Jorge E. Reyes

Jorge-Reyes-Jr | Scholar | 0000-0002-5096-2297

reyesj@vt.edu

Personal Website

Education

University of Nevada Las Vegas

Ph.D. Mathematical Sciences (Computational Mathematics†) — *May 2023*

- Dissertation: Mathematical Modeling: Finite Element Analysis and Computations Arising in Fluid Dynamics and Biological Applications
- Advisor: Dr. Monika Neda

M.S. Mathematical Sciences (Applied Mathematics) — *May 2019*

- Thesis: An Application of Conformal Mapping to the Boundary Element Method for Unconfined Steady Seepage with a Phreatic Surface
- Advisor: Dr. Angel S. Muleshkov

B.S. Mathematics — *May 2015*

College of Southern Nevada

A.G.S. Associate of General Studies — *December 2014*

Experience

Texas State University

Assistant Professor — *Aug 2026 – Present*

Virginia Tech

Postdoctoral Associate — *Aug 2023 – Aug 2026*

Nevada National Security Sites (NNSS)

Graduate Science Internship (Associate in Science – Level 10) — *Nov 2022 – Aug 2023*

University of Nevada Las Vegas

Advanced Doctoral Graduate Assistant — *Jan 2023 – May 2023*

Graduate Assistant — *Aug 2015 – Dec 2022*

College of Southern Nevada

Part-time Instructor — *Aug 2017 – Dec 2017*

Publications

The asterisk (*) denotes the corresponding author of the article. In the math community, authors are usually listed alphabetically. It should be clear when alphabetical order was not followed.

Preprints & Submissions

[1] A. Balooch, F. Courtney-Pahlevani, L. Davis, A. Dunca, M. Neda, and J. Reyes*, *Numerical analysis of a bio-polymerization model*, (In Revision). arXiv: 2507.09921 [math.NA]. [Online]. Available: https://arxiv.org/abs/2507.09921.

Peer Reviewed Journal Articles

[1] R. Lan and J. Reyes*, "Longer time accuracy for the ladyzhenskaya model with the emac formulation," *Journal of Computational and Applied Mathematics*, p. 117 726, (2026), ISSN: 0377-0427. DOI: https://doi.org/10.1016/j.cam.2026.117726.

†First Hispanic in the state of Nevada to earn this degree

[2] S. Breckling, J. Reyes*, S. Shields, and C. Watkins, "Regularizing the linearly extrapolated BDF2 scheme for incompressible flows with time relaxation," *Finite Elements in Analysis and Design*, vol. 254, p. 104 491, (2026). DOI: https://doi.org/10.1016/j.finel.2025.104491.

[3] J. Reyes*, P.-H. Tsai, I. Moore, H. Liu, and T. Iliescu, "Verifiability and limit consistency of eddy viscosity large eddy simulation reduced order models," *Journal of Scientific Computing*, vol. 105, no. 78, (2025). DOI: 10.1007/s10915-025-03106-6.

[4] J. Reyes*, P.-H. Tsai, J. Novo, and T. Iliescu, "A priori error bounds and parameter scalings for the time-relaxation reduced order model," *SIAM Journal on Numerical Analysis*, vol. 63, no. 5, pp. 1933–1961, (2025). DOI: 10.1137/24M1708656.

[5] L. Davis, M. Neda, F. Pahlevani, J. Reyes*, and J. Waters, "A numerical study of a stabilized hyperbolic equation inspired by models for bio-polymerization," *Computational Methods in Applied Mathematics*, vol. 25, no. 1, pp. 77–91, (2025). DOI: 10.1515/cmam-2023-0222.

[6] S. Breckling, J. Fiordilino, J. Reyes*, and S. Shields, "A note on the long-time stability of pressure solutions to the 2D Navier Stokes equations," *Applied Mathematics and Computation*, vol. 478, p. 128 839, (2024), ISSN: 0096-3003. DOI: 10.1016/j.amc.2024.128839.

[7] S. C. Huang, A. Johnson, M. Neda, J. Reyes*, and H. Tehrani, "A generalization of the Smagorinsky model," *Applied Mathematics and Computation*, vol. 469, p. 128 545, (2024), ISSN: 0096-3003. DOI: 10.1016/j.amc.2024.128545.

[8] J. Reyes, "Examples of identities and inequalities for the nonlinear term in the Navier–Stokes equation," *Examples and Counterexamples*, vol. 3, pp. 100–109, (2023), ISSN: 2666-657X. DOI: 10.1016/j.exco.2023.100109.

[9] P. J.-S. Shiue, A. G. Shannon*, S. C. Huang, and J. E. Reyes, "A generalized computation procedure for Ramanujan-type identities and cubic Shevelev sum," *Notes on Number Theory and Discrete Mathematics*, vol. 29, no. 1, pp. 98–129, (2023). DOI: 10.7546/nntdm.2023.29.1.98-129.

[10] S. Ingimarson, M. Neda, L. Rebholz*, J. Reyes, and A. Vu, "Improved long time accuracy for projection methods for Navier-Stokes equations using EMAC formulation," *International Journal of Numerical Analysis & Modeling*, vol. 20, no. 2, pp. 176–198, (2023). DOI: 10.4208/ijnam2023-1008.

[11] P. J.-S. Shiue, A. G. Shannon*, S. C. Huang, and J. E. Reyes, "Notes on efficient computation of Ramanujan cubic equations," *Notes on Number Theory and Discrete Mathematics*, vol. 28, no. 2, pp. 350–375, (2022). DOI: 10.7546/nntdm.2022.28.2.350-375.

[12] P. J. Shuie, S. C. Huang, and J. E. Reyes, "Algorithms for computing sums of powers of arithmetic progressions by using Eulerian numbers," *Notes on Number Theory and Discrete Mathematics*, vol. 27, no. 4, pp. 140–148, (2021). DOI: 10.7546/nntdm.2021.27.4.140-148.

Refereed Conference Proceedings

[1] M. Neda, J. Reyes*, and J. Waters, "Vreman stabilization for nonlinear Greenshield's model for traffic flow," in *Addressing Modern Challenges in the Mathematical, Statistical, and Computational Sciences*, D. M. Kilgour, H. Kunze, R. N. Makarov, R. Melnik, and X. Wang, Eds., Cham: Springer Nature Switzerland, 2025, pp. 187–196, ISBN: 978-3-031-84869-8.

Presentations & Seminars

1. "Stability, Convergence, and Parameter Scalings for the Evolve Filter Relax Reduced Order Model (EFR-ROM)," MS223 - Projection-Based and Data-Driven Reduced Order Modeling: Bridging Accuracy and Efficiency, 17th World Congress on Computational Mechanics and 10th European Congress on Computational Methods in Applied Sciences and Engineering (WCCM-ECCOMAS 2026), Munich, Germany, 2026.
2. "Approximate Deconvolution for Regularized Reduced Order Models," Minisymposium: Reduced Order Modeling for Parametric Flow Problems, 2026 SIAM Annual Meeting (AN26), Huntington Convention Center of Cleveland, Cleaveland, OH, 2026
3. "Approximate Deconvolution and Spatial Filtering of Reduced Order Models for Fluid Flow" Minisymposia on Linear Algebra Foundations for Data-driven Modeling and Model Order Reduction, 27th Conference of the International Linear Algebra Society (ILAS 2026), Blacksburg, VA, 2026
4. "OPTICS (Online Platform for Teaching Interactive Calculus with Software)," Teaching Seminar, Virginia Tech, Blacksburg, VA, 2026.
5. "Regularized Reduced Order Modeling for Convection Dominated Flows," NASC RTG Ranch Retreat, Galveston, TX, 2026
6. "Differential Filtering and Approximate Deconvolution for Reduced Order Models," Special Session on Recent advances in numerical methods for partial differential equations, AMS Spring Southeastern Sectional Meeting,Georgia Southern University, Savannah, GA, 2026.
7. "Longer Time Accuracy for Fluid Models via the EMAC Formulation," Finite Element Rodeo, University of Texas at Austin, TX, 2026
8. "Parameter Recovery via Continuous Data Assimilation for the Steady Navier Stokes Equations," Applied Numerical Analysis Seminar, Virginia Tech, Blacksburg, VA, 2026.
9. "Numerical Analysis of Data Driven Methods for Computational Fluid Dynamics," Texas State University, San Marcos, TX, 2026
10. "Verifiability and Limit Consistency of Eddy Viscosity Large Eddy Simulations for Reduced Order Models," Special Session on Hispanic Voices in Applied Mathematics, Joint Mathematics Meeting (JMM 26), Walter E. Washington Convention Center, Washington, D.C., 2026.
11. "Numerical Analysis of Data Driven Methods for Computational Fluid Dynamics," California State University, Long Beach, CA, 2025
12. "Improved Long Time Accuracy for Fluid Models using EMAC Formulation," Theoretical Analysis and Numerical Methods of PDEs and Data-Driven Models, 10th SIAM Annual Meeting of Central States Section (SIAM-CSS), University of Arkansas, Fayetteville, AR, 2025.
13. "Mathematical Foundations of Data Driven Methods for Computational Fluid Dynamics," Virginia Tech Postdoctoral Association (VTPA) Seminar Series, Virginia Tech, Blacksburg, VA, 2025.
14. "Verifiability and Limit Consistency of Large Eddy Simulation Reduced Order Models," The Twelfth Annual Graduate Student Mini-Conference in Computational Mathematics, Clemson University, Clemson, SC, 2025.
15. "The EMAC Formulation for Fluid Models and Longer Time Accuracy," Applied Numerical Analysis Seminar, Virginia Tech, Blacksburg, VA, 2025.

16. "Stabilized Filter Schemes for Hyperbolic Equations Inspired by DNA Transcription Modeling," MathBio Seminar, Virginia Tech, Blacksburg, VA, 2025.

17. "Verifiability of Closure Modeling for Reduced Order Modeling of Turbulent Flows," Special Session on Recent Advances in Reduced Order Models for Complex Systems, AMS Spring Southeastern Sectional Meeting, Clemson University, Clemson, SC, 2025.

18. "Numerical Analysis of Filter-Based Stabilization for Reduced Order Models of Convection-Dominated Flows," Minisymposium: Reduced Order Modeling for Parametric Flow Problems, SIAM Conference on Computational Science and Engineering (CSE 25), Fort Worth Convention Center, Fort Worth, TX, 2025.

19. "Parameter Scalings and Convergence Analysis of Time Relaxation Reduced Order Model for Fluid Flow," Special Session on Advances in Numerical Methods for Fluid Dynamics, Joint Mathematics Meeting (JMM 25), Seattle Convention Center, Seattle, WA, 2025.

20. "Regularized Reduced Order Modeling for Convection Dominated Flows," Fall Fluid Mechanics Symposium, Virginia Tech, Blacksburg, VA, 2024.

21. "Bridging Large Eddy Simulation and Reduced Order Modeling of Convection-Dominated Flows," Applied Numerical Analysis Seminar, Virginia Tech, Blacksburg, VA, 2024.

22. "Spatial Filtering of Reduced Order Models for Convection Dominated Flows," Reduced Order Modeling and Machine Learning for Large Eddy Simulation and Related Topics (ROM+ML4LES+), Emory University, Atlanta, GA, 2024.

23. "Numerical Analysis of a Stabilized Hyperbolic Equation Inspired from Models of Bio-Polymerization," Mini-symposium: Recent Advances in Numerical Methods for Partial Differential Equations, 9th SIAM Annual Meeting of Central States Section (SIAM-CSS), University of Missouri-Kansas City, Kansas City, MO, 2024.

24. "Numerical Analysis of Evolve Filter Relax Reduced Order Models (ERF-ROMs)," MS 0825 Efficient numerical methods for CFD and FSI simulations, 16th World Congress on Computational Mechanics and 4th Pan American Congress on Computational Mechanics (WCCM 2024-PANACM Vancouver 2024), Vancouver, British Columbia, Canada, 2024.

25. "Numerical Analysis of Evolve Filter Relax Reduced Order Models (ERF-ROMs)," MS046C Cutting-edge model order reduction techniques for computational fluid dynamics III, 9th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2024), Lisbon, Portugal, 2024.

26. "Numerical Analysis of Galerkin Reduced Order Models for Fluid Flow," The Eleventh Annual Graduate Student Mini-Conference in Computational Mathematics, Clemson University, Clemson, SC, 2024.

27. "Regularized Reduced Order Modeling for Turbulent Flow," Mini-symposium 13: Recent Advances in Efficient and Robust Numerical Techniques for Partial Differential Equations and Their Applications, 8th SIAM Annual Meeting of Central States Section (SIAM-CSS), University of Nebraska–Lincoln, Lincoln, NA, 2023.

28. "Vreman Stabilization for Nonlinear Greenshield's Model," Special Session: Modeling and Numerical Analysis for PDE Applications, Applied Mathematics, Modeling and Computational Science (AMMCS) International Conference, Waterloo, Ontario, Canada, 2023.

29. "Time Filtering and Vreman Based Stabilization for a Hyperbolic Equation Inspired from DNA Transcription Modeling ," Graduate & Professional Student Research Forum, University of Nevada

Las Vegas, 2023, Podium J 1st Place Awardee.

30. "Mathematics: The Foundation of Science & Society," 8^{th} Annual Inspiration, Innovation, Impact Presentation, University of Nevada Las Vegas, 2023.

31. "Modeling Turbulence: Improving the Smagorinsky Model," Mini-Symposium 23: Reduced Order Models for Complex Systems , SIAM Southeastern Atlantic Section Annual Meeting (SIAM-SEA), Virginia Tech, Blacksburg, VA, 2023.

32. "Mathematics: The M in STEM," Student Interactions with Science, Technology, Engineering, and Mathematics (SISTEM), University of Nevada Las Vegas, 2023.

33. "Algorithms for Computing Ramanujan-Type Identities from Cubic Equations," AMS Contributed Paper Session on Number Theory and Field Theory I, Joint Mathematics Meeting (JMM 23), John B. Hynes Veterans Memorial Convention Center, Boston, MA, 2023.

34. "Improved Long Time Accuracy for Projection Methods for Navier-Stokes Equations using EMAC Formulation," Special Session on Numerical Partial Differential Equations and Applications, Joint Mathematics Meeting (JMM 23), John B. Hynes Veterans Memorial Convention Center, Boston, MA, 2023

35. "The Finite Element Method for Solving Navier-Stokes Equations," Graduate Research Showcase 2022, Advancing Women in Mathematical Sciences, University of Nevada Las Vegas, 2022.

36. "Modeling Turbulence: Just Go With the Flow," Grad Rebel Slam 3MT , Preliminary Round & Semi-Finals ,University of Nevada Las Vegas, 2022.

37. "Fluid Flow Modeling: Finite Element Analysis & Computation" , Virginia Tech Colloquium, Virginia Polytechnic Institute and State University, Blacksburg, VA, 2022.

38. "Projection Methods in Fluid Flow Modeling," Special Session on Numerical Partial Differential Equations and Applications , AMS Fall Central Sectional Meeting, University of Texas at El Paso, El Paso, TX, 2022.

39. "Improving Eddy Viscosity Modeling," Minisymposium: Recent Advances in Finite Element Methods for Coupled Systems - Part II of III, Hybrid: 2022 SIAM Annual Meeting (AN22), David L. Lawrence Convention Center, Pittsburgh, PN, 2022.

40. "Improvements on Developing Novel Ramanujan Type Identities," Graduate & Professional Student Research Forum, University of Nevada Las Vegas, 2022, Podium G 2nd Place Awardee.

41. "Large Eddy Simulations- Improving The Smagorinsky Model ," Finite Element Rodeo, Southern Methodist University, TX, 2022.

42. "Sums of Powers of Arithmetic Progressions by Using Eulerian Numbers," Grad Rebel Slam 3MT, University of Nevada Las Vegas, 2021.

43. "Number Theory Applications - Public-key Cryptosystems, Hash Functions, and Cryptocurrecies," 2021 UNLV STEM Summer Camp, University of Nevada Las Vegas, 2021.

44. "On Sums of Powers - Eulerian Numbers," Graduate & Professional Student Research Forum, University of Nevada Las Vegas, 2021, Podium F 2nd Place Awardee.

45. "The Generalized Smagorinsky Model - Large Eddie Simulations," Grad Rebel Slam 3MT, University of Nevada Las Vegas, 2020.

46. "Large Eddie Simulations - Generalized Smagorinsky Model," Partial Diffirential Equation Seminar, University of Nevada Las Vegas, 2020.

47. "Alternative Algorithm for Determining a Phreatic Surface for Seepage in Dams with Toe Drain," Grad Rebel Slam 3MT, University of Nevada Las Vegas, 2019.
48. "Singularities and Improvements to The Boundary Element Method," Grad Rebel Slam 3MT, University of Nevada Las Vegas, 2018.

Poster Presentations

1. "A Hybrid Physics and Data Approach for Efficient Computational Fluid Dynamics," 2026 Postdoc Research Symposium, University of Virginia, 2026.
2. "Mathematical Foundations of Large Eddy Simulation Reduced Order Models (LES-ROMs)," Artificial Intelligence and Digital Twins for Earth Systems (AIDT4ES), University of Texas at Austin, 2025.
3. "Reduced order modeling for Computational Fluid Dynamics," 2025 Postdoc Research Symposium, University of Virginia, 2025.
4. "Numerical Methods and Analysis for Modeling Fluid Dynamics," Diversifying Science: Undergraduate Research Mixer, Virginia Tech, Fall 2024.
5. "Numerical Methods and Analysis for Modeling Fluid Dynamics," Diversifying Science: Undergraduate Research Mixer, Virginia Tech, Spring 2024.
6. "Long-Time Stability of Pressure Solutions to the 2D Incompressible Navier Stokes Equations," UNLV Computational & Data Science Day, University of Nevada Las Vegas, 2023.
7. "Introduction to Differential Equations and SIR Epidemiological Modeling," Graduate & Professional Student Research Forum, University of Nevada Las Vegas, 2023.
8. "Introduction to Differential Equations and SIR Epidemiological Modeling," MAA Golden Section Annual Meeting, Santa Rosa Junior College, CA, 2023.
9. "A Generalized Smagorinsky Model," Graduate & Professional Student Research Forum, University of Nevada Las Vegas, 2020.
10. "Alternative Algorithm for Determining a Phreatic Surface for Seepage in Dams with Toe Drain," Diversity Research and Mentorship Reception, University of Nevada Las Vegas, 2019.

Speaking Engagements

1. "Bridging Gaps: Fostering Belonging in the Postdoc Community," Panel Moderator, University of Virginia Postdoctoral Research Symposium, 2025.
2. UNLV Latinx Graduation, Student Speaker, University of Nevada Las Vegas, 2023.
3. "GRA Grad School Prep Series: Process for Selecting Committee Members (Thesis & Dissertation)," Panelist, Graduate College, University of Nevada Las Vegas, 2023.
4. "A Brief History of Mathematicians in Movies," Pi(e) and Movie Night: A Celebration of Pi Day, UNLV SIAM Student Chapter, University of Nevada Las Vegas, 2023.
5. "First-Gen Mixer and Panel," Panelist,UNLV Graduate Admissions and Graduate College, University Gateway Building, University of Nevada Las Vegas, 2022.
6. "Inquiry III: The Art of Scientific Discovery," College of Sciences Art Exhibition , Richard Tam Alumni Center, University of Nevada Las Vegas, 2022.

7. "A Glimpse Into Grad School,"Panelist, 1st Generation Club and Graduate College, University of Nevada Las Vegas (Hybrid), 2022.
8. "Planning and Preparing for Graduate Studies," Panelist, UNLV Women in Mathematics, University of Nevada Las Vegas (Hybrid), 2022.
9. "Hybrid: First-Gen Mixer and Panel," Panelist, Graduate College, University of Nevada Las Vegas, 2021.

Teaching

Texas State University
Instructor on Record

- MATH 3383: Numerical Analysis I

Virginia Tech
Instructor on Record

- MATH 2204: Intro to Multivariable Calculus
- MATH 4426: Fourier Series and PDE

Invited Lecture

- MATH 5414: TS: Reduced Order Models/Fluid
- Math 2214: Introduction to Differential Equations

University of Nevada Las Vegas
Instructor on Record

- MATH 120: Fundamentals of College Mathematics
- MATH 124: College Algebra
- MATH 126: Precalculus I
- MATH 127: Precalculus II

Discussion Section Instructor

- MATH 132: Finite Mathematics
- MATH 181: Calculus I
- MATH 251: Discrete Mathematics
- MATH 283: Calculus III
- MATH 330: Linear Algebra
- MATH 428: Differential Equations II
- MATH 431: Mathematics for Scientists and Engineers I
- MATH 453/ MAT 653: Abstract Algebra I
- MATH 454/ MAT 654: Abstract Algebra II

College of Southern Nevada
Instructor on Record

- MATH 132: Finite Mathematics

Mentoring

Virginia Tech
Ian Moore (Ph.D. student) Co-mentored with Prof. Traian Iliescu,
Xopre Rodriguez (Fulbright visiting student) Co-mentored with Prof. Traian Iliescu

Nevada National Security Sites
James Watts (undergraduate intern) Co-mentored with Dr. Sean Breakling

University of Nevada Las Vegas
Mia Bruce (undergraduate Biology student),
Rashad Hall (undergraduate RAMP mentee), Co-mentored with Prof. Monika Neda
Ali Balooch (Ph.D. student), Co-mentored with Prof. Monika Neda
Adam Parks (Ph.D. student) Co-mentored with Prof. Monika Neda

Awards and Grants

2026-2028	**MGB-SIAM Early Career Fellowship** Society for Industrial and Applied Mathematics
2025	**Postdoc Service Excellence Award** Virginia Tech, Office of Research and Innovation
2025	**SIAM Central States Travel Support - $500** 10^{th} Annual Meeting of SIAM Central States Section
2025-2026	**Instructional Innovation Grant - $10,000** Virginia Tech, Center for Advancing Undergraduate Science Education
2025-2026	**SIAM Postdoctoral Support Grant - $14,000** Society for Industrial and Applied Mathematics
2025	**MGB-SIAM Early Career Fellowship** - (Finalist) Society for Industrial and Applied Mathematics
2024	**SIAM Central States Travel Support** 9^{th} Annual Meeting of SIAM Central States Section
2024	**Professional Development Fund - $2,000** Virginia Tech, Office of Research and Innovation
2023	**SIAM Central States Travel Support** 8^{th} Annual Meeting of SIAM Central States Section
2024	**MGB-SIAM Early Career Fellowship** - (Semi-Finalist) Society for Industrial and Applied Mathematics
2023-2025	**AMS-Simons Travel Grant - $7,200** American Mathematical Society
2023-2024	**Doc to Postdoc Fellowship** - $42,800 (Declined for current position) University of Nevada Las Vegas
2023	**Certificate of Special Congressional Recognition** U.S. Senator Jacky Rosen
2023	**Graduate College Medallion** University of Nevada Las Vegas, Graduate College
2023	**The "Best" of UNLV Award - $500** University of Nevada Las Vegas, Graduate & Professional Student Association
2023	**Expanding the Knowledge Frontier Award - $300** University of Nevada Las Vegas, Graduate & Professional Student Association
2023	**1^{st} Place Podium J Presentation - $500** 25^{th} Annual Graduate & Professional Student Research Forum, University of Nevada Las Vegas
2023	**Grad Student Travel Grant (JMM) - $1,300** American Mathematical Society,
2022-2023	**Wolzinger Family Science Research Scholarship - $10,000** University of Nevada Las Vegas, College of Sciences
2022-2023	**2022 HSF Scholar** Hispanic Scholarship Fund
2022-2023	**Patricia Sastaunik Scholarship - $2,500** University of Nevada Las Vegas, Graduate College
2022-2023	**GPSA Sponsorship Research & Travel Grant - $2,801.50** (Total) University of Nevada Las Vegas
2016-2023	**UNLV Access Grant - $11,000** (Total) University of Nevada Las Vegas
2022	**2^{nd} Place Preliminary Round Presentation - $200** 9^{th} Annual Three Minute Thesis Competition, University of Nevada Las Vegas
2022	**Grad Student Travel Grant - $250** American Mathematical Society,
2022	**SIAM Student Travel Awards - $650** Society for Industrial and Applied Mathematics,

2022	**Summer Doctoral Research Fellowship - $7,000** University of Nevada Las Vegas, Graduate College
2022	**2nd Place Podium G Presentation - $350** 24th Annual Graduate & Professional Student Research Forum, University of Nevada Las Vegas:(Hybrid)
2021-2022	**GPSA General Scholarship - $400** University of Nevada Las Vegas
2020-2021	**Frank A. DiCicco Endowed Scholarship - $1,200** University of Nevada Las Vegas, College of Sciences
2021	**2nd Place Podium F Presentation - $300** 23rd Annual Annual Graduate & Professional Student Research Forum, (Virtual):University of Nevada Las Vegas
2020	**PPOHA Graduate Support Grant - $100** University of Nevada Las Vegas
2019-2020	**UNLV Graduate College Recruitment Scholarship - $1,000** University of Nevada Las Vegas, Department of Mathematical Sciences
2019-2020	**Designated HSF Scholar** Hispanic Scholarship Fund
2019	**UNLV 1st Generation Graduate Medallion** University of Nevada Las Vegas
2019	**Audience Choice Award - $100** 6th Annual Three Minute Thesis Competition, University of Nevada Las Vegas
2014-2015	**Federal SEOG Grant - $300** University of Nevada Las Vegas
2014-2015	**UNLV Grant - $1,200** University of Nevada Las Vegas
2012-2015	**Millennium Scholarship - $4,600** (Total, Eligible $10,000) University of Nevada Las Vegas/ College of Southern Nevada
2012-2015	**Federal Pell Grant - $17,000** (Total) University of Nevada Las Vegas/ College of Southern Nevada
2013-2014	**CSN Access Award - $1,300** College of Southern Nevada

Service

Texas State University

Departmental

- Library Committee Member (2026-2027)
- Colloquium Committee Member (2026-2027)

Virginia Tech

University

- Commission on Research (CoR): Postdoctoral Representative (2024-2026)
- Institute for Critical Technology and Applied Science (ICTAS) 5-Year Review Committee: CoR Representative (2025)

Departmental

- Postdoc Committee Member (2024-2026)
- Applied Numerical Analysis Seminar Organizer (Spring 2026)

Virginia Tech Postdoctoral Association *2024 - 2026*

- Postdoctoral Affairs Advisory Board Member (2024-2026)
- President (2025-2026)
- Vice President (2024-2025)
- UVA & VT Postdoc Symposium Organizing Committee member (2026)
- UVA & VT Postdoc Symposium Organizing Committee member (2025)
- VTPA Postdoc Seminar Series Organizer (2025 - 2026)

University of Nevada Las Vegas

Graduate & Professional Student Association *2015 - 2023*

- Summer GPSA Council Representative - College of Sciences (2021,2022)
- GPSA Council Representative - Department of Mathematical Sciences (2017-2023)
- Vice President for Diversity Initiatives & Chief Diversity Officer Search Committee Member (2021-2022)
- Graduate Program Review Committee Member (2019-2020)
- GPSA Sponsorship Committee Vice Chair (2022-2023)
- GPSA Election Committee Member (2021)
- GPSA Constitution & Bylaws Committee Member (2021)
- GPSA Rules & Ethics Committee Member (2021-2022)
- GPSA Awards Committee Member (2017, 2019-2020)
- Commencement Committee Volunteer (2022)

UNLV SIAM Student Chapter *2022-2023*

- Founding Vice-President, (2022-2023)

Professional

Guest Editor

- Electronic Research Archive (ERA), Special Issue: Model Reduction, Data Assimilation, and Machine Learning for Complex System: with Dr. Changhong Mou

Reviewer

- Finite Elements in Analysis & Design (FINEL)
- Computational and Applied Mathematics (COAM)
- Zeitschrift für angewandte Mathematik und Physik (ZAMP)
- Mathematics and Computers in Simulation (MATCOM)
- ESAIM: Mathematical Modelling and Numerical Analysis (ESAIM: M2AN)
- IMA Journal of Numerical Analysis (IMAJNA)
- Electronic Research Archive (ERA)
- International Journal of Numerical Analysis and Modeling (IJNAM)
- Mathematical Modelling & Analysis (MMA)

Conference Organizing

- MATH for All - Blacksburg, VA: Organizing Committee

Conference Session Organizer

- Mini-Symposium: Predictive Modeling of PDEs using Data, SIAM Conference on Computational Science and Engineering (CSE27), David L. Lawrence Convention Center, Pittsburgh, PA
- Mini-Symposium: Recent advancements in data driven methods for PDEs, SIAM Conference on Computational Science and Engineering (CSE27), David L. Lawrence Convention Center, Pittsburgh, PA
- Mini-Symposium MS09: Reduced-Order Modeling for Large-Scale and Challenging Applications, SIAM Texas-Louisiana Sectional Meeting (SIAM TXLA 2026), Southern Methodist University, Dallas, TX
- Special Session: Recent Advancements in Numerical Methods for Fluid Dynamics, Joint Mathematics Meeting (JMM26), Washington, DC
- Special Session: Hispanic Voices in Applied Mathematics, Joint Mathematics Meeting (JMM26), Washington, DC
- Mini-Symposium: Reduced Order Models and Machine Learning for Fluid Flows: Modeling, Analysis, and Simulations, SIAM Conference on Computational Science and Engineering (CSE25), Fort Worth Convention Center, TX
- SIAM Minisymposium on Reduced Order Models for Convection-Dominated Flows: Modeling, Analysis, and Simulation, Joint Mathematics Meeting (JMM25), Seattle, WA
- Mini-Symposium: Recent Advances in Numerical Methods for Partial Differential Equations, 9th SIAM Annual Meeting of Central States Section (SIAM-CSS 2024), University of Missouri-Kansas City, Kansas City, MO

Volunteer

- Lathisms Scholarship Reviewer 2025,2026
- MORE: Mathematics - Opportunities in Research and Education 2025 workshop Volunteer
- UVA Postdoctoral Research Symposium Volunteer/Organizer

Professional Development and Certifications

Programs

- Research and Innovation Postdoctoral Scholar program (RIPSP), 2024
- Center for Excellence in Teaching and Learning (CETL): Book Club
  Book: The Hidden Curriculum: First-Generation Students at Legacy Institutions, 2023
  Book: At the intersection: Understanding and Supporting First-Generation Students, 2024
- Grad Rebel Ambassador, 2022-2023
- Culturally Relevant & Responsive Teaching (CRRT) Fellow, 2022-2023
- Research and Mentorship Program (RAMP) Mentor, 2022-2023
- Future Faculty Diversity Program (FFDP) Fellow, Virginia Tech, 2022

Licenses & Certifications

- CITI Program: Basic Responsible Conduct of Research Course, Dec. 2023
- CITI Program: Financial Conflict of Interest Training Requirement for Sponsored Research, Dec. 2023
- Wolfram U: Level 1 Certification in Mathematica, Oct 2023
- Linkedin: Diversity Across Generations: Supporting Workplace Inclusion, Jun 2023
- Graduate Mentorship Certification, 2022-2023 Cohort
- Graduate Teaching Certification, 2021-2022 Cohort
- Linkedin: Core Strategies for Teaching in Higher Ed, Sep 2020
- Linkedin: Learning to Teach Online, Aug 2020

Workshop Led

- Travel Sponsorship Workshop for UNLV SIAM student chapter: Apr. 17, 2023
- GPSA Sponsorship Program Workshop: Sep. 21, 2022, Oct. 17, 2022

Workshop Attended

- Funding Your Research as a Newly Independent Researcher: How To Get Started: Jan. 14, 2026
- Beyond Networking: Land a Meaningful Job by Harnessing the Hidden Power of Connection: Mar. 24, 2025
- 2025 National Postdoctoral Association Annual Conference: Mar. 20-22, 2025
  - PDA Leadership Bootcamp
  - Mentoring Up: Effective Strategies for Approaching Difficult Conversations with your Faculty Mentor
  - RISE UPP: The Changing Landscape of Postdoc to Tenure Track Conversion
  - Two Unique Ways of Building a Community of Postdocs on Campus: Scavenger Hunts and Shadow a Fellow Postdoc Program
  - Changing Definitions of the Postdoc: Impacts on Recruitment and Programming
  - A Practical Guide to Negotiation
  - Unlocking Potential: Tailored Career Development for Postdoctoral Success
- Postdoc Symposium 101–Lightning Talks & Poster Presentations, and How to Get Started: Mar. 13, 2025
- Graduate School: Mentorship Workshop Fall 2024: Oct. 24, 2024
- Beyond Networking: Harnessing the Hidden Power of Connection for Career Success: Sep. 12, 2024
- Inclusive VT Summit: Aug. 20, 2024
  - Navigating Legal Challenges: Effective Use of Diversity Statements in Upholding Institutional Values During Faculty Searches
  - Planning for the Future: Civic Engagement and Constructive Dialogue
- Presidential Postdoctoral Fellows and Research & Innovation Scholars DC program: May. 19-21, 2024
  - Strategic Research Alliances at VT: How Virginia Tech engages with funders and the government sector to advance research/innovation
  - Leveraging Individual Development Plans (IDPs) for Career Planning with American Chemical Society (ACS)
  - Postdoctoral Fellowships & the K99 Program from NIGMS
  - Navigiating early career funding opportunities and the review process at NSF
  - Opportunities in Europe with EURAXESS
  - Strategies for Engaging with Department of Defense Agencies
- Identifying and exploiting your research niche using intelligence tools: Mar.4, 2024
- Innovative Thinking to Launch Your Career Workshop: Mar. 1 2024
- Early Career Group: Building Internal Seed Support Into External Funding: Feb. 28,2024
- Strategic Planning: Start-Up Packages: Feb. 1,2024
- Introduction to Generative AI: Jan. 23, 2024
- Advancing Diversity Gathering: : Jan. 10, 2024

    - Sustaining Ourselves, Opening Our Advocacy: The Community Resiliency Model's Shareable Language and Tools on VT Campus
    - Uncovering Our Beliefs and Intentions for Inclusive Teaching
    - The Significance of the AANAPISI Designation at Virginia Tech
- Designing Your Postdoc with Stanford University: Aug. 28, 2023
- Incorporating Social Justice Education in STEM: May. 12,2023
- The Role of Relationships in Resilience: Apr. 28, 2023
- Evolving your Mentor-Mentee Relationship: Apr. 26, 2023
- The Elevator Pitch: Presenting your research in conversation: Apr. 26, 2023
- GC: Articulating and Actualizing Stated Commitments to Diversity, Race Equity, Inclusion, and Racial Justice : Apr. 6, 2023
- GC: Mentoring Resource Panel : Mar. 23, 2023
- Research Writing : Mar. 2, 2023
- Affirming Latina/o/x Students in STEM: Feb. 24, 2023
- Engaging a Framework of Critical Reflection for Transformative Learning: Dec. 9, 2022
- GC: Preparing Future Faculty: Dec. 5, 2022
- Culturally Aware Mentoring Workshop: Nov. 30, 2022
- GC: Academic Job Offer and Salary Negotiation: Oct. 26, 2022
- Structural Inequities in STEM: How Marginalized Students Experience STEM Environments and What We Can Do About it: Oct. 7, 2022
- Future Faculty Diversity Program: Oct. 3, 2022
    - How to Manage Your Time-Panel
    - How to Get Early Career Funding
    - How to Prepare for the Job Market in Academia: How to Interview, Negotiate Salary, and Start-Up Package, Faculty Roundtable
- Building Mentorship Skills for Academic Careers: Sep 30, 2022
- Managing Conflicts or Concerns in Mentor-Mentee Relationships: Sep. 29, 2022
- General Effective Communication & Conflict Resolution: Aug. 22, 2022
- Managing Conflict through Effective Communication : Aug. 18, 2022
- Content & Materials: Chunking Content in Your Online Course: Apr. 11, 2022
- Teaching and Mentoring Diverse Learners: Nov. 10, 2021
- Time-Management: Oct. 4, 2021
- Online Teaching Essentials - GA: Oct. 1, 2020

Affiliations

American Mathematical Society (AMS)
American Statistical Association (ASA)
Pi Mu Epsilon (Math Honor Society)
Phi Kappa Phi (Honor Society)
Society for Industrial and Applied Mathematics (SIAM)
International Linear Algebra Society (ILAS)
National Postdoctoral Association (NPA)

Skills

Languages	FreeFem++, Mathematica, Python, Matlab, C++
Human Languages	English (Native), Spanish (Native), Mandarin (Beginner)
Typesetting	LaTeX, Microsoft Word, Google Docs

Last updated: August 20, 2026