

MEI YIN

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Education

PhD in Mathematics, Minor in Statistics, August 2010
Department of Mathematics, University of Arizona
Advisor: William G. Faris
Dissertation: Spectral Properties of the Renormalization Group
Cumulative GPA: 4.0/4.0

BS in Information and Computing Science, June 2006
School of Science, Nanjing University of Science and Technology, China
Cumulative GPA: 94/100 Rank: 1/82

Academic Positions

Assistant Professor, September 2013-August 2019 (on leave 2013/14)
Associate Professor, September 2019-Present
Department of Mathematics, University of Denver

Tamarkin Assistant Professor, July 2013-June 2014
Department of Mathematics, Brown University
Mentor: Richard Kenyon

Bing Instructor, August 2010-June 2013
Department of Mathematics, University of Texas at Austin
Mentor: Hans Koch

Fields of Interest

Statistical Physics, Probability, Combinatorics

Honors & Awards

NSF-AWM Travel Grant, 2024
Honoree, Outstanding Service Celebration Dinner, University of Denver, 2024
ICERM Conference Grant “Asymptotic Limits of Discrete Random Structures”, Co-Principal Investigator, 2023
Faculty Internationalization Grants, University of Denver, 2015, 2016, 2022
Professional Research Opportunities for Faculty Fund, University of Denver, 2022-2024
Honoree, Outstanding Service Celebration Dinner, University of Denver, 2022
Honoree, Outstanding Teaching Celebration Dinner, University of Denver, 2022
Faculty Research Fund, University of Denver, 2020-2022
NSF Combinatorics Conference Grant DMS-1953856 “Graduate Research Workshops in Combinatorics”, Co-Principal Investigator, 2020-2023

NSF Travel Grant for Conference on Random Physical Systems, 2018
Combinatorics Foundation Grant “Collaborative Research: Rocky Mountains-Great Plains Graduate Research Workshops in Combinatorics”, Co-Principal Investigator, 2017-2019
Honoree, Research, Scholarship, and Creative Work Faculty Recognition Dinner, University of Denver, 2017
NSF US Junior Oberwolfach Fellowship, 2011, 2017
Natural Sciences and Mathematics Outstanding Junior Faculty Award, University of Denver, 2016
NSF Combinatorics Conference Grant DMS-1604697 “Collaborative Research: Rocky Mountains-Great Plains Graduate Research Workshops in Combinatorics”, Co-Principal Investigator, 2016-2019
Best Poster Award, International Congress of Women Mathematicians, 2014
NSF Applied Mathematics Research Grant DMS-1308333 “Random Graphs: A Mathematical Physics Perspective”, Principal Investigator, 2013-2017
NSF-AWM Travel Grant, 2013
NSF Travel Grant for International Congress on Mathematical Physics, 2012
NSF Travel Grant for World Congress on Probability and Statistics, 2012
Rom Rhome International Professional Development Fund, University of Texas at Austin, 2011-2012
Faculty Travel Grant, University of Texas at Austin, 2011-2013
R. H. Bing Fellowship, University of Texas at Austin, 2010-2013
PIMS Travel Grant for Renormalization Group and Statistical Mechanics Workshop, 2009
NSF Travel Grant for Combinatorics and Statistical Mechanics Workshop, 2008
Galileo Circle Scholarship, University of Arizona, 2008
Honorable Mention, Interdisciplinary Contest in Modeling, 2006
Excellent Student, Jiangsu Province, China, 2005
Honorable Mention, Mathematical Contest in Modeling, 2005
Second Prize, China Undergraduate Mathematical Contest in Modeling, 2004
Special Prize, National English Contest for College Students of China, 2004
Top Score in Three Campus-wide Contests (Physics, English, and Mathematical Modeling), 2004

Postdocs

Rodrigo Ribeiro (current, collaborator on 1 paper)

Students

Collier Gaiser (current, collaborator on 1 paper; graduate student supported under PROF grant)
Ryan DeMuse (PhD 2021, collaborator on 5 papers; next position: Programmer Writer at Epic Games)
Terry Easlick (Master’s 2018, collaborator on 1 paper; next position: PhD student at Concordia University, Montreal)
Danielle Larcomb (Master’s 2017, collaborator on 1 paper; next position: Integration Architect at Epic Games)
John T. Mann (BS 2023, advisor on 1 paper; undergraduate student supported under PROF grant)
Zecheng You (BS 2023, advisor on 1 paper; undergraduate student supported under PROF grant)
Lanqing Zhao (summer 2023; graduate student supported under PROF grant)
Siddhanth Lalgowdar (summer 2022, advisor on 1 presentation; undergraduate student supported under STEM SRI grant)

Publications & Preprints

- Wagner, S. and **Yin, M.** (2024). Statistics of parking functions and labeled forests. *Submitted*.
- Eğecioglu, O., Gaiser, C., and **Yin, M.** (2023). Enumerating pattern-avoiding permutations by leading terms. *Submitted*. arXiv: 2309.15964
- Stanley, R.P. and **Yin, M.** (2023). Some enumerative properties of parking functions. *Submitted*. arXiv: 2306.08681
- Mann, J.T., You, Z., and **Yin, M.** (advisor) (2023). Asymptotic behavior of random defective parking functions. *DUURJ*. 4: 10-18
- Black, A.E., Liu, K., McDonough, A., Nelson, G., Wigal, M.C., **Yin, M.**, and Yoo, Y. (2023). Sampling planar tanglegrams and pairs of disjoint triangulations. *Adv. Appl. Math.* 149: 102550
- Kenyon, R. and **Yin, M.** (2023). Parking functions: From combinatorics to probability. *Methodol. Comput. Appl. Probab.* 25: 32
- Campion Loth, J., Levet, M., Liu, K., Sundaram, S., and **Yin, M.** (2023). Colored permutation statistics by conjugacy class. Extended abstract accepted by the 36th International Conference on Formal Power Series and Algebraic Combinatorics. arXiv: 2305.11800
- Durmić, I., Han, A., Harris, P.E., Ribeiro, R., and **Yin, M.** (2023). Probabilistic parking functions. *Electron. J. Combin.* 30: Research Paper 3.18, 25 pp.
- Buchanan, C., Clifton, A., Culver, E., Nie, J., O'Neill, J., Rombach, P., and **Yin, M.** (2023). Odd covers of graphs. *J. Graph Theory* 104: 420-439
- Hanely, D., Martin, J.L., McGinnis, D., Miyata, D., Nasr, G.D., Vindas-Meléndez, A.R., and **Yin, M.** (2022). Ehrhart theory of paving and panhandle matroids. *To appear in Adv. Geom.* arXiv: 2201.12442
- Yin, M.** (2022). Remarks on power-law random graphs. *Stochastic Process. Appl.* 153: 183-197
- Yin, M.** (2023). Parking functions, multi-shuffle, and asymptotic phenomena. Extended abstract in Proceedings of the 33rd International Conference on Probabilistic, Combinatorial and Asymptotic Methods for the Analysis of Algorithms. Full-length version in *La Mat.* 2: 258-282
- Yin, M.** (2023). Parking functions: Interdisciplinary connections. *Adv. in Appl. Probab.* 55: 768-792
- Colaric, E., DeMuse, R., Martin, J.L., and **Yin, M.** (2021). Interval parking functions. *Adv. Appl. Math.* 123: 102129
- DeMuse, R. and **Yin, M.** (2021). Dimension reduction in vertex-weighted exponential random graphs. *Phys. A*. 561: 125289
- DeMuse, R. and **Yin, M.** (2020). Perspectives on exponential random graphs. *Invited by Contemp. Math.* 741: 59-81
- DeMuse, R., Easlick, T., and **Yin, M.** (2019). Mixing time of vertex-weighted exponential random graphs. *J. Comput. Appl. Math.* 362: 443-459
- DeMuse, R., Larcomb, D., and **Yin, M.** (2018). Phase transitions in edge-weighted exponential random graphs: near degeneracy and universality. *J. Stat. Phys.* 171: 127-144
- Mavi, R. and **Yin, M.** (2018). Ground states for exponential random graphs. *J. Math. Phys.* 59: 013303
- Yin, M.** and Zhu, L. (2017). Asymptotics for sparse exponential random graph models. *Braz. J. Probab. Stat.* 31: 394-412
- Yin, M.** (2017). Statistical physics of exponential random graphs. *Oberwolfach Rep.* 8: 32-34
- Kenyon, R. and **Yin, M.** (2017). On the asymptotics of constrained exponential random graphs. *J. Appl. Probab.* 54: 165-180
- Yin, M.**, Rinaldo, A., and Fadnavis, S. (2016). Asymptotic quantization of exponential random graphs. *Ann. Appl. Probab.* 26: 3251-3285

- Yin, M.** (2016). A detailed investigation into near degenerate exponential random graphs. *J. Stat. Phys.* 164: 241-253
- Yin, M.** and Zhu, L. (2016). Reciprocity in directed networks. *Phys. A.* 447: 71-84
- Yin, M.** (2015). Large deviations and exact asymptotics for constrained exponential random graphs. *Electron. Commun. Probab.* 20: 56, 1-14
- Yin, M.** (2013). Critical phenomena in exponential random graphs. *J. Stat. Phys.* 153: 1008-1021
- Radin, C. and **Yin, M.** (2013). Phase transitions in exponential random graphs. *Ann. Appl. Probab.* 23: 2458-2471
- Yin, M.** (2013). A Markov chain approach to renormalization group transformations. *Phys. A.* 392: 1347-1354
- Yin, M.** (2012). A cluster expansion approach to exponential random graph models. *J. Stat. Mech. Theory Exp.* P05004
- Yin, M.** (2011). Renormalization group transformations near the critical point: some rigorous results. *J. Math. Phys.* 52: 113507
- Yin, M.** (2011). A cluster expansion approach to renormalization group transformations. *J. Math. Phys.* 52: 033502
- Yin, M.** (2011). Spectral properties of the renormalization group at infinite temperature. *Commun. Math. Phys.* 304: 175-186

Conference Participation

- Graduate Research Workshops in Combinatorics (co-organizer), Milwaukee, 05/2024
- Community in Algebraic and Enumerative Combinatorics (invited), Banff International Research Station, 01/2024
- Asymptotic Limits of Discrete Random Structures (co-organizer), Institute for Computational and Experimental Research in Mathematics, 09/2023
- Graduate Research Workshops in Combinatorics (co-organizer), Laramie, 07/2023
- International Conference on Probabilistic, Combinatorial and Asymptotic Methods for the Analysis of Algorithms, Taipei, Taiwan, 06/2023
- Analytic and Probabilistic Combinatorics (invited lecturer), Banff International Research Station, 11/2022
- Graph Limits, Non-Parametric Models, and Estimation (invited lecturer), Simons Institute for the Theory of Computing, 09/2022
- AMS Central Fall Sectional Meeting (invited special session lecturer), El Paso, 09/2022
- Graduate Research Workshops in Combinatorics (co-organizer), Denver, 07/2022
- International Conference on Physics and its Applications (invited lecturer and session chair), San Francisco, 07/2022
- International Conference on Probabilistic, Combinatorial and Asymptotic Methods for the Analysis of Algorithms, Philadelphia, 06/2022
- Algebraic Combinatorics Virtual Expedition (AlCoVE), 06/2022
- Great Plains Combinatorics Conference (plenary lecturer), Fargo, 04/2022
- October Math Day Symposium (invited lecturer), University of North Carolina Charlotte, 10/2021
- Graduate Research Workshops in Combinatorics (co-organizer), Virtual, 06/2021
- Algebraic Combinatorics Virtual Expedition (AlCoVE), 06/2021
- AMS Western Spring Sectional Meeting (invited special session lecturer), Virtual, 05/2021

AMS Eastern Spring Sectional Meeting (special session organizer), Virtual, 03/2021

Mini-Workshop: Uniqueness Methods in Statistical Mechanics: Recent Developments and Algorithmic Applications, Virtual, 12/2020

Algebraic Combinatorics Virtual Expedition (AlCoVE), 06/2020

Graph Limits Workshop (invited lecturer), European Institute for Statistics, Probability, Stochastic Operations Research and their Applications, 04/2020

Talking Across Fields, Stanford University, with NSF funding, 01/2020

Joint Mathematics Meetings (invited special session lecturer), Denver, 01/2020

Inference on Graphical Models (invited lecturer), Columbia University, 10/2019

Great Lakes Mathematical Physics Meeting, Oberlin, with NSF funding, 06/2019

Rocky Mountains-Great Plains Graduate Research Workshops in Combinatorics (co-organizer), Lawrence, 06/2019

Interacting Particle Systems, Statistical Mechanics, and Related Topics, Institute for Pure and Applied Mathematics, with NSF funding, 03/2019

Random Physical Systems, Patagonia, Chile, with NSF funding, 12/2018

Recent Progress on Dimer Model and Statistical Mechanics (invited lecturer), University of Connecticut, 08/2018

AMS Southeastern Spring Sectional Meeting (invited special session lecturer), Nashville, 04/2018

Arizona School of Analysis and Mathematical Physics, University of Arizona, 03/2018

SIAM Central Fall Sectional Meeting (invited special session lecturer and session chair), Fort Collins, 09/2017

Great Lakes Mathematical Physics Meeting (plenary lecturer), East Lansing, 06/2017

Mini-Workshop: Cluster Expansions: From Combinatorics to Analysis through Probability (invited lecturer), Mathematisches Forschungsinstitut Oberwolfach, with NSF funding, 02/2017

Annual Meeting of the Australian Mathematical Society (special session lecturer), Canberra, Australia, 12/2016

AMS Western Fall Sectional Meeting (special session organizer), Denver, 10/2016

Frontiers in Mathematical Physics, Centre de Recherches Mathématiques, with NSF funding, 08/2016

Connections between Complex Dynamics, Statistical Physics, and Limiting Spectra of Self-similar Group Actions (invited lecturer), Indiana University Purdue University Indianapolis, 08/2016

Melbourne-Singapore Probability and Statistics Forum, Singapore, 07/2016

AMS Western Spring Sectional Meeting (invited special session lecturer), Salt Lake City, 04/2016

Zijin Innovation Summit (invited lecturer), Nanjing, China, 12/2015

AMS Central Fall Sectional Meeting (invited special session lecturer), Chicago, 10/2015

International Congress on Industrial and Applied Mathematics (mini-symposium organizer), Beijing, China, 08/2015

Random Graphs, Simplicial Complexes, and their Applications (invited lecturer), Northeastern University, with NSF funding, 05/2015

AMS Central Spring Sectional Meeting (invited special session lecturer), East Lansing, 03/2015

Semester Program in Phase Transitions and Emergent Properties (invited lecturer and research fellow), Institute for Computational and Experimental Research in Mathematics, with NSF funding, 02/2015

Joint Mathematics Meetings (invited special session lecturer), San Antonio, 01/2015

Advances in Discrete Networks (invited lecturer), University of Pittsburgh, with NSF funding, 12/2014

International Congress of Mathematicians (session chair), Seoul, Korea, 08/2014

Topology and Geometry of Networks and Discrete Metric Spaces (invited lecturer and session chair), Institute for Mathematics and its Applications, with NSF funding, 04/2014

Workshop on Stochastic Graph Models, Institute for Computational and Experimental Research in Mathematics, 03/2014

Conference on Stochastic Processes and their Applications, University of Colorado Boulder, with NSF funding, 07/2013

Workshop on Exponential Random Network Models (invited), American Institute of Mathematics, with NSF funding, 06/2013

Joint Mathematics Meetings, San Diego, with NSF funding, 01/2013

International Congress on Mathematical Physics, Aalborg, Denmark, with NSF funding, 08/2012

Cornell Probability Summer School, Cornell University, with NSF funding, 07/2012

World Congress on Probability and Statistics, Istanbul, Turkey, with NSF funding, 07/2012

Careers in Academia (invited), American Institute of Mathematics, with NSF funding, 06/2012

Conference on Graphs and Analysis, Institute for Advanced Study, with NSF funding, 06/2012

Arizona School of Analysis and Mathematical Physics, University of Arizona, 03/2012

Dynamical Gibbs-non-Gibbs Transitions Workshop (invited lecturer), European Institute for Statistics, Probability, Stochastic Operations Research and their Applications, 12/2011

Engineering Mechanics Conference, Northeastern University, with NSF funding, 06/2011

The Renormalization Group Workshop (invited), Mathematisches Forschungsinstitut Oberwolfach, with NSF funding, 03/2011

Arizona School of Analysis with Applications, University of Arizona, 03/2010

Career Options for Underrepresented Groups in Mathematical Sciences, Institute for Mathematics and its Applications, with NSF funding, 03/2010

Theory and Qualitative Behavior of Stochastic Dynamics Workshop, Statistical and Applied Mathematical Sciences Institute, with NSF funding, 02/2010

Renormalization Group and Statistical Mechanics Workshop (invited lecturer), Pacific Institute for the Mathematical Sciences, with PIMS funding, 07/2009

Entropy and the Quantum Workshop, University of Arizona, 03/2009

Combinatorics and Statistical Mechanics Workshop (invited), Isaac Newton Institute for Mathematical Sciences, with NSF funding, 05/2008-07/2008

Presentations & Talks

Seminar talk, Harvard University, 09/2023

Short talk, International Conference on Probabilistic, Combinatorial and Asymptotic Methods for the Analysis of Algorithms, 06/2023

Seminar talk, University of Southern California, 02/2023

Invited lecture, Analytic and Probabilistic Combinatorics, 11/2022

Invited lecture, Graph Limits, Non-Parametric Models, and Estimation, 09/2022

Invited special session lecture, AMS Central Fall Sectional Meeting, 09/2022

Invited lecture, International Conference on Physics and its Applications, 07/2022

Short talk, International Conference on Probabilistic, Combinatorial and Asymptotic Methods for the Analysis of Algorithms, 06/2022

Plenary lecture, Great Plains Combinatorics Conference, 04/2022

Seminar talk, University of Colorado Boulder, 03/2022

Invited lecture, October Math Day Symposium, 10/2021
 Seminar talk, Colorado State University, 10/2021
 Seminar talk, University of California Berkeley, 09/2021
 Invited special session lecture, AMS Western Spring Sectional Meeting, 05/2021
 Invited lecture, Women in Combinatorics (WinCom) Virtual Colloquium, 09/2020
 Invited lecture, Graph Limits Workshop, 04/2020
 Seminar talk, University of Arizona, 02/2020
 Invited special session lecture, Joint Mathematics Meetings, 01/2020
 Seminar talk, University of Colorado Boulder, 10/2019
 Invited lecture, Inference on Graphical Models, 10/2019
 Contributed presentation, Great Lakes Mathematical Physics Meeting, 06/2019
 Poster session, Interacting Particle Systems, Statistical Mechanics, and Related Topics, 03/2019
 Seminar talk, Hong Kong University of Science and Technology, 11/2018
 Colloquium, University of Oklahoma, 11/2018
 Invited lecture, Recent Progress on Dimer Model and Statistical Mechanics, 08/2018
 Invited special session lecture, AMS Southeastern Spring Sectional Meeting, 04/2018
 Seminar talk, University of Texas at Austin, 03/2018
 Invited lecture, Arizona School of Analysis and Mathematical Physics, 03/2018
 Seminar talk, University of Cincinnati, 02/2018
 Seminar talk, New York University Shanghai, 12/2017
 Invited special session lecture, SIAM Central Fall Sectional Meeting, 09/2017
 Seminar talk, Waseda University, 07/2017
 Seminar talk, University of Tokyo, 07/2017
 Plenary lecture, Great Lakes Mathematical Physics Meeting, 06/2017
 Seminar talk, University of Illinois Urbana-Champaign, 04/2017
 Invited lecture, Mini-Workshop: Cluster Expansions: From Combinatorics to Analysis through Probability, 02/2017
 Special session lecture, Annual Meeting of the Australian Mathematical Society, 12/2016
 Seminar talk, Colorado State University, 09/2016
 Poster session, Frontiers in Mathematical Physics, 08/2016
 Invited lecture, Connections between Complex Dynamics, Statistical Physics, and Limiting Spectra of Self-similar Group Actions, 08/2016
 Invited lecture, Melbourne-Singapore Probability and Statistics Forum, 07/2016
 Invited special session lecture, AMS Western Spring Sectional Meeting, 04/2016
 Invited lecture, Zijin Innovation Summit, 12/2015
 Colloquium, University of Colorado Colorado Springs, 12/2015
 Invited special session lecture, AMS Central Fall Sectional Meeting, 10/2015
 Mini-symposium lecture, International Congress on Industrial and Applied Mathematics, 08/2015
 Colloquium, National Tsing Hua University, 07/2015
 Invited lecture, Random Graphs, Simplicial Complexes, and their Applications, 05/2015
 Seminar talk, Metropolitan State University of Denver, 04/2015
 Seminar talk, University of Colorado Boulder, 04/2015

Invited special session lecture, AMS Central Spring Sectional Meeting, 03/2015
Invited lecture, Semester Program in Phase Transitions and Emergent Properties, 02/2015
Invited special session lecture, Joint Mathematics Meetings, 01/2015
Invited lecture, Advances in Discrete Networks, 12/2014
Graduate colloquium, University of Denver, 11/2014
Seminar talk, Colorado State University, 10/2014
Short communication, International Congress of Mathematicians, 08/2014
Poster session, International Congress of Women Mathematicians, 08/2014
Invited lecture, Topology and Geometry of Networks and Discrete Metric Spaces, 04/2014
Seminar talk, Boston University, 02/2014
Seminar talk, University of Connecticut, 10/2013
Seminar talk, Brown University, 10/2013
Seminar talk, Brown University, 09/2013
Seminar talk, Brown University, 09/2013
Seminar talk, Cornell University, 04/2013
Colloquium, University of Massachusetts Amherst, 01/2013
Colloquium, University of Denver, 01/2013
Colloquium, University of Illinois Urbana-Champaign, 01/2013
Contributed presentation, Joint Mathematics Meetings, 01/2013
Contributed presentation, International Congress on Mathematical Physics, 08/2012
Short talk, Cornell Probability Summer School, 07/2012
Contributed presentation, World Congress on Probability and Statistics, 07/2012
Seminar talk, University of Texas at Austin, 02/2012
Colloquium, Michigan State University, 01/2012
Invited lecture, Dynamical Gibbs-non-Gibbs Transitions Workshop, 12/2011
Contributed presentation, Joint Mathematics Meetings, 01/2011
Seminar talk, University of Texas at Austin, 09/2010
Research presentation, University of Arizona, 06/2010
Poster session, Career Options for Underrepresented Groups in Mathematical Sciences, 03/2010
Contributed presentation, Arizona School of Analysis with Applications, 03/2010
Poster session, Theory and Qualitative Behavior of Stochastic Dynamics Workshop, 02/2010
Invited lecture, Renormalization Group and Statistical Mechanics Workshop, 07/2009
Research presentation, University of Arizona, 12/2008
Seminar talk, University of Arizona, 11/2008
Seminar talk, University of Arizona, 11/2008
Graduate colloquium, University of Arizona, 04/2008
Seminar talk, University of Arizona, 03/2008
Research presentation, University of Arizona, 12/2007

Teaching

Markov Chains, Instructor, Spring 2024
 Introduction to Real Analysis II, Instructor, Winter 2024
 Mathematical Reasoning and Proof, Instructor, Fall 2023
 Topology, Instructor, Spring 2022, Spring 2023
 Special Topics in Mathematics: Parking Functions, Instructor, Spring 2021
 Partial Differential Equations, Winter 2020, Winter 2024
 Functions Complex Variable, Instructor, Winter 2019
 Introduction to Probability, Instructor, Fall 2018, Fall 2019, Fall 2022
 Special Topics in Mathematics: Markov Chains and Mixing Times, Instructor, Winter 2018
 Mathematical Probability, Instructor, Winter 2017, Winter 2021, Winter 2023
 Calculus II, Instructor, Winter 2017, Winter 2022
 Introduction to Real Analysis I, Instructor, Spring 2016, Fall 2016, Fall 2017, Spring 2019, Spring 2021
 Special Topics in Mathematics: Statistical Inference with R, Instructor, Spring 2016, Spring 2020, Winter 2023
 Honors Calculus II, Instructor, Winter 2016
 Calculus of Several Variables, Instructor, Fall 2015
 First Year Seminar: An Introduction to Mathematical Modeling, Instructor, Fall 2015, Fall 2016, Fall 2018, Fall 2019, Fall 2021, Fall 2022, Fall 2023
 Calculus III, Instructor, Spring 2015, Spring 2018, Spring 2019
 Special Topics in Mathematics: Probability Theory with Applications, Instructor, Winter 2015
 Elements of Linear Algebra, Instructor, Fall 2014
 Calculus I, Instructor, Fall 2014, Fall 2017, Fall 2021
 Introductory Calculus I, Instructor, Spring 2014
 Linear Algebra, Instructor and Course Head, Fall 2013
 Introductory Calculus II, Instructor, Fall 2013
 Differential and Integral Calculus, Instructor, Fall 2012
 Probability I, Instructor, Spring 2012, Spring 2013
 Integral Calculus, Instructor, Fall 2011
 Matrices and Matrix Calculations, Instructor, Spring 2011
 Advanced Calculus for Applications I, Instructor, Fall 2010, Spring 2011, Fall 2011
 Calculus II, Instructor, Spring 2010
 Calculus I with Applications, Instructor, Spring 2009, Fall 2009
 Calculus Preparation, Instructor, Fall 2008
 Graduate Analysis, Super TA, Fall 2008
 Elements of Calculus, Instructor, Spring 2008
 Graduate Algebra, Grader, Spring 2008
 College Algebra, Instructor, Fall 2006, Spring 2007, Fall 2007

Service & Outreach

Judge for 2024 Mathematical Contest in Modeling / Interdisciplinary Contest in Modeling
 Faculty Advisor and Mentor Winter Training Panelist, DU Office of Student Success, 2024

Chair of Thesis Defense Committee for Mac Wetherbee (Education), Spring 2024
Neurodiversity Institute, Participant, DU Learning Effectiveness Program and DU Office of Teaching and Learning, 2023
Professors, Plates, and Perspectives (P3) Program, Faculty Guest, DU 4D Experience, 2023
New Faculty in STEM Mentoring Program, Mentor, DU College of Natural Sciences and Mathematics, 2023-Present
Member of Tenure Review Committee for Mandi Schaeffer Fry (Mathematics), Fall 2023
Teaching and Learning Online (TLO) Foundational Badge Program, Participant, DU Office of Teaching and Learning, Summer 2023
Chair of Thesis Defense Committee for Noah De Leeuw (Physics), Spring 2023
Member of Third Year Review Committee for Ellie Dannenberg and Sabine Lang (Mathematics), Spring 2023
Judge for 2023 Mathematical Contest in Modeling / Interdisciplinary Contest in Modeling
Chair of Thesis Defense Committee for Chen Zhang (Biology), Winter 2023
NSF Panelist, 2015, 2017, 2018, 2019, 2021, 2022, 2023
R1 Our Way Faculty Writing Retreat, Participant, DU Writing Program, Fall 2022
Chair of Thesis Defense Committee for Vincent Nierste (Mechanical Engineering), Fall 2022
Chair of Thesis Defense Committee for Kai Velagapudi (Computer Science), Fall 2022
Member of Tenure Review Committee for Shashank Kanade (Mathematics), Fall 2022
Member of Tenure-Track Assistant Professor Search Committee, DU Department of Mathematics, 2022-2023
Collaborative Online International Learning (COIL) Institute, Participant, DU Office of Internationalization and Office of Teaching and Learning, Summer 2022
Course Design Institute, Participant, DU Office of Teaching and Learning, Summer 2022
Member of Thesis Defense Committee for Alex Stevens (Mathematics), Spring 2022
Chair of Thesis Defense Committee for Haiyan Yu (Electrical Engineering), Spring 2022
Judge for 2022 Mathematical Contest in Modeling / Interdisciplinary Contest in Modeling
Member of Postdoc Search Committee, DU Department of Mathematics, 2021-2022
Steering Committee Member-at-Large, DU-MERISTEM, Fall 2021-Present
Chair of Thesis Defense Committee for Huizhou Yang (Mechanical Engineering), Fall 2021
Member of Faculty Review Committee, Fall 2021-Present
Member of Social Media Committee, Association for Women in Mathematics, 2021-2024
Don't Lose It, Use It, Participant, DU Office of Teaching and Learning, Summer 2021
Teaching with Canvas Short Course, Participant, DU Office of Teaching and Learning, Summer 2021
Judge for 2021 Mathematical Contest in Modeling / Interdisciplinary Contest in Modeling
Teaching Online-Advanced Practice Short Course, Participant, DU Office of Teaching and Learning, Fall 2020
Hyflex Course Design Self-Study, Participant, DU Office of Teaching and Learning, Fall 2020
Teaching Online Short Course, Participant, DU Office of Teaching and Learning, Fall 2020
Member of Pre-Tenure Review Committee for Shashank Kanade (Mathematics), Fall 2020
Member of Thesis Defense Committee for Adam Purcilly (Mathematics), Spring 2020
Member of Postdoc Search Committee, DU Department of Mathematics, 2019-2020
Judge for 2020 Mathematical Contest in Modeling / Interdisciplinary Contest in Modeling

Member of DU's Music, Arts, Design, Technology Initiative, Winter & Spring 2020

Faculty Scholars: Community-Engaged Teaching Program, Participant, DU Center for Community Engagement to advance Scholarship and Learning, 2019-2020

Undergraduate Coordinator, DU Department of Mathematics, 2019-2022

Course Design Institute, Participant, DU Office of Teaching and Learning, Summer 2019

Member of New Degree Committee, DU Department of Mathematics, Spring 2019-Present

Member of Thesis Defense Committee for Lauren Nelsen (Mathematics), Spring 2019

Judge for 2019 Association for Women in Mathematics / Math for America Essay Contest

Mentor for a Moment: STEM Edition, Mentor, DU Career & Professional Development, Winter 2019

Member of Postdoc Search Committee, DU Department of Mathematics, 2018-2019

Conversations in the Disciplines Panelist, DU Writing Program, 2018

Co-organizer of Eleanor Campbell Lecture, Spring 2018-Present

Member of Calculus Task Force, DU Department of Mathematics, 2018-Present

Referee for Random Structures & Algorithms (2014-Present), International Mathematics Research Notices (2015-Present), Stochastic Processes and their Applications (2015-Present), Open Mathematics (2016-Present), Journal of Statistical Physics (2016-Present), Journal of Applied Probability (2017-Present), Electronic Journal of Probability (2017-Present), Annals of Applied Probability (2017-Present), Journal of Physics Communications (2017-Present), Bernoulli (2018-Present), Transactions of the American Mathematical Society (2020-Present), Mathematical Physics, Analysis and Geometry (2020-Present), Electronic Communications in Probability (2021-Present), Probability Theory and Related Fields (2022-Present), Advances in Applied Mathematics (2022-Present), La Matematica (2023-Present), Journal of Combinatorics (2023-Present), and Notices of the American Mathematical Society (2024-Present)

Member of Postdoc Search Committee, DU Department of Mathematics, 2017-2018

Mentor in Association for Women in Mathematics Mentor Network, 2017-Present

Chair of Thesis Defense Committee for Sneha Sawlani (Computer Science), Spring 2017

Chair of Postdoc Search Committee, DU Department of Mathematics, 2016-2017

Member of Tenure-Track Assistant Professor Search Committee, DU Department of Mathematics, 2016-2017

Co-organizer of 2016 AMS Western Fall Sectional Meeting Special Session on Analysis on Graphs and Spectral Graph Theory

Member of Thesis Defense Committee for Thomas French (Mathematics), Spring 2016

Judge for 2016 Association for Women in Mathematics / Math for America Essay Contest

Faculty Sponsor for DU Association for Women in Mathematics Student Chapter, 2016-Present

Member of Teaching Professor Search Committee, DU Department of Mathematics, 2015-2016

Contributor for 2015 Share Fair Nation's STEMosphere

Organizer of DU Analysis Seminar, 2015-Present

Contributor for DU Math Club, 2015-Present

NSMentoring: Face to Face and Navigating NSM, Mentor, DU College of Natural Sciences and Mathematics, Winter 2015-Present

Co-organizer of Herbert Howe Lecture, Spring 2015-Present

Judge for 2015 Association for Women in Mathematics Poster Presentations

Member of Postdoc Search Committee, DU Department of Mathematics, 2014-2015

Member of Analysis Prelim Committee, DU Department of Mathematics, 2014-Present

Member of Graduate Committee, DU Department of Mathematics, 2014-2019, 2023-Present

Reviewer for Mathematical Reviews (2011-Present) and Zentralblatt MATH (2014-Present)
Abstract Judge for 2014 Young Mathematicians Conference
Co-organizer of Inspiring Women in STEM: A Panel Discussion, Spring 2014
Judge for 2014 Association for Women in Mathematics / Math for America Essay Contest
ICERM Liaison, Spring 2014
Co-organizer of Brown Discrete Math Seminar, 2013-2014
Poster Judge for 2013 UT College of Natural Sciences Undergraduate Research Forum
Region Two Judge for 2012 Siemens Competition in Math, Science and Technology
Discovery Learning Seminar, Participant, UT College of Natural Sciences, Fall 2011
New Faculty Learning Community, Mentor, UT Center for Teaching and Learning, Fall 2011
New Faculty Teaching Strategy Workshop, Participant, UT College of Natural Sciences, Spring 2011

Professional Affiliations

American Mathematical Society
Association for Women in Mathematics
Bernoulli Society for Mathematical Statistics and Probability
International Association of Mathematical Physics
American Association for the Advancement of Science

Computer Related

Familiarity with C++, \LaTeX , Mathematica, MATLAB, and R