Yuan Gao

Curriculum Vitae

Updated on 9/1/2025
Math 410, Purdue University, West Lafayette, USA
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Position

2021-present **Assistant Professor**, Department of Mathematics, Purdue University, USA

2018-2021 **William W. Elliott Assistant Research Professor**, Department of Mathematics, Duke University, Durham, USA

2017-2018 **Postdoctoral Fellow**, Department of mathematics, The Hong Kong University of Science and Technology, Hong Kong

Education

2012–2017 **Ph.D. in Applied Mathematics**, *Fudan University*, China

2008–2012 **Bachelor in Mathematics**, *Ocean University of China*, China

Research Interests

Analysis Calculus of variation, Gradient flows, Degenerated parabolic equation, Monotone operator, Control theory, Semigroup theory, Viscosity solution, Weak KAM theory.

Applied math Surface science, Contact line dynamics, Bayesian inference, Ginzburg-Landau equation/systems, Manifold learning, Optimal transport on graphs, Large deviation principle, Mean-field control, Rare events, and Irreversible chemical reactions.

Publications

Published Journal articles

[38] **Y. Gao** and D. Qi, Mean Field Games for Controlling Coherent Structures in Nonlinear Fluid Systems, to appear in *SIAM Journal on Uncertainty Quantification*, https://doi.org/10.48550/arXiv.2401.10356

[37] **Y. Gao**, and A. Stephan, Fast-slow chemical reactions: convergence of Hamilton-Jacobi equation and variational representation, *Journal of Differential Equations*, **449** (2025). https://doi.org/10.1016/j.jde.2025.113721

[36] **Y. Gao** and N. K. Yip, Homogenization of Wasserstein gradient flows, *European Journal of Applied Mathematics*, 1-28, (2025). https://doi.org/10.1017/S0956792525100077

[35] **Y. Gao**, J.-G. Liu and Z. Liu, Some properties on the reversibility and the linear response theory of Langevin dynamics, *Acta Applicandae Mathematicae*, **194**(2024): 12. https://doi.org/10.1007/s10440-024-00702-w

[34] **Y. Gao**, and J.M. Scott, Existence and uniqueness of solutions to the Peierls-Nabarro model in anisotropic media, *Nonlinearity*, **37**(2024): 025010. https://doi.org/10.1088/1361-6544/ad1763

[33] **Y. Gao**, W. Li, and J.-G. Liu, Master equations for finite state mean field games with nonlinear activations, *Discrete and Continuous Dynamical Systems Series B*, **29**(2024). https://doi.org/10.3934/dcdsb.2023204

[32] C. Liu, **Y. Gao** and X. Zhang, Structure preserving schemes for Fokker-Planck equations of irreversible processes, *Journal of Scientific Computing*, **98**(2024): 6457-6495. https://doi.org/10.1007/s10915-023-02378-0

[31] **Y. Gao** and J.-G. Liu, A selection principle for weak KAM solutions via Freidlin-Wentzell large deviation principle of invariant measures, *SIAM Journal on Mathematical Analysis*, **55**(2023): 6457-6495. https://doi.org/10.1137/22M1519717

[30] **Y. Gao** and Y. Zhou, Hamilton Dynamics in Chemical Reactions: the Maupertuis Principle, Transition Paths and Energy Landscape, *Multiscale Modeling and Simulation*, **2**(2023): 245-288. https://doi.org/10.4208/cmaa.2023-0003

[29] **Y. Gao** and J.-G. Liu, Large deviation principle and thermodynamic limit of chemical master equation via nonlinear semigroup, *Multiscale Modeling and Simulation*, **21**(2023): 1534-1569. https://doi.org/10.1137/22M1505633

[28] **Y. Gao** and J.-G. Liu, Random walk approximation for irreversible drift-diffusion process on manifold: ergodicity, unconditional stability and convergence, *Communications in Computational Physics*, **34**(2023): 132-172. https://doi.org/10.4208/cicp.OA-2023-0021

[27] **Y. Gao**, and J.-M. Roquejoffre, Asymptotic stability for diffusion with dynamic boundary reaction from Ginzburg-Landau energy, *SIAM J. Math. Anal.*, **55**(2023): 1246-1263. https://doi.org/10.1137/22M1469791

[26] **Y. Gao**, J.-G. Liu and N. Wu, Data-driven Efficient Solvers for Langevin Dynamics on Manifold in High Dimensions, *Appl. Comput . Harmon. Anal.*, **62**(2023):261-309. https://doi.org/10.1016/j.acha.2022.09.003

[25] **Y. Gao**, T. Li, X. Li and J.-G. Liu, Transition path theory for Langevin dynamics on manifold: optimal control and data-driven solver, *Multiscale Modeling and Simulation*, **21**(2023): 1-33. https://doi.org/10.1137/21M1437883

[24] **Y. Gao**, X. Y. Lu and C. Wang, Regularity and monotonicity for solutions to a continuum model of epitaxial growth with nonlocal elastic effects, *Adv. Calc. Var*, **16**(2023): 183-199. 10.1515/acv-2020-0114

[23] **Y. Gao**, J.-G. Liu, Revisit of macroscopic dynamics for non-equilibrium chemical reactions from a Hamiltonian viewpoint, *Journal of Statistical Physics*, **189**(22), (2022). https://doi.org/10.1007/s10955-022-02985-5

[22] **Y. Gao** and J.-G. Liu, Projection method for droplet dynamics on groove-textured surface with merging and splitting, *SIAM J. Sci. Comput.*, **44**: B310–B338, (2022). https://epubs.siam.org/doi/10.1137/20M1338563

[21] **Y. Gao** and J.-G. Liu, Surfactant-dependent contact line dynamics and droplet adhesion on textured substrates: derivations and computations, *Physica D*, **428**: 133067, (2021). https://doi.org/10.1016/j.physd.2021.133067

[20] **Y. Gao**, A.E. Katsevich, J.-G. Liu, J. Lu, and J.L. Marzuola, Analysis of a fourth order exponential PDE arising from a crystal surface jump process with Metropolis-type transition rates, *Pure and Applied Analysis*, **3**, 595-612, (2021). https://doi.org/10.2140/paa.2021.3.595

[19] **Y. Gao**, J.-G. Liu and Zibu Liu, Existence and rigidity of the Peierls-Nabarro model for dislocations in high dimensions, *Nonlinearity*, **34**, 7778–7828 (2021). https://doi.org/10.1088/1361-6544/ac24e3

[18] **Y. Gao**, G. Jin and J.-G. Liu, Inbetweening auto-animation via Fokker-Planck dynamics and thresholding, *Inverse Problems and Imaging, **15**, 843-864, (2021).* doi:10.3934/ipi.2021016

[17] **Y. Gao** and J.-G. Liu, Gradient flow formulation and second order numerical method for motion by mean curvature and contact line dynamics on rough surface, *Interfaces Free Bound*, **23**, 103-158, (2021). https://doi.org/10.4171/ifb/451

[16] H. Dong and **Y. Gao**, Existence and uniqueness of bounded stable solutions to Peierls-Nabarro model for curved dislocation, *Calculus Var. Partial Differ. Equ.*, **60**, 62, (2021). doi:10.1007/s00526-021-01939-1

[15] **Y. Gao**, J.-G. Liu, T. Lao and Y. Xiang, Mathematical validation of the Peierls–Nabarro model for edge dislocations, *Discrete Contin. Dyn. Syst. Ser. B.*, **26**, 3177-3207, (2021). doi:10.3934/dcdsb.2020224

[14] Yu Gao, **Yuan Gao** and J.-G. Liu, Large time behavior, bi-Hamiltonian structure and kinetic formulation for complex Burgers equation, *Quart. Appl. Math.* **79**, 55-102 (2021). doi:10.1090/qam/1573

[13] **Y. Gao**, J.-G. Liu, J. Lu, J.L. Marzuola, Analysis of a continuum theory for broken bond crystal surface models with evaporation and deposition effects, *Nonlinearity*, **33**, 3816-3845 (2020). doi:10.1088/1361-6544/ab853d

[12] **Y. Gao**, J.-G. Liu, A note for parametric Bayesian inference via several gradient flows schemes, *Annals. of Math. Science and Appl.*, **5**, 261-282, (2020). doi:10.4310/AMSA.2020.v5.n2.a3

[11] **Y. Gao**, J.-G. Liu, Long time behavior of dynamic solution to Peierls–Nabarro dislocation model, *Methods and Applications of Analysis*, **27**, 161-198 (2020). doi:10.4310/MAA.2020.v27.n2.a4

[10] **Y. Gao**, J.-G. Liu and X. Y. Lu, Gradient flow approach to an exponential thin film equation: global existence and latent singularity, *ESAIM: Control Optim. Calc. Var*, **25**, 49 (2019). doi:10.1051/cocv/2018037

[9] **Y. Gao**, Global strong solution with BV derivatives to singular Solid-on-Solid model with exponential nonlinearity, *J. Differ. Equ.*, **267**, 4429-4447 (2019). doi:10.1016/j.jde.2019.05.011

[8] **Y. Gao**, J. Liang and T.-J. Xiao, A new method to obtain uniform decay rates for damped wave equations with nonlinear acoustic boundary conditions, *SIAM J. Control Optim.* **56**, 1303-1320 (2018). doi:10.1137/16M107863X

[7] **Y. Gao**, H. Ji, J.-G. Liu and T. P. Witelski, A vicinal surface model for epitaxial growth with logarithmic free energy, *Discrete Contin. Dyn. Syst. Ser. B.* **23**, 4433-4453 (2018). doi:10.3934/dcdsb.2018170

[6] **Y. Gao**, J.-G. Liu, X. Y. Lu and X. Xu, Maximal monotone operator theory and its applications to thin film equation in epitaxial growth on vicinal surface, *Calculus Var. Partial Differ. Equ.*, **57**, 55 (2018). doi:10.1007/s00526-018-1326-x

[5] G. Jin, H. Pan, Q. Zhang, X. Lv, W. Zhao and **Y. Gao**, Determination of harmonic parameters with temporal variations: An enhanced harmonic analysis algorithm and application to internal tidal currents in the South China Sea, *J. Atmospheric Ocean. Technol.*, **35**,1375-1398, (2018). doi:10.1175/JTECH-D-16-0239.1

[4] **Y. Gao**, J.-G. Liu and J. Lu, Continuum limit of a mesoscopic model with elasticity of step motion on vicinal surfaces, *J. Nonlinear Science*, **27**, 873-926 (2017). doi:10.1007/s00332-016-9354-1

[3] **Y. Gao**, J.-G. Liu and J. Lu, Weak solution of a continuum model for vicinal surface in the attachment-detachment-limited regime, *SIAM J. Math. Anal.*, **49**, 1705-1731 (2017). doi:10.1137/16M1094543

[2] **Y. Gao**, J. Liang, T.-J. Xiao, Observability inequality and decay rate for wave equations with nonlinear boundary conditions, *Elec. J. Differ. Equ.*, **161**,1-12 (2017).

[1] **Y. Gao**, H. Ji, J.-G. Liu and T. P. Witelski, Global existence of solutions to a tear film model with locally elevated evaporation rates, *Physica D*, **350**, 13-25 (2017). doi:10.1016/j.physd.2017.03.005

Preprints

[4] **Y. Gao**, and S. Patrizi, Slow Patterns in Multilayer Dislocation Evolution with Dynamic Boundary Conditions, submitted. https://arxiv.org/abs/2502.05962

[3] **Y. Gao**, Q. Lang and F. Lu, Self-test loss functions for learning weak-form operators and gradient flows, submitted. https://arxiv.org/abs/2412.03506

[2] **Y. Gao**, W. Li and J.-G. Liu, Fluctuations in Wasserstein dynamics on Graphs, submitted. https://arxiv.org/abs/2408.08505

[1] **Y. Gao**, J.-G. Liu, and O. Tse, Optimal control formulation of transition path problems for Markov Jump Processes, submitted. https://arxiv.org/abs/2311.07795

Awards

2025 NSF CAREER Award DMS-2440651, 06/2025-05/2030.

2022 NSF Award DMS-2204288, 09/2022-08/2025.

2020 AMS Simons Travel Grant.

2019 Silver Award of New World Mathematics Awards, China.

2017 Outstanding graduates of Shanghai, China.

2017 Distinguished paper award of 2017 International Congress of Chinese Mathematicians Best Paper Award.

2017 SIAM Student Travel Award to attend SIAM conference on analysis of PDEs.

2015 Chinese Government Scholarship for graduate students, China.

2013,2014 The Ph.D. Scholarship, Fudan University, China.

2010,2011 National Scholarship for Undergraduate Student, China.

2010 National Mathematical Modeling Contest First Prize, China.

Teaching

2025 **Instructor** Math 266: Ordinary Differential Equations, Purdue University.

2024 **Instructor** Math 519: Introduction to Probability, Purdue University.

2024 **Instructor** Math 543: Ordinary Differential Equations And Dynamical Systems, Purdue University.

2023 **Instructor** Math 341: Foundations Of Analysis, Purdue University.

2023 **Instructor** Math 520: Boundary Value Problems Of Differential Equations, Purdue University.

2022 **Instructor** Math 598: Introduction to Optimal Transport, Purdue University.

2022 **Instructor** Math 366: Ordinary Differential Equations, Purdue University.

2021 **Instructor** Math 212: Multivariable Calculus, Duke University.

2020 **Instructor** Math 353: Ordinary and Partial Differential Equations, Duke University.

2019,2020 **Instructor** Math 557: Introduction to PDE, Duke University.

2019 **Instructor** Math 353: Ordinary and Partial Differential Equations, Duke University.

2018 **Instructor** Math 5351: Mathematical Methods in Science and Engineering, Hong Kong University of Science and Technology.

2017 **Instructor** Calculus 1B , Hong Kong University of Science and Technology.

2013,2014 **Instructor** Operations Research, Fudan University.

2012,2013 **TA** Mathematical Analysis/Functional analysis, Fudan University.

Academic Services

2022-Now Co-organizer for "PSU-Purdue-UMD Joint Seminar on Mathematical Data Science" at Purdue University, West Lafayette, IN.

05/2025 Co-organizer of Minisymposium in SIAM conference on Applications of Dynamical Systems, Denver, CO.

08/2024 Co-organizer of CCAM workshop on Theory and Applications for Optimal Control and Generative Models, Purdue, IN.

05/2024 Minisymposium co-organizer for SIAM Conference on Materials Science, Pittsburgh, PA.

08/2023 Lecturer at Summer School on Computational and Data Science, Duke Marine Lab and Duke University, NC.

2023-24 Applied Math Curriculum Committee at Purdue University, West Lafayette, IN.

08/2023 ICIAM minisymposium co-organizer "Variational methods for multi-scale dynamics", Tokyo, Japan.

2023 CCAM Ideas Committee at Purdue University, West Lafayette, IN.

03/2023 NSF Review Panel for applied mathematics, VA.

08/2022-12/2022 Co-organizer for "PSU-Purdue-UMD Joint Seminar on Mathematical Data Science" at Purdue University, West Lafayette, IN.

09/2022 Minisymposium chair for SIAM Conference on Mathematics of Data Science, San Diego, CA.

01/2022-05/2022 Co-organizer for "Mathematical Data Science Seminar for 2022 Spring Semester" at Purdue University, West Lafayette, IN.

04/2022 External reviewer for PhD thesis. Student: Fei Cao; School of Mathematical and Statistical Sciences Arizona State University; Advisor: Sebastien Motsch

03/2022 Special session co-organizer at the AMS sectional meeting at Purdue University, West Lafayette, IN.

07/2018 Minisymposium co-organizer for SIAM Conference on Mathematical Aspects of Materials Science, Portland, OR.

07/2018 Minisymposium co-organizer in the 12th AIMS Conference on Dynamical Systems, Differential Equations and Applications,Taipei.

Journal Refereeing Acta Mathematica Scientia, Discrete and Continuous Dynamical Systems Series B, Discrete and Continuous Dynamical Systems, Advances in Nonlinear Analysis, Engineering Computations, Communications on Pure and Applied Analysis, ESAIM: Control, Optimization and Calculus of Variations, Qualitative Theory of Dynamical Systems, Applied Mathematics Letters, Mathematical Methods in the Applied Sciences, Methods and Applications of Analysis, Nonlinear Analysis, SIAM Journal on Numerical Analysis, Physica D: Nonlinear Phenomena, Communications in Mathematical Sciences, Fractal and Fractional, Applied Mathematics and Optimization, Journal of Differential Equations, Journal of Computational Physics, Multiscale Modeling and Simulation, Proceedings of the Royal Society A, Analysis and Applications, Communications of the American Mathematical Society, CSIAM Transactions on Applied Mathematics, Nonlinearity, Communications on Applied Mathematics and Computation, Journal of Fluid Mechanics, Annales Henri Poincaré (AHPO), Contemporary Mathematics, SIAM journal on Applied Mathematics, Journal of Scientific Computing, Boletín de la Sociedad Matemática Mexicana, Journal of Fluid Mechanics, Applied Probability Journals, Mathematische Annalen.

Mentoring

2025 Colombia Purdue Partnership for UREP-C undergraduate student: Thomas Martinod Saldarriaga.

09/2024-now Mentor of graduate student Rivkah Moshe, Purdue University, West Lafayette, IN

09/2024-now Mentor of PostDoc Yuxi Han, Purdue University, West Lafayette, IN

2024-2025 First-year mentor for graduate students Otto Baier and Leo Shen in math department at Purdue University, West Lafayette, IN.

03/2024 Advisory Committee for advanced topics exam for George Curtis from Chemical Engineering, Purdue University, West Lafayette, IN

11/2023 Committee member for Hanan Ussif Gadi's thesis defense, Purdue University, West Lafayette, IN.

11/2023 Committee member for Qiyuan Pang's thesis defense, Purdue University, West Lafayette, IN.

2023 Purdue Undergraduate Research (REU) with undergraduate students: Yufan Zhou and Yicheng Yang.

07/2023 Advanced Topics Committee Inquiry for PhD candidate Emmanuel Gil Torres, Purdue University, West Lafayette, IN.

2022-now Co-advisor for graduate student Emmanuel Gil Torres , Purdue University, West Lafayette, IN.

2022-2023 First-year mentor for graduate students Howen Chuah and Manav Batavia) in math department at Purdue University, West Lafayette, IN.

03/2022 Advanced Topics Committee Inquiry for PhD candidate John Haug, Purdue University, West Lafayette, IN.

2022 Purdue Undergraduate Research (REU) with undergraduate students: Mahimna S Vyas, Yufan Zhou, Ruochen Zhang, Adam R. Kasser.

Presentations

06/2025 BIRS workshop on Efficient and Reliable Deep Learning Methods and their Scientific Applications, Banff, Canada

05/2025 Minisymposia speaker in SIAM Conference on on Applications of Dynamical Systems, Denver, CO

01/2025 PDE and Applied math seminar, University of California, Riverside, Riverside, CA

12/2024 Biophysical Seminar, Physics department, Purdue University, IN

11/2024 Seminar at the Center for Stability, Instability, and Turbulence, NYU Abu Dhabi, Online

11/2024 Numerical Analysis Seminar, University of Maryland, College Park, MD

10/2024 Bridge to Research Seminar, Purdue University, West Lafayette, IN

09/2024 Analysis Seminar, University of Texas at Austin, Austin, TX

05/2024 Conference on Nonlocal Models: Analysis and Applications, University of South Carolina, Columbia, SC

05/2024 Minisymposia speaker in SIAM Conference on Mathematical Aspects of Materials Science, Pittsburgh, PA

05/2024 ICERM program on Interacting Particle Systems: Analysis, Control, Learning and Computation, Providence, RI

04/2024 Kantorovich Initiative's conference on "Women in Optimal Transport", University of British Columbia, Canada

03/2024 Probability Seminar, Purdue University, West Lafayette, IN

03/2024 Applied Mathematics Seminar, University of Utah, Salt lake city, UT

02/2024 CCAM applied math seminar, Purdue University, West Lafayette, IN

02/2024 CNA Seminar, Carnegie Mellon University, Pittsburgh, PA

01/2024 DKU Soft Matter Symposium: Model, Simulation and Application of Complex Fluids (Online)

12/2023 Workshop on Scientific computing and Large Data, University of South Carolina, Columbia, SC

10/2023 Department Colloquia at Department of Mathematics, University of South Carolina, Columbia, SC

10/2023 SIAM-NYNJPA 2023 Annual Meeting Mini-Symposium on Optimal Transport: Computation, Applications, and Extensions, New Jersey Institute of Technology in Newark, NJ

10/2023 Applied Mathematics/PDE/DS Seminars at University of California, Santa Barbara, CA

09/2023 ACMS Applied Math Seminar, Department of Applied and Computational Mathematics and Statistics, University of Notre Dame, IN

08/2023 ICIAM minisymposium "Frontiers of gradient flows: well-posedness, asymptotics, singular limits", Tokyo, Japan

08/2023 NSF RTG summer school and workshop on computational and data science, Duke University, Durham, NC

07/2023 BIRS workshop on "Applied and Computational Differential Geometry and Geometric PDEs", Banff, Canada

06/2023 Conference on Stochastic Dynamical Systems, Wuhan, China

05/2023 Analysis-Probability seminar, Max-Planck-Institut für Mathematik in den Naturwissenschaften (Max Planck Institute for Mathematics in the Sciences), Leipzig, Germany

05/2023 Q-BIO Workshop: Frontiers in Hamilton Jacobi Equation And Its Applications,Institute of Industrial Science, University of Tokyo, Tokyo, Japan

04/2023 Workshop "In search of model structures for non-equilibrium systems", University of Münster and the interdisciplinary Center for Nonlinear Science, Münster, Germany

03/2023 Computational and Applied Mathematics Colloquium, PennState, PA

10/2022 PDE Geometric Analysis seminar, University of Wisconsin-Madison, Madison, WI

10/2022 Brown PDE seminar, Brown University, Providence, RI

10/2022 Statistics and Probability Seminar, Boston University, Boston, MA

09/2022 PDE seminar, Purdue University, West Lafayette, IN

09/2022 Zu Chongzhi Mathematical Research Seminar Series, Duke Kunshan University, China

08/2022 Special Session "Thin film flows: analysis and applications" at SIAM Conference on Nonlinear Waves and Coherent Structures, Bremen, Germany

07/2022 Stochastics+Dynamics+Data mini workshop at IIT, Chicago, IL

07/2022 Workshop on interface problems: modeling, theory and numerics, Duke Kunshan, Online

05/2022 Scientific Computing seminar, Institute of Computational Mathematics, Chinese Academy of Sciences, Online

04/2022 Optimal transport and Mean field games Seminar, University of South Carolina, SC

04/2022 Special Session "Recent Developments in Nonlocal Modeling and Analysis" at the 2022 Joint Mathematics Meetings Program, Seattle, WA

03/2022 PDE and Analysis Seminar, BICMR, Peking University, Beijing, Online

03/2022 Special Session "Variational evolution: analysis and multi-scale aspects" at the SIAM PDE conference, Berlin, Germany

03/2022 Invited program visit on Frontiers in kinetic theory: connecting microscopic to macroscopic scales, Isaac Newton Institute for Mathematical Sciences, Cambridge, United Kingdom

03/2022 Clements Scientific Computing Seminar, Southern Methodist University, Dallas, TX

02/2022 Computational Mathematics Seminar, CCoM, University of California San Diego, La Jolla, CA

01/2022 Bridge to research seminar, Purdue University, West Lafayette, IN

12/2021 PIMS-SFU Computational Math Seminar, Pacific Institute for Mathematic Science, Canada, Online

11/2021 CCAM seminar, Purdue University, West Lafayette, IN

11/2021 Special Session "Calculus of Variation, Nonlinear Waves and their Numerical Realizations", at the AMS sectional meeting, Online

10/2021 KU Probability and statistics seminar, University of Kansas, Lawrence, KS, Online

06/2021 BIRS Workshop, Entropic Regularization of Optimal Transport and Applications, Banff, Canada, Online

06/2021 Workshop on Modeling and Analysis in Molecular Biology and Electrophysiology, China, Online

03/2021 Applied math seminar, Southern University of Science and Technology, Online

02/2021 Special virtual math seminar, Purdue, IN

02/2021 Special virtual applied math seminar, University of Waterloo, Canada

01/2021 Virtual multiscale seminar, Illinois Institute of Technology, IL

01/2021 Special virtual math seminar, Washington University in St. Louis, MO

12/2020 Invited speaker in Soft Matter Symposium, Duke Kunshan, Online

12/2020 Special virtual math seminar, NYU, NY

12/2020 Probability seminar, Duke University, NC

07/2020 Virtual applied math seminar, Peking University, China

06/2020 Virtual Applied & Computational Math seminar, Georgia Tech, Atlanta, GA

06/2020 AIMS2020 Special session on Analysis of Nonlinear PDEs and Applications, Atlanta, GA, Canceled

04/2020 AMS Spring Central Sectional Meeting, Purdue University, IN, Canceled

03/2020 AMS Spring Southeastern Sectional Meeting, University of Virginia, VA, Canceled

02/2020 PDE seminar, The University of Tennessee, Knoxville, TN

12/2019 PDE seminar, Institute of Mathematics, AMSS, CAS, China

10/2019 PDE and Analysis seminar, University of Pittsburgh, Pittsburgh, PA

10/2019 Mathh Department seminar, Mississippi State University, MS

09/2019 Faculty seminar, Duke University, Durham, NC

06/2019 Applied math seminar, Peking University, China

05/2019 Applied math seminar, NYU Shanghai, Shanghai, China

12/2018 Invited Speaker in 2018 Young Mathematician Forum, Shanghai Jiao Tong University, China

07/2018 Minisymposium on Analytical Methods for Singular Phenomena in Materials Science, SIAM Conference on Mathematical Aspects of Materials Science, Potland, OR

06/2018 BIRS workshop on Advanced Developments for Surface and Interface Dynamics - Analysis and Computation, Banff, Canada

02/2018 The 19th Northeastern Symposium on Mathematical Analysis, Hokkaido University, Japan

12/2017 Minisymposium on Nonlinear PDEs in Fluid Mechanics, SIAM Conference on Analysis of Partial Differential Equations, Baltimore, MD

12/2017 PDE Seminar, University of Maryland, MD.

11/2017 PDE Seminar, University of Hong Kong, Hong Kong, China

06/2017 PDE Seminar, Hong Kong University of Science and Technology, Hong Kong, China

03/2017 Applied math seminar, Fudan University, China

10/2016 Invited Speaker for Duke in China Week, Duke University, NC