Yangyang Wang

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RESEARCH INTERESTS

Dynamical systems, Coupled Oscillators, Network Theory and Dynamics, Mathematical Neuroscience (multiple timescale neural dynamics, neuro-motor control, opioid induced respiratory depression, neuromodulation), Geometric Singular Perturbation Theory, Bifurcation Theory

ACADEMIC APPOINTMENTS

Department of Mathematics, Brandeis University
Assistant Professor **July 2023 -**

Department of Mathematics, University of Iowa
Assistant Professor **Aug 2019 - June 2023**

Department of Mathematics, University of Iowa
Visiting Assistant Professor **Aug 2018 - Aug 2019**

Mathematical Biosciences Institute, The Ohio State University
Postdoctoral Fellow **Aug 2016 - Aug 2019**

OTHER APPOINTMENTS

Faculty, Neuroscience Program, Brandeis University **2023 -**

Faculty, Volen national Center for Complex Systems, Brandeis University
- **2023 -**

Faculty of The Interdisciplinary Graduate Program in Neuroscience, University of Iowa
- **Spring 2020 - June 2023**

Member of The Iowa Neuroscience Institute, University of Iowa
- **Spring 2020 - June 2023**

Faculty of The Program in Applied Mathematical and Computational Sciences, University of Iowa
- **Spring 2020 – June 2023**

EDUCATION

University of Pittsburgh, Pittsburgh, PA

- **Ph.D.**, Mathematics **2016**
- **Thesis:** Analysis of complex bursting patterns in multiple time scale respiratory neuron models
- **Advisor:** Jonathan Rubin, Professor of Mathematics, University of Pittsburgh

Beijing Normal University, Beijing, China

- **B.S.**, Mathematics **2010**

Grants

Funded:

- CRCNS: Evidence-Based Modeling of Neuromodulatory Action on Network Properties, **NIH R01 DA057767**, National Institute on Drug Abuse, NIH. Award amount: ($1,773,230). Funding period: 2022-2027. Role: Single PI.
- Workshop on Dynamical Systems in the Life Sciences. **NSF Conference Grant DMS-2310816**, NSF, Award amount: ($39,246). Funding period: 2023-2024. Role: Co-I

Pending

- *(Submitted Nov 2025)* Symmetry-breaking control of network dynamics, **NSF**, Award amount: ($1,357,853). Funding period: 2026-2029. Role: Co-PI.
- *(Submitted Nov 2025)* Collaborative Research: CRCNS Research Proposal: Computational Modeling of Homeostatic Regulation in Opioid Use Disorder, **NSF**, Award amount: ($722,615). Funding period: 2026-2031. Role: Lead PI
- *(Submitted Oct 2025)* Neuroprotection of respiratory circuits during systemic inflammation, **NIH**, Award amount: ($343,435). Funding period: 2026-2031. Role: PI
- *(Submitted on July 2025)* CAREER: Modeling the emergence and recovery of rhythmic network activity following perturbations, **NSF**, Award amount: ($722,962). Funding period: 2026-2031. Role: Single PI.

Withdrawn

- *(Submitted Jan 2022)* Roles of multiple timescales and network structure on neuronal and other dynamics, Simons Foundation. Award amount: ($42,000.00). Funding period: 2022-2027. Role: Single PI

Not Funded

- *(Submitted March 2025)* NITMB External Grant: Robustness of symmetric patterns of activity in coupled oscillators, Applications to spatial ecology in patchy or fragmented environments, NSF and Simons Foundation, Award amount: ($149,315.39). Funding period: 2025-2027, Role: Co-PI
- *(Submitted on Aug 2024)* RTG: Theoretical Foundations of Biological Modeling and Statistical Machine Learning, National Science Foundation (NSF), Award amount: ($2,555,581). Funding period: 2025-2027, Role: Co-PI
- *(Submitted Aug 2023)* RTG: Theoretical Foundations of Biological Modeling and Statistical Machine Learning, National Science Foundation (NSF), Award amount: ($1,918,490). Funding period: 2024-2029, Role: Co-PI
- *(Submitted Sep 2022)* Johnson & Johnson WiSTEM2D Scholars Award, Computational modeling of network dynamics following perturbations. Award amount: ($150,000). Funding period: 2023-2026. Role: Single PI
- *(Submitted Jan 2021)* Mathematical analysis of multiple timescale dynamics in neuronal systems and network dynamics, Simons Foundation. Award amount: ($42,000.00). Funding period: 2021-2026. Role: Single PI
- *(Submitted July 2020)* Mechanisms of Inflammation-Induced Hypoventilation, National Institutes of Health (NIH). Award amount: ($259,319.00). Funding period: 2021-2026. Role: Co-Investigator
- *(Submitted Jan 2020)* Mathematical analysis of complex activity patterns in neuronal systems and network dynamics, Simons Foundation. Award amount: ($42,000.00). Funding period: 2020-2025. Role: Single Principal Investigator (Single PI)

Funded Research Collaboration

- NITMB Focused Research Group Award, Collaborative project "Respiratory rhythm generation and control" (with P.J. Thomas, C. Diekman, C.G. Wilson, J.E. Rubin), 2026
- AIM SQuaRE Award, American Institute of Mathematics, Collaborative project "Disease dynamics of African swine fever" (with G. Hamerlinck, H. Gaff, S. Erwin, A. Veprauskas, C. Davis, A. Bastos, W. Zhang), 2020-2023

PUBLICATIONS (17 total)

S. Venkatakrishnan, A.K. Tryba, A.J. Garcia III and **Y. Wang**, Dual mechanisms for heterogeneous responses of inspiratory neurons to noradrenergic modulation, SIAM Journal on Life Sciences, 1(1), 58-98, 2026

H. Mofidi and **Y. Wang**, Studying synchronization of neural oscillators through NMDA–AMPA receptor interactions, Chaos, Solitons & Fractals, 202, 117479, 2026

P. Gandhi and **Y. Wang**, A conceptual framework for modeling a latching mechanism for cell cycle regulation, Mathematical Biosciences, 109396, 2025

Z. Yu, **Y. Wang**, P.J. Thomas and H.J. Chiel, Tradeoffs in the Energetic Value of Neuromodulation in a Closed-Loop Neuromechanical System, Journal of Theoretical Biology, 604, 112050, 2025

Ngoc Anh Phan and **Y. Wang**, *Mixed-mode oscillations in a three-timescale coupled Morris–Lecar system*, Chaos: An Interdisciplinary Journal of Nonlinear Science, 34(5), 053119, 2024

Y. Wang, J.P. Gill, H.J. Chiel and P.J. Thomas, *Variational and phase response analysis for limit cycles with hard boundaries, with applications to neuromechanical control problems*, Biological Cybernetics, 116, 687–710, 2022.

Y. Wang, J.P. Gill, H.J. Chiel and P.J. Thomas, *Shape versus timing: linear responses of a limit cycle with hard boundaries under instantaneous and static perturbation*, SIAM Journal on Applied Dynamical Systems, 20(2), 701–744, 2021.

B. Pittman-Polletta, **Y. Wang**, D. Stanley, C. Schroeder, M. Whittington, N. Kopell, *Differential contributions of synaptic and intrinsic inhibitory currents to parsing via flexible phase-locking in neural oscillators*, PLoS Computational Biology, 17(4), e1008783, 2021.

Y. Wang, Z. Huang*, F. Antoneli and M. Golubitsky, *The Structure of Infinitesimal Homeostasis in Input-Output Networks*, Journal of Mathematical Biology, 82(7), 1–43, 2021.

Y. Wang and J. Rubin, *Complex bursting dynamics in an embryonic respiratory neuron model*, Chaos: An Interdisciplinary Journal of Nonlinear Science, 30(4), 043127, 2020.

P. Gandhi, M. Golubitsky, C. Postlethwaite, I. Stewart and **Y. Wang**, *Bifurcations on fully inhomogeneous networks*, SIAM Journal on Applied Dynamical Systems, 19(1), 366-411 (46 pages), 2020.

M. Golubitsky and **Y. Wang**, *Infinitesimal homeostasis in three-node input–output networks*, Journal of Mathematical Biology, 80(4), 1163–1185, 2020.

C.M. Czeisler, T.M. Silva, S.R. Fair, J. Liu, S. Tupal, B. Kaya, A. Cowgill, S. Mahajan, P.E. Silva, **Y. Wang**, ... and J.J. Otero, *The role of PHOX2B-derived astrocytes in chemosensory control of breathing and sleep homeostasis*, The Journal of physiology, 597(8), 2225–2251, 2019.

Y. Wang and J. Rubin, *Timescales and mechanisms of sigh-like bursting and spiking in models of rhythmic respiratory neurons*, Journal of Mathematical Neuroscience, 7(1), 3, 2017.

Y. Wang and J. Rubin, *Multiple time scale mixed bursting dynamics in a respiratory neuron model*, Journal of Computational Neuroscience, 41(3), 245-268, 2016.

P. Nan, **Y. Wang**, V. Kirk, and J. Rubin, *Understanding and distinguishing three time scale oscillations*, SIAM Journal on Applied Dynamical Systems, 14(3), 1518-1557, 2015.

L. Liu, A. Vainchtein and **Y. Wang**, *Kinetics of a twinning step*, Mathematics and Mechanics of Solids, 19(7), 832–851, 2014.

Book Chapters and Conference Proceedings (3 total)

M.N. Fitzpatrick, **Y. Wang**, P.J. Thomas, R.D. Quinn, and N.S. Szczecinski, *Robotics Application of a Method for Analytically Computing Infinitesimal Phase Response Curves*, In Conference on Biomimetic and Biohybrid Systems, 104–115, Springer, Cham, 2020.

M. Golubitsky, I. Stewart, F. Antoneli, Z. Huang* and **Y. Wang**, *Input-Output Networks, Singularity Theory, and Homeostasis*, In Proceedings of the Workshop on Dynamics, Optimization and Computation held in honor of the 60th birthday of Michael Dellnitz, 31–65, Springer, Cham, 2020.

S. Clifton, C. Davis, S. Erwin, G. Hamerlinck, A. Veprauskas, **Y. Wang**, W. Zhang and H. Gaff, *Modeling the argasid tick (ornithodoros moubata) life cycle*, ComplexBioSysMath, Springer International Publishing, 63–87, 2018.

Preprints and Submitted manuscripts (4 total)

X. Lin*, F. Antoneli and **Y. Wang**, Automated Classification of Homeostasis Structure in Input-Output Networks, `https://arxiv.org/abs/2603.08882`

C. Wei, **Y. Wang** and X. Zhu, Robust Parameter and State Estimation in Multiscale Neuronal Systems Using Physics-Informed Neural Networks, `https://arxiv.org/abs/2603.08742`

A.K. Tryba, JC Viemari, **Y. Wang** and A.J. Garcia III, Noradrenergic neuromodulation produces a NMDAR-dependent network state of respiratory rhythmogenesis in the preBötzinger Complex, `https://www.biorxiv.org/content/10.64898/2026.02.11.705209v1`

Y. Wang and B.R. Pittman-Polletta, Dynamical mechanisms of flexible phase-locking in cortical theta oscillators, Submitted

INVITED TALKS (51 total)

Annual Society for Mathematical Biology Meeting, Graz, Austria (2 invited MS talks) - July 2026
SIAM Conference on the Life Sciences, Cleveland, Ohio July 2026
International Conference on Mathematical Neuroscience, McGill University, Montreal, Canada June 2026
Brain Behavior and Cognition Seminar Series, Boston University, Boston, MA - April 2026
Joint Mathematics Meetings, Washington, DC January 2026
Dynamical Systems Seminar, Boston University, Boston, MA October 2025
Coupled 80 Workshop, Porto, Portugal (**Plenary Talk**) October 2025
SMB Annual Meeting, Edmonton, Canada July 2025
Workshop on Mechanisms for Oscillatory Neural Synchrony, Annual Computational Neuroscience Meeting (CNS), Florence, Italy July 2025
SIAM Conference on Applications of Dynamical Systems, Denver, Colorado - May 2025
Mathematical and Computational Biology Seminar Series, UMass Amherst, Amherst, MA March 2025
Applied Mathematics Seminar, UMass Amherst, Amherst, MA November 2024
Mathematics Colloquium, Florida State University, Florida November 2024
Centre for Mathematical Medicine and Biology Seminar, University of Nottingham, UK November 2024
Mathematical Biology and Deep Learning Seminar, Beijing Institute of Mathematical

Sciences and Applications (BIMSA), Beijing, China October 2024
Mathematical Biosciences Workshop, PSU, PA August 2024
SMB Annual Meeting, Seoul, South Korea July 2024
ICERM Workshop: Mathematical Challenges in Neuronal Network Dynamics, The Institute for Computational and Experimental Research in Mathematics, Brown University, Providence, RI, US September 2023
Colloquium at Institute for Mathematical Sciences, Renmin University of China, Beijing, China June 2023
SIAM Conference on Applications of Dynamical Systems, Portland, Oregon, US - May 2023
Mathematical Biology Seminar, Iowa State University, IA March 24, 2023
Colloquium at Department of Mathematics, Toronto Metropolitan University, Toronto, Canada November 17, 2022
2022 Iowa PDE Conference (IMA PI Conference), UIowa, IA October 22, 2022
The Interdisciplinary Center for Quantitative Modeling in Biology (ICQMB) Seminar, UC Riverside, CA October 11, 2022
Colloquium at Department of Mathematical Sciences, Worcester Polytechnic Institute, Worcester, MA September 16, 2022
Applied Math Seminar, Xidian University, Shanxi, China September 6, 2022
SIAM Conference on the Life Sciences, Pittsburgh, PA, US July 2022
Colloquium, New Mexico Institute of Mining and Technology, Socorro, New Mexico, US April 2022
International Confernece on Mathematical Neuroscience June 2021
SMB Annual Meeting June 2021
Math-Bio Seminar, Virginia Commonwealth University, Richmond VA April 2021
2020 *Virtual* Workshop on Motor Control, US Oct 2020
Math-Bio Seminar, Virginia Tech, Blacksburg VA Sep 2020
SIAM *Virtual* Conference on the Life Sciences, Garden Grove, CA June 2020
Colloquium, College of Science, NCUT, Beijing, China Dec 2019
Colloquium at Institute for Mathematical Sciences, Renmin University of China, Beijing, China Dec 2019
Society of Mathematical Biology Annual Meeting, Montreal, Canada July 2019
SIAM Conference on Applications of Dynamical Systems, Snowbird UT May 2019
Applied Mathematics Seminar, CWRU, Cleveland, OH April 2019
7th Midwest Women in Math Symposium, Iowa City, IA April 2019
MAA MathFest, Denver CO August 2018
AMS Special Session on Mathematical Modeling of Neuronal Networks, Columbus OH - March 2018
Emphasis Workshop: Sensori-Motor Control of Animals and Robots, Columbus, OH - November 2017
SIAM Annual Meeting, Pittsburgh PA July 2017
SIAM Conference on Applications of Dynamical Systems, Snowbird UT May 2017
Science Lecture Series, Ohio Wesleyan University, Delaware OH March 2017
Math Seminar, OWU, Delaware OH March 2017
SIAM Conference on Applications of Dynamical Systems, Snowbird UT May 2015
SIAM Conference on the Life Sciences, Charlotte NC August 2014
Calcium Meeting, University of Auckland, New Zealand April 2013

CONTRIBUTED TALKS (22 total)

Faculty research talk for undergraduates, Department of Mathematics, Brandeis University, MA April 2024
Everytopic Seminar, Department of Mathematics, Brandeis University, MA - Dec 2023
Faculty research talk for first-year physics students, Brandeis University, MA - Oct 2023
Computational Neuroscience Journal Club, Volen Center for Complex Systems, Brandeis University, MA Oct 2023
Applied Mathematical and Computational Sciences Seminar, UIowa, Iowa City, IA

- Feb, 2022
First-Year Graduate Seminars, Department of Mathematics, UIowa, Iowa City, IA
- October, 2021
Introduction to Research Opportunities, Department of Mathematics, UIowa, Iowa City, IA Feb, 2021
First-Year Graduate Seminars, Department of Mathematics, UIowa, IA Oct 2020
Introduction to Research Opportunities, Department of Mathematics, UIowa, IA
- Feb, 2020
Applied Mathematical and Computational Sciences Seminar, UIowa, Iowa City, IA
- Feb, 2020
First-Year Graduate Seminars, Department of Mathematics, UIowa, IA Oct 2019
Mathematical Biology Seminar, UIowa, Iowa City, IA Sep 2019
MBI Professional Development Seminar, OSU, Columbus, OH March 2019
MBI Postdoctoral Seminar, OSU, Columbus, OH Oct 2018
MBI Postdoctoral Seminar, OSU, Columbus, OH Nov 2017
MBI Postdoctoral Seminar, OSU, Columbus, OH March 2017
Math Biology Journal Club, University of Pittsburgh, Pittsburgh PA Oct 2015
Math Biology Seminar, University of Pittsburgh, Pittsburgh PA Feb 2015
Math Biology Journal Club, University of Pittsburgh, Pittsburgh PA March 2014
Math Biology Seminar, University of Pittsburgh, Pittsburgh PA Oct 2013
The Sixth University of Ottawa Summer School in Computational Neuroscience, University of Ottawa, Ottawa, Canada June 2013
WUN workshop on understanding failure of cell signaling, Auckland, New Zealand
- February 2013

POSTERS

Dynamics Days, Northwestern University, Evanston, IL (Poster) Jan 2019
SIAM Conference on the Life Sciences, Charlotte NC (Poster) Aug 2014
3rd Annual Meeting for Computational Neuroscience CNS, Quebec City, Canada (Poster)
- July 2014
Conference Ermentrout b-day: Nonlinear dynamics and stochastic methods: from neuroscience to other biological applications, Pittsburgh, PA (Poster) March 2014

MENTORING

- **Postdoctoral**
  1. Ngoc Anh Phan, Brandeis University 2024 - Present
  2. Nate Sutton, Brandeis University 2025 - Present
  3. Hamidreza Mofidi, University of Iowa (now Assistant Professor at BIMSA, Tsinghua University, China) 2020-2022
- **Ph.D. Students**
  1. Morgan Brooke-deBock, Brandeis University 2024 - Present
     - Ph.D. Thesis (in progress): Robustness and flexibility of rhythmogenesis in neuronal networks under physiological perturbations
     - Expected graduation: August 2029
  2. Sreshta Venkatakrishnan, Brandeis University 2022 - Present
     - Ph.D. Thesis (in progress): Modeling and analysis of neuromodulatory effects on respiratory dynamics
     - Expected graduation: December 2026
  3. Victoria Valdez Prudencio, University of Iowa (Co-advised with Prof. Lihe Wang, UIowa) 2023 - Present
     - Ph.D. Thesis (in progress): Multiscale modeling of synaptic dysfunction in Alzheimer's disease: coupling receptor kinetics with dendritic structure
     - Expected graduation: August 2028

4. Ngoc Anh Phan, University of Iowa 2020 - 2024
    - Ph.D. Thesis: Robustness and analysis of mixed mode (bursting) oscillations in three-timescale neuronal systems
    - **Bor-Luh Lin Award for Outstanding Thesis**
    - Ph.D. completed: May 2024; Current Position: Research Associate, Brandeis University

- **Master Students**

1. Keyun Zhu, Neuroscience 2024 - Present
    - Master thesis (in progress): Local timing response curve analysis of neural oscillators
    - Expected graduation: August 2026

- **Undergraduate Students**

1. Xinni Lin, Mathematics 2023 Fall - Present
    - Topic: Dopamine Homeostasis: Mechanisms and Patterns
    - Awarded Gordon Science Research Fellowship of $6000 in Summer 2025
2. Zarina Lin, Applied Mathematics and Economics 2025 Summer-26 Summer
    - Homeostatic regulation of intrinsic excitability in recovery and tolerance under repeated opioid use
3. Shanyun Zhang, Applied Mathematics 2025 Fall - 2026 Spring
    - Topic: Chaotic dynamics in a minimal cell-cycle model
4. Linfeng Zhu, Applied Mathematics 2025 Summer-2025 Fall
    - Topic: Symmetry breaking in a four-ring network with heterogeneity
5. Kassandra Phung, Neuroscience 2024 Spring - 2024 Fall
    - Topic: Topological data analysis of respiratory time-series data under control and opioid conditions
6. Aranjinsuren Enkhbat, Computer Science and Applied Mathematics - 2024 Summer
    - Topic: Data-driven model discovery for singularly perturbed biological systems
7. Xuanlei Wang, Mathematics 2024 Spring
    - Topic: Modeling and analysis of honey bee colony dynamics
8. Sumayya Wafapoor, Neuroscience 2024 Spring
    - Topic: Spike sorting and analysis of multi-electrode array recordings
9. Joshua Cohen, Applied Mathematics 2024 Spring
    - Topic: Data-driven model discovery for singularly perturbed biological systems

TEACHING

Instructor for:

- **Brandeis University:**
    - MATH 238A: Topics in Applied Mathematics Fall 2025
    - MATH 37A: Differential Equations Spring 2025, Spring 2026
    - MATH 123A: Principles of Mathematical Modeling Sp 2024, Fall 2025
    - MATH 40A: Introduction to Applied Mathematics Fall 2023, Fall 2024
- **The University of Iowa:**
    - Intro to Ordinary Differential Equations Fall 2022
    - Nonlinear Dynamics with Numerical Methods (Dynamical Systems) - Fall 2021, Fall 2022

- Mathematical Biology I — Fall 2020, Fall 2021, Fall 2022
- Engineer Math III: Matrix Algebra — Sp 2020, Fall 2021, Sp 2022
- Engineer Math IV: Differential Equations — Fall 2019, Fall 2020

- **The Ohio State University and University of Pittsburgh:**
  - Ordinary and Partial Differential Equations, OSU — Spring 2019
  - Linear Algebra and Differential Equations for Engineers, OSU — Fall 2017
  - Calculus II, University of Pittsburgh — Summer 2013

Teaching Assistant for:

- Calculus III, University of Pittsburgh — Fall 2015
- Business Calculus, University of Pittsburgh — Spring 2015, Fall 2013
- College in High School Calculus, University of Pittsburgh — Spring 2012
- Calculus I, University of Pittsburgh — Fall 2011

SERVICE (Profession)

- **Conference Co-Chair**
  - 2027 SIAM Conference on Applications of Dynamical Systems — 2026-2027
- **Program Director**
  - SIAM Activity Group on Dynamical Systems — 2026-2027
- **Organizing Committee Member**
  - 2026 SIAM Conference on the Life Sciences — 2025-2026
- **Advisory Member**
  - SMB Mathematical Neuroscience Subgroup — 2025-2027
- **Chair**
  - Society for Mathematical Biology (SMB), Mathematical Neuroscience Subgroup — 2023-2025
- **Special-Issue Editor**
  - Special issue "Dynamical Systems in the Life Sciences", Mathematical Biosciences Journal — 2023/2024
- **Conference & Workshop Co-Organizer:**
  - SMB MathNeuro Mini-Conference, Virtual — June 2025
  - Mathematical Biosciences Workshop, Penn State University, University Park, PA — August 2024
  - Satellite workshop of the SMB Annual Meeting: Dynamical Systems in Life Sciences, The Ohio State University, Columbus, Ohio — July 2023
- **Conference Minisymposium Co-organizer:**
  - Minisymposium on "Homeostasis and Breathing" at SIAM Conference on the Life Sciences (SIAM LS), Cleveland, Ohio — July 2026
  - Minisymposium on "Multiple Timescale Dynamics in Neuronal Systems" at International Conference on Mathematical Neuroscience (ICMNS), McGill University, Montreal, Canada — June 2026
  - Special Session on "Dynamical Modeling in Neuroscience" at the Coupled 80 Workshop, Porto, Portugal — October 2025
  - Minisymposium "Neurodynamics" at SMB Annual Meeting, Edmonton, Canada

July 2025

- Minisymposium on "'Mathematical Modeling of Complex Dynamics and Modulation of Neural Networks" at SIAM Conference on Applications of Dynamical Systems, Denver, CO May 2025
- Minisymposium on "Neuronal network dynamics unveiled with analysis" at the SMB Annual Meeting July 2024
- Minisymposium on "Uncovering activity patterns, oscillations and other key dynamics of neuronal (and other) networks" at the SMB Annual Meeting

July 2023

- Minisymposium on "Biological Rhythms and Motor Control" at the SMB Annual Meeting June 2021
- Minisymposium on "Homeostasis in Networks" at SIAM Conference on Applications of Dynamical Systems

May 2021

- Minisymposium on "Multiple Timescales in Neuronal and Other Systems" at SIAM Conference on the Life Sciences June 2020
- Minisymposium on "Influence of Network Structure and Symmetry on Dynamics" at SIAM Conference on Applications of Dynamical Systems

May 2019

- **Grant Review**, NSF/NIH CRCNS panelist (2 panels) and ad hoc reviewer
  - 2023/2024/2025
- **Poster Session Judge**
  - Red Sock Award Poster Session, SIAM Dynamical Systems Poster Session, Denver, Colorado (May 2025)
  - Poster Award Poster Session, Society for Mathematical Biology Annual Meeting, Edmonton, Canada (July 2025)
  - Poster Award Poster Session, Society for Mathematical Biology Annual Meeting, Seoul, Republic of Korea (July 2024)
- **Journals reviewed**:
  PLOS Computational Biology, SIAM Journal on Applied Dynamical Systems, SIAM Journal on Applied Mathematics, Journal of Computational Neuroscience, Frontiers, Chaos, Mathematical Biosciences and Engineering, Applied Mathematical Modeling, Nonlinearity, Biological Cybernetics, Neural Computation, Nonlinear Dynamics, Mathematical Biosciences Journal
- **Outreach: High School Science Fair Judge**
  - AB Science Fair Poster Session, Acton-Boxborough Regional High School, MA (2025; 2026)

SERVICE (University and Department)

Brandeis University

- Committee Member, Undergraduate Committee, Department of Mathematics
  - Fall 2025-
- Committee Member, School of Science, Engineering and Technology (SET) Curriculum Committee
  - Fall 2025-
- Chair, Postdoc Search Committee, Department of Mathematics
  - Spring 2025
- Interim Advisor, Math Department's Study Abroad Liaison and Transfer Credit
  - Spring 2025

- Committee Member, Board of Pre-Health Advisors, Brandeis University - 2023-2025
- Co-organizer of Mathematical Biology Seminar, Department of Mathematics - Fall 2023-
- Faculty advisor, COMAP Mathematical/Interdisciplinary Contest in Modeling; advised a Brandeis team receiving the Finalist Award and the MAA Award 2024-

The University of Iowa

- Co-developed two new courses in Mathematical Biology at the graduate level (MATH:5750 and MATH:5760) and a new undergraduate course "MATH:4750 Introduction to Mathematical Biology", Department of Mathematics - 2019 - 2020
- Co-Chair of Colloquium, Department of Mathematics Fall 2019, Spring 2019 and Fall 2020
- Hiring Committee Member, Department of Mathematics 2021-2023
- Co-Chair of Association of American Universities (AAU) Initiative Colloquium, Department of Mathematics Spring 2021
- Organizer of Mathematical Biology Seminar, Department of Mathematics - Spring 2020, Fall 2021, Spring 2023
- Co-organizer of Mathematical Biology Seminar 2022
- Panelist on Academic and Career for The 15th Annual Sonia Kovalevsky High School Mathematics Day March 2022

The Ohio State University

- Panelist on career discussion for SAMMs program students at OSU 2019
- Co-organizer of MBI Postdoc Seminar, Mathematical Bioscience Institute Sep 2017 - May 2018
- Panelist, tutorials and talks at the MBI Summer REU June, 2017, 2018, 2019
- Judge for Math Modeling Contest for undergraduate students 2018

COMPUTER SKILLS

AUTO (numerical continuation), XPP/XPPAUT, MATLAB, R, C/C++, FORTRAN, PYTHON

SELECTED AWARDS

Old Gold Scholarship from the University of Iowa	2020
Association for Women in Mathematics (AWM)-NSF Mentoring Travel Grant	2018
SIAM Early Career Travel Award	2017
SIAM Student Travel Award	2015
Whittington Fellowship from University of Pittsburgh	2010
National Scholarship, Ministry of Education of China	2009
Second National Prize in China Mathematical Contest of Modeling	2008

PROFESSIONAL ORGANIZATIONS

- Society for Industrial and Applied Mathematics
- Association for Women in Mathematics
- American Mathematical Society
- Society for Mathematical Biology
- Society for Neuroscience