
13. Wang, Y., Čanić, S., Bukač, M., Blaha, C. and Roy, S. Mathematical and Computational Modeling of Poroelastic Cell Scaffolds in the Design of an Implantable Bioartificial Pancreas. *Fluids*, 7(7): 222, 2022.
14. Bukač, M. and Trenchea, C. Adaptive, second-order, unconditionally stable partitioned method for fluid-structure interaction. *Computer Methods in Applied Mechanics and Engineering*, 393: 114847, 2022.
15. Bukač, M. and Shadden, S.C. Quantifying the effects of intraluminal thrombi and their poroelastic properties on abdominal aortic aneurysms. *Archive of Applied Mechanics*, 92: 435–446, 2022.
16. Seboldt, A., Oyekole, O., Tambača, J. and Bukac, M. Numerical modeling of the fluid-porohyperelastic structure interaction. *SIAM Journal on Scientific Computing*, 43(4): A2923–A2948, 2021.
17. Canic, S., Wang, Y. and Bukač, M. A Next-Generation Mathematical Model for Drug Eluting Stents. *SIAM Journal on Applied Mathematics*, 81(4): 1503–1529, 2021.
18. Bukac, M. An extension of explicit coupling for fluid-structure interaction problems. *Mathematics*, 9(15): 1747, 2021.
19. Seboldt, A. and Bukac, M. A non-iterative domain decomposition method for the interaction between a fluid and a thick structure. *Numerical Methods for Partial Differential Equations* 37 (4): 2803–2832, 2021.
20. Bukac, M. Seboldt, A. and Trenchea, C. Refactorization of Cauchy’s method: a second-order partitioned method for fluid-thick structure interaction problems. *Journal of Mathematical Fluid Mechanics*, 23:64, 2021.
21. Bukac, M. and Canic, S. A partitioned numerical scheme for fluid-structure interaction with slip. *Mathematical Modelling of Natural Phenomena*, 16:(8-1)–(8-35), 2021.
22. Bukac, M. and Trenchea, C. Boundary update via resolvent for fluid-structure interaction. *Journal of Numerical Mathematics*, 29(1):1–22, 2021.
23. Oyekole, O. and Bukac, M. Second-order, loosely coupled methods for fluid-poroelastic material interaction. *Numerical Methods for Partial Differential Equations*, 36(4):800–822, 2020.
24. Smodlaka, H., Khamas, W., Jungers, H., Pan, R. Al-Tikriti, M., Borovac, J., Palmer, L. and Bukac, M. A novel understanding of Phocidae hearing adaptations through a study of northern elephant seal (*Mirounga angustirostris*) ear anatomy and histology. *The Anatomical Record*, 302(9):1605–1614, 2019
25. Bukac, M., Canic, S., Tambaca, J. and Wang, Y. Fluid-structure interaction between pulsatile blood flow and a curved stented coronary artery on a beating heart: a four stent computational study. *Computer Methods in Applied Mechanics and Engineering*, 350:679–700, 2019.
26. Oyekole, O., Trenchea, C. and Bukač, M. A second-order in time approximation of fluid-structure interaction problem. *SIAM Journal on Numerical Analysis*, 56(1):590–613, 2018.
27. Forti, D., Bukac, M., Quaini, A., Canic, S. and Deparis, S. A monolithic approach to fluid-composite structure interaction. *Journal of Scientific Computing*. 72(1):396–421, 2017.
28. Bukac, M., Yotov, I. and Zunino, P. Dimensional model reduction for flow through fractures in poroelastic media. *ESAIM: Mathematical Modelling and Numerical Analysis*. 51(4):1429–1471, 2017.
29. Bukac, M. and Alber, M. Multi-component model of intramural hematoma. *Journal of Biomechanics*. 50:42–49, 2017.

30. Bukac, M. and Muha, B. Stability and convergence analysis of the extensions of the kinematically coupled scheme for the fluid-structure interaction. *SIAM Journal on Numerical Analysis*. 54(5):3032-3061, 2016.
31. Bukac, M., Canic, S. and Muha, B. A nonlinear fluid-structure interaction problem in compliant arteries treated with vascular stents. *Applied Mathematics & Optimization*. 73(3):433-473, 2016.
32. Bukac, M. A loosely-coupled scheme for the interaction between a fluid, elastic structure and poroelastic material. *Journal of Computational Physics*. 313:377-399, 2016.
33. Zakerzadeh, R., Bukac, M. and Zunino, P. Computational Analysis of Energy Distribution of Coupled Blood Flow and Arterial Deformation. *International Journal of Advances in Engineering Sciences and Applied Mathematics*. 8(1):70-85, 2016..
34. Cao, K., Bukac, M. and Sucosky, P. Three-Dimensional Macro-Scale Assessment of Regional and Temporal Wall Shear Stress Characteristics on Aortic Valve Leaflets. *Computer Methods in Biomechanics and Biomedical Engineering*. 19(6):603-613, 2016.
35. Bukac, M., Layton, W., Moraiti, M., Tran, H. and Trenchea, C. Analysis of partitioned methods for the Biot system. *Numerical Methods for Partial Differential Equations*. 31(6):1769-1813, 2015.
36. Bukac, M., Yotov, I., Zakerzadeh, R. and Zunino, P. Partitioning strategies for the interaction of a fluid with a poroelastic material based on a Nitsche's coupling approach. *Computer Methods in Applied Mechanics and Engineering* 292(1):38-170, 2015.
37. Bukac, M., Canic, S., and Muha, B. A partitioned scheme for fluid-composite structure interaction problems. *Journal of Computational Physics* 281:493-517, 2015.
38. Bukac, M., Yotov, I. and Zunino, R.. An operator splitting approach for the interaction between a fluid and a multilayered poroelastic structure. *Numerical Methods for Partial Differential Equations* 31(4):1054-1100, 2015.
39. Canic, S., Muha, B., and Bukac, M. Stability of the kinematically coupled beta-scheme for fluid-structure interaction problems in hemodynamics. *International Journal of Numerical Analysis and Modeling* 12(1):54-80, 2015.
40. Mabuza, S., Canic, S., Kuzmin, D., and Bukac, M. A conservative, positivity preserving scheme for reactive solute transport problems in moving domains. *Journal of Computational Physics* 276:563 - 595, 2014.
41. Bukac, M., Canic, S., Glowinski, R., Muha, B., and Quaini, A. Operator Splitting Scheme for Fluid-Structure Interaction Problems with Thick Structures. *International Journal for Numerical Methods in Fluids* 74(8):577-604, 2014.
42. Bukac, M. and Canic, S. Longitudinal displacement in viscoelastic arteries: a novel fluid-structure interaction computational model, and experimental validation. *Mathematical Biosciences and Engineering* 10(2):295-318, 2013.
43. Bukac, M., Canic, S., Glowinski, R., Tambaca, J. and Quaini, A. Fluid-structure interaction in blood flow capturing non-zero longitudinal structure displacement. *Journal of Computational Physics* 235:515-541, 2013.

Peer-reviewed conference proceedings

1. Bukac, M., Yotov, I., Zakerzadeh, R., and Zunino, P. Effects of poroelasticity on fluid-structure interaction in arteries: a computational sensitivity study. Modeling the heart and the circulatory system, in Springer Series in Modeling, Simulation and Applications (MS&A) Vol. 14 (2015), A. Quarteroni (Ed.).

Submitted manuscripts

1. Scharf, A., Bukač, M. and Čanić, S. Splitting method for a multilayered poroelastic solid interacting with Stokes flow. *Submitted, 2025.*
2. Furkes, M., Saha, S., Lightsey, K., Hanjaya-Putra, D. and Bukač, M. Numerical modeling of fluid exchange between a collecting lymphatic vessel and the surrounding tissue. *Submitted, 2025.*
3. Bukač, M. and Labovsky, A. The recursive correction method for fluid-structure interaction. *Submitted, 2025.*
4. Aznaran, F., Bukač, M., and Muha, B. The diffuse interface approximation of fluid-structure interaction. *Submitted, 2026.*
5. Parrow, C., Mangini, A., and Bukač, M. A partitioned, second-order method for two-phase flow. *Submitted, 2026.*

Press

- A paper by Čanić, S., Wang, Y. and Bukač, M. entitled “A Next-Generation Mathematical Model for Drug Eluting Stents” was featured in Medical News: “Research investigates how drug-eluting stent affects arterial tissue permeability and blood flow” by Emily Henderson, *Medical News*, September 02, 2021. **Link**
- A paper by Čanić, S., Wang, Y. and Bukač, M. entitled “A Next-Generation Mathematical Model for Drug Eluting Stents” was featured as a research nugget in SIAM News: “Mathematical Model Reveals Possible Role of Drug-Eluting Stents in Artery Re-closure” by Jillian Kunze, *SIAM News*, July 28, 2021. **Link**

Grants

- 2026 - 2029 NSF DMS-2602215 (PI: M. Bukač, co-PI: D. Hanjaya-Putra): A Computational Framework for Lymph Node Physiology, \$470,116. (the program officer intends to recommend it for funding)
- 2022 - 2025 NSF DMS-2208219 (PIs: M. Bukač, C. Trenchea): Collaborative Research: Time Accurate Fluid-Structure Interactions, \$224,923.
- 2022 - 2025 NSF DMS-2205695 (PI: M. Bukač): The Diffuse Interface Method and Applications to Coupled Systems in Fluid Dynamics, \$229,965.
- 2020 - 2023 NSF DCSD-1934300 (PI: J-X. Wang, co-PI: M. Bukač): Physics- Constrained Deep Learning for Surrogate Modeling of Dynamics of Fluids and Fluid-Structure Interaction, \$300,288.
- 2019 - 2022 NSF DMS-1912908 (PI: M. Bukač): Numerical methods for fluid-structure interaction problems with large displacements, \$174,942.00.
- 2016 - 2019 NSF DMS-1619993 (PI: M. Bukač): Development and analysis of high-order partitioned schemes for fluid-structure interaction problems, \$187,946.
- 2013 - 2016 NSF DMS-1318763 (PI: S. Čanić; co-PI: M. Bukač): Fluid-structure interaction with multi-layered structures: a new class of partitioned schemes, \$280,858.
- 2013 - 2014 University of Pittsburgh Mathematical Research Center support to organize a workshop, \$10,000.

Supervision of students and postdocs

- Postdoctoral Fellows
 - Francis Aznaran (2023-2025)
- Graduate Students
 - Jiabao Nie (current PhD student)
 - Connor Parrow (current PhD student)
 - Marina Furkes (current PhD student)
 - Anyastassia Seboldt (graduated in 2022)
 - Oyekola Oyekole (graduated in 2020, first position after graduation: postdoc in Biomedical Engineering at Penn State University; currently a senior research systems engineer at the Columbia University)
- Undergraduate Students
 - Andrew Mangini (research project, 2025-2026)
 - Carmen Noe (research project, 2025-2026)
 - Mark Onders (research project, 2024)
 - Lauren Kennedy (research project, 2023)
 - Carolina Santiago (research project, 2021-2022)
 - Zachary Pavlisin (research project, 2021)
 - Michael Calcagni (research project, 2020)
 - Davina Russel (research project, 2020)
 - Nicholas Rossiter (honors thesis, 2017-2019. Current position: PhD student at the University of Michigan)

Teaching experience

- University of Notre Dame
 - Numerical methods for fluid-structure interaction (Fall 2019).
 - Numerical Analysis (Fall 2014, Spring 2016, Fall 2016, Fall 2017, Fall 2018, Spring 2020, Fall 2020, Spring 2021, Fall 2021, Fall 2022, Spring 2023, Spring 2024, Spring 2025, Spring 2026).
 - Numerical Analysis 1 (Fall 2021, Fall 2023, Fall 2024, Fall 2025).
 - Numerical Analysis 2 (Spring 2016, Spring 2024).
 - Mathematical and Computational Hemodynamics (Spring 2015).
 - Introduction to Applied Mathematics Methods I (Fall 2015, Spring 2020).
- University of Pittsburgh
 - Calculus 1 (Fall 2012, Fall 2013).
 - Calculus 2 (Spring 2013).
 - Numerical Linear Algebra (Spring 2014).
- University of Houston (Graduate teaching assistant)
 - Calculus 2 (Spring 2010).
 - Calculus 3 (Fall 2010, Spring 2011).

Organizational activities

- Co-organizer of the MATRIX Research Program: “Numerical Analysis of Interface and Multiphysics Problems”, at MATRIX, Creswick, VIC, Australia, 2025.
- Co-organizer of “Next-generation numerical methods for coupled multiphysics problems” minisymposium at the 16th World Congress on Computational Mechanics and 4th Pan American Congress on Computational Mechanics (WCCM-PANACM), Vancouver, Canada, 2024.
- Co-organizer of “Domain Decomposition and Time-Splitting Methods for Multiscale Multiphysics Problems” minisymposium at 9th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS), Lisbon, Portugal, 2024.
- Co-organizer of “Numerical Analysis of Multiphysics Problems” workshop at the ICERM Institute, Providence, RI, 2024.
- Co-organizer of “Hot Topics: Recent Progress in Deterministic and Stochastic Fluid-Structure Interaction” workshop at the Simons Laufer Mathematical Sciences Institute, Berkeley, CA, 2023.
- Co-organizer of “Numerical methods for fluid-structure interaction and poroelasticity” minisymposium at the 10th International Congress on Industrial and Applied Mathematics (ICIAM), Tokyo, Japan, 2023.
- Co-organizer of “Deterministic and stochastic models for complex cardiovascular phenomena” minisymposium at the Society for Mathematical Biology Annual Meeting, 2021 (online).
- Co-organizer of “Domain-decomposition methods for coupled problems in fluid dynamics” minisymposium at the 26th International Conference on Domain Decomposition Methods, 2020 (online).
- Co-organizer of “Numerical methods for coupled problems involving fluids and solids” minisymposium at the ECCM-ECFD Conference, Glasgow, UK, 2018.
- Co-organizer of “Recent Advances in Modeling, Computational PDEs and their Applications” minisymposium at the 5th International Conference on Computational and Mathematical Biomedical Engineering, Pittsburgh, PA, April 10-12, 2017.
- Co-organizer of “Fluid-Solid Interaction for Blood Flows” minisymposium at the 19th International Conference on Finite Elements in Flow Problems, Rome, Italy, April 5-7, 2017.
- Co-organizer of “Numerical Methods for Coupled Problems in Biomedical Applications ” minisymposium at ECCOMAS Congress 2016, Crete Island, Greece, June 5-10, 2016.
- Co-organizer of the Workshop on Computational Geomechanics, Pittsburgh, Pennsylvania, May 22-23, 2014.
- Co-organizer of “The Fluid-Structure Interaction: Analysis, Numerics and Applications ” minisymposium at SIAM Analysis of PDEs, Orlando, Florida, December 7-10, 2013.
- Member of the organizing committee of 66th Annual Division of Fluid Dynamics Meeting, November 24-26, 2013, Pittsburgh, Pennsylvania.

Synergistic Activities

- Participated in a panel on the Two-Body Problem workshop hosted by the Association for Women in Science and the Association for Women in Mathematics, Notre Dame, 2026.
- Organized a workshop at The Montessori Academy at Edison Lakes and through hands-on activities presented applications of mathematics in real life, 2025.
- Participated in the *ND Start: Building Your Research Enterprise* panel on finding funding and managing your group hosted by the University of Notre Dame, 2025.
- Participated in a panel on PhD Applications hosted by the Notre Dame Graduate School, 2025.
- Gave a guest lecture on applications of mathematics in biomedicine at the Penn High School, Mishawaka,

2025.

- Gave a talk at a STEM luncheon organized by the Association for Women in Science and the Association for Women in Mathematics, Notre Dame, 2025.
- Participated in a panel discussion at the Women's Empowerment Week Brunch, Notre Dame, 2024.
- Faculty sponsor for the Association for Women in Mathematics Student Chapter at Notre Dame, 2023-2025
- Participated as a mentor in the American Association of University Women- Notre Dame Women Leaders - STEM Program, 2018.
- Participated in Expanding your horizons workshop for middle school girls, Notre Dame, 2015-2018.
- Gave a guest lecture at the Washington High School, South Bend, 2016.
- Participated in a panel discussion at the Women in STEM luncheon series, Notre Dame, 2015.

University Service

- Member of the Faculty Senate (2023-current)
- Notre Dame Association for Women in Mathematics (ND AWM) student chapter faculty advisor (2023-current)
- Member of the Center for Research Computing Faculty Advisory Board, Notre Dame (2022-current)
- Member of the ACMS Awards Committee, Notre Dame (2021 - current)
- Member of the Shilts/Leonard Teaching Award Committee (2023)
- Member of the University Council for Academic Technologies, Notre Dame (2021 - 2024)
- Member of the ACMS Committee on Teaching Assignments, Notre Dame (2021 - 2022, 2023- 2024)
- Member of the College of Science Diversity Council, Notre Dame (Spring 2021).
- Faculty advisor for the Calligraphy Club at Notre Dame, Notre Dame (Fall 2018-Fall 2020).
- Member of the ACMS Undergraduate Committee, Notre Dame (Spring 2015, Fall 2015, Spring 2016, Fall 2017, Spring 2018, Fall 2019).
- PhD thesis committee member: Amy Buchmann (2015), Wenzhao Sun (2015), Liang Wu (2016), Kai Cao (2016), Timur Kupaev (2016), Dong Lu (2017), Francesco Pancaldi (2017), Kelsey DiPietro (2019), Margaret Regan (2020), Samantha Sherman (2021), Xiaozhi Zhu (2021), Xue Li (2021), Wenlong Pei (2022), Cedric Williams (2023), Marzieh Alireza Mirhoseini (2023), Ernie Tsybulnik (2023), Diana Morales (2023), Caroline Hills (2024), Rentian Hu (2025).
- Oral candidacy committee member: Kai Cao (2015), Kelsey DiPietro (2016), Daniel Howard (2017), Samantha Sherman (2018), Xue Li (2018), Xiaozhi Zhu (2018), Zachary Miksis (2019), Cedric Williams (2019), Marzieh Alireza Mirhoseini (2021), Wenzheng Kuang (2022), Rentian Hu (2022), Hunter La Croix (2025), Emma Schmidt (2026), Sanchita Chakraborty (2026).
- Graduate student appeal committee member, Notre Dame (2016).

Professional Service

- Associate editor of IAMS Advances in Computational Science and Engineering (ACSE) (2022 - current).
- Proposal reviewer for the National Science Foundation (2022, 2023, 2025, 2025, 2026).
- Proposal reviewer for the Department of Energy (2023, 2025).
- Proposal reviewer for the Swiss National Science Foundation (2019, 2023).

- Reviewer for the Croatian National Science Award (2022).
- Academic article reviewer for the Journal of Computational Physics, ESAIM: Mathematical Modelling and Numerical Analysis, SIAM Journal on Numerical Analysis, SIAM Journal on Scientific Computing, Numerische Mathematik, Computational Geosciences, Journal of Scientific Computing, Biomechanics and Modeling in Mechanobiology, IMA Journal of Numerical Analysis, International Journal for Numerical Methods in Biomedical Engineering, Applied Mathematics and Computation, and others

Invited Talks

- Workshop talk at the “Recent Advances in Numerical PDEs”, University of Pittsburgh, 2026.
- Workshop talk at the Mathematisches Forschungsinstitut Oberwolfach workshop “Numerical Analysis for Geometric and Nonlinear PDEs”, Oberwolfach, Germany, 2026.
- Seminar talk at the “Interfaces and unfitted discretization methods” research program at the Institute Mittag-Leffler, Stockholm, Sweden, 2025.
- Presentation at the “Interdisciplinary Aneurysm Science Workshop”, Raitenhaslach, Germany, 2025.
- Presentation at the “Applied Mathematics Workshop”, Brijuni, Croatia, 2025.
- Presentation at the “PDE, Continuum Mechanics, Numerical Analysis” - Scientific workshop dedicated to Professor Ibrahim Aganović, University of Zagreb, 2025.
- Presentation at the “Numerical Analysis of Interface and Multiphysics Problems” workshop, MATRIX Institute, Creswick, Australia, 2025.
- Applied Math Seminar talk at the University of California - Berkeley, 2025.
- Plenary lecture at the 12th Conference on Applied Mathematics and Scientific Computing, Dubrovnik, Croatia, 2024.
- Presentation at “Mathematical Models and Numerical Methods for Multiphysics Systems” workshop, University of Pittsburgh, PA, 2024.
- Presentation at the “Numerical Analysis of Multiphysics Problems” workshop, ICERM Institute, Providence, RI, 2024.
- Minisymposium talk at Advances in Computational Mechanics Conference (A Conference Celebrating the 80th Birthday of Thomas J.R. Hughes, by invitation only), Austin, Texas, USA, 2023.
- Minisymposium talk at the 10th International Congress on Industrial and Applied Mathematics (ICIAM), Tokyo, Japan, 2023.
- Minisymposium talk at the SIAM Conference on Mathematical & Computational Issues in the Geosciences, Bergen, Norway, 2023.
- Presentation at the “Biomedical Fluid Mechanics” workshop, Institute of Mathematics, Prague, Czech Republic, 2023.
- European Women in Mathematics “Zdenka Blašković-Makanec” Colloquium talk at the University of Zagreb, Croatia, 2023.
- Colloquium talk at the Department of Mathematics, University of Pittsburgh, 2023.
- Applied PDE Seminar talk at the University of California, Berkeley, online, 2022.
- Computational and Applied Math seminar talk at the University of Tennessee, Knoxville, 2022.
- Conference talk at the 11th Conference on Applied Mathematics and Scientific Computing, Brijuni, Croatia, 2022.
- Minisymposium talk at the XXIV International Conference on Computational Methods in Water Resources, Poland, online, 2022.
- Popular science lecture at the University of Zagreb, Department of Computer Science, Croatia, 2022.

- Gastkolloquium at the Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany, online, 2022.
- Applied Math seminar talk at the Texas Tech University, online, 2022.
- Workshop talk at the Mathematisches Forschungsinstitut Oberwolfach workshop “Multiscale Coupled Models for Complex Media: From Analysis to Simulation in Geophysics and Medicine”, Oberwolfach, Germany, 2022.
- Colloquium talk at the Center for Mathematics and Artificial Intelligence at George Mason University, 2021.
- Minisymposium talk at the 16th U.S. National Congress on Computational Mechanics, online, 2021.
- Minisymposium talk at the SIAM Conference on Mathematical & Computational Issues in the Geosciences, online, 2021.
- Minisymposium talk at the Annual Canadian Applied and Industrial Mathematics Society Meeting, online, 2021.
- Minisymposium talk at the 9th International Conference on Computational Methods for Coupled Problems in Science and Engineering, online, 2021.
- Colloquium talk at the University of Zagreb, Department of Mathematics, Croatia, 2021.
- Applied and Computational Mathematics seminar talk at the Auburn University, Department of Mathematics and Statistics, 2021.
- Applied Math seminar talk at the University of California - Berkeley, Department of Mathematics, 2020.
- Minisymposium talk at the Tenth Conference on Applied Mathematics and Scientific Computing, Brijuni, Croatia, 2020.
- Minisymposium talk at the SIAM Conference on Analysis of Partial Differential Equations, La Quinta, CA, 2019.
- Minisymposium talk at the Conference on Computational Mathematics and Applications, University of Nevada, Las Vegas, NE, 2019.
- Minisymposium talk at the 5th Annual Meeting of SIAM Central States Section, Ames, IA, 2019.
- Minisymposium talk at the SIAM Conference on Applications of Dynamical Systems, Snowbird, UT, 2019.
- Minisymposium talk at the 71th Annual Meeting of the APS Division of Fluid Dynamics, Atlanta, GA, 2018.
- Computational Math seminar talk at the University of Pittsburgh, Department of Mathematics, 2018.
- Keynote minisymposium talk at WCCM 2018, New York, NY, 2018.
- Minisymposium talk at WCCM 2018 (presenting author: O. Oyekole), New York, NY, 2018.
- Minisymposium talk at SIAM Annual Meeting, Portland, OR, 2018.
- Colloquium talk at the Colorado State University, Department of Mathematics, 2017.
- Minisymposium talk at 5th International Conference on Computational and Mathematical Biomedical Engineering, Pittsburgh, PA, 2017.
- Colloquium talk at the Indiana University–Purdue University Indianapolis, Department of Mathematics, 2016.
- Special session (In celebration of the 60th birthday of Prof. William Layton) talk at AMS Sectional Meeting, Denver, CO, 2016.
- Numerical Analysis and Predictability of Fluid Flow Conference, Pittsburgh, PA, 2016.
- Scientific computing seminar talk at the University of Houston, Department of Mathematics, 2016.
- Minisymposium talk at ASC 30th Technical Conference, Michigan State University, East Lansing, MI, 2015.

- Minisymposium talk at USNCCM 13, San Diego, CA, 2015.
- Colloquium talk at the University of Maryland Baltimore County, Department of Mathematics and Statistics, 2014.
- Colloquium talk at the University of Notre Dame, Department of Applied and Computational Mathematics and Statistics, 2014.
- Minisymposium talk at the SIAM Conference on Mathematical and Computational Issues in the Geosciences, Padua, Italy, 2013

Conference and Workshop Presentations and Posters

- ECCOMAS Congress 2016, Crete Island, Greece, 2016.
- MultiMat 2015, Würzburg, Germany, 2015
- Coupled problems 2015, San Servolo, Venice, Italy, 2015
- Workshop on Computational Geomechanics, Pittsburgh, PA, 2014
- From the Clinic to Partial Differential Equations and Back: Emerging challenges for Cardiovascular Mathematics, ICERM, RI, 2014
- SIAM conference on Analysis of PDEs, Orlando, FL, 2013
- 66th Annual Meeting of the APS Division of Fluid Dynamics, Pittsburgh, PA, 2013
- CTW: Mathematics Guiding Bioartificial Heart Valve Design, MBI Ohio, OH, 2013
- Equadiff13, Prague, Czech Republic, 2013
- SIAM Conference on Computational Science & Engineering, Boston, MA, 2012
- Finite Element Circus, University of Pittsburgh, PA, 2012
- V European Congress on Computational Mechanics (ECCOMAS V), Vienna, Austria, 2012
- Frontiers in Mathematical Biology: Young Investigators Conference, University of Maryland, MA, 2012
- 2011 Workshop for Young Researchers in Mathematical Biology, MBI Ohio, OH, 2011
- 34th Annual Texas Differential Equations Conference, Edinburg, TX, 2011
- Women in Mathematics Symposium, Los Angeles, CA, 2011
- Joint SIMAI/SEMA Conference on Applied and Industrial Mathematics, Cagliari, Italy, 2010
- IV European Congress on Computational Mechanics (ECCOMAS IV), Paris, France, 2010
- Workshop on Interdisciplinary Mathematics, Penn State University, State College, PA, 2010
- Harmonic Analysis and PDEs, University of Nebraska-Lincoln, NE, 2010
- Texas Applied Mathematics Meeting for Students, Houston, TX, 2010