Timothy Chumley

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Education

Washington University in St. Louis

Ph.D. in Mathematics, 2013

Marquette University

M.S. in Mathematics, 2007

B.S. in Computer Science, Mathematics, 2005

Employment

Mount Holyoke College, Department of Mathematics & Statistics

Associate Professor, 2022 – present

Assistant Professor, 2016 – 2022

Iowa State University, Department of Mathematics

NSF Alliance for Building Faculty Diversity Postdoctoral Fellow, 2013 – 2016

Washington University in St. Louis, Department of Mathematics

Graduate Teaching Assistant and Instructor, 2008 – 2013

Teaching

Mount Holyoke College

Math 241, Dynamical Systems, Spring 2022.

Math 339SP/Stat 344, Stochastic Processes, Spring 2022.

Math 102, Calculus II, Fall 2021.

Math 301, Real Analysis, Fall 2021.

Math 342, Probability (2 sections), Spring 2021.

Math 395, Independent study in Billiards and Thermodynamics (1 student), Spring 2021.

Math 301, Real Analysis (2 sections), Fall 2020.

Math 101, Calculus I, Spring 2019.

Math 339SP/Stat 344, Stochastic Processes, Spring 2019.

Math 395, Independent study in Random Billiards (1 student), Spring 2019.

Math 232, Discrete Math, Fall 2018.

Math 342, Probability, Fall 2018.

Math 395, Independent study in Random Billiards (1 student), Fall 2018.

Math 339SP/Stat 344, Stochastic Processes, Spring 2018.

Math 333, Differential Equations, Spring 2018.

Math 342, Probability (2 sections), Fall 2017.

Stat 395, Independent study in Statistical Analysis of Networks (3 students), Fall 2017.

Student Research (2 students), Summer 2017.

Math 211, Linear Algebra, Spring 2017.

Math 339SP/Stat 344, Stochastic Processes, Spring 2017.

Math 102, Calculus II, Fall 2016.

Math 342, Probability, Fall 2016.

Iowa State University

Math 166, Calculus II, Fall 2015.

Math 501, Introduction to Real Analysis, Fall 2014.

Math 317, Theory of Linear Algebra, Spring 2014.

Math 166, Calculus II, Fall 2013.

Washington University

Math 309, Matrix Algebra, Summer 2012.

Math 1011, Introduction to Statistics, Summer 2010.

Math 1011, Introduction to Statistics, Summer 2009.

Math 155, Calculus I, Summer 2008.

Research Articles

1. T. Chumley, J. Covey, C. Cox, and R. Feres. Chaotic lensed billiards. *arXiv preprint*, submitted 2022.
2. J. Ahmed, T. Chumley, S. Cook, C. Cox, H. Grant, N. Petela, B. Rothrock, and R. Xhafaj. Dynamics of the no-slip galton board. *arXiv preprint*, submitted 2022.
3. T. Chumley, R. Feres, and L. A. Garcia German. Knudsen diffusivity in random billiards: spectrum, geometry, and computation. *SIAM J. Appl. Dyn. Syst.*, 20(3):1655–1682, 2021.
4. T. Chumley, R. Feres, and M. Wallace. Exact discretization of harmonic tensors. *Potential Anal.*, 56(3):409–421, 2022.
5. T. Chumley and R. Feres. Entropy production in random billiards. *Discrete Contin. Dyn. Syst.*, 41(3):1319–1346, 2021.
6. T. Chumley, S. Cook, C. Cox, and R. Feres. Rolling and no-slip bouncing in cylinders. *J. Geom. Mech.*, 12(1):53–84, 2020.
7. O. Aydogmus, T. Chumley, A. Matzavinos, and A. Roitershtein. Moran-type bounds for the fixation probability in a frequency-dependent Wright-Fisher model. *J. Math. Biol.*, 76(1):1–35, 2018.
8. T. Chumley, R. Feres, and H.-K. Zhang. Diffusivity in multiple scattering systems. *Trans. Amer. Math. Soc.*, 368(1):109–148, 2016.
9. T. Chumley, S. Cook, and R. Feres. From billiards to thermodynamics. *Comput. Math. Appl.*, 65(10):1596–1613, 2013.
10. T. Chumley. *Limit Theorems for Random Billiard Models.* PhD thesis, 2013.

Presentations

Invited

Tarleton State University, Colloquium, September 2019

SIAM Conference on Applications of Dynamical systems, Minisymposium on Thermodynamic Laws from Nonequilibrium Dynamics, May 2019

AMS Eastern Sectional Meeting, Special Session on Billiard Dynamics: Standard and Alternative Collision Models, September 2018

Joint Mathematics Meetings, Special session on Research by Postdocs of the Alliance for Diversity in Mathematics, January 2018

AIMS Conference on Dynamical Systems, Differential Equations and Applications, Special Session on Dynamical systems and their applications, July 2016

Washington University, Geometry seminar, April 2016

Mount Holyoke College, Colloquium, February 2016

Joint Mathematics Meetings, Special session on Research by Postdocs of the Alliance for Diversity in Mathematics, January 2016

Contributed

International Congress of Mathematicians, Probability session, August 2018

Seminar on Stochastic Processes, University of Virginia, March 2017

Professional Service

Co-organizer for Special Session at AMS Fall Eastern Sectional Meeting, October 2022

Panelist for Applied Math program, Division of Mathematical Sciences, NSF, March 2022

Co-organizer, BIRS Oaxaca workshop on Frontiers in Billiard Dynamics, June 2021

Co-organizer, SIAM Conference on Applications of Dynamical systems mini-symposium, May 2019

Co-organizer for Special Session at AMS Fall Eastern Sectional Meeting, September 2018

Judge for MAA Undergraduate Poster Session at JMM, January 2017

Co-organizer for Special Session at 11th AIMS Conference on Dynamical Systems Differential Equations and Applications, Orlando, July 2016

Co-organizer for AIM SQuaRE on Stochastic thermodynamics and random billiards, 2015 – 2017

Co-organizer, Iowa State University probability seminar, 2014 – 2016

Co-organizer for AMS Special session on Statistical Aspects of Dynamical Systems, October 2013

Referee for Chaos: An Interdisciplinary Journal of Nonlinear Science, Discrete and Continuous Dynamical Systems, Journal of Mathematical Physics

Awards, Grants, and Other Honors

Interviewed for AMS Mathematical Moments, 2022.

Featured in Latinxs and Hispanics in the Mathematical Sciences AMS poster, 2022

Featured in MAA Focus article on Latinxs and Hispanics in the Mathematical Sciences, 2020.

Latinxs and Hispanics in the Mathematical Sciences (Lathisms) honoree, 2020

AMS-NSF International Congress of Mathematicians travel award, 2014, 2018, 2022

AMS Project NExT Fellow, 2016 – 2017

American Institute of Mathematics SQuaRE grant, 2015 – 2017

NSF Alliance for Diversity in Mathematical Sciences Postdoctoral Fellowship, 2013 – 2016

Dissertation Fellowship, Washington University, 2012 – 2013

University Fellowship, Washington University, 2007 – 2008, 2010

Phi Beta Kappa, 2005

Selected Conference Participation

Northeast Conference on Dynamical Systems, University of Massachusetts Amherst, November 2019.

Illustrating Probability and Dynamics workshop, ICERM, November 2019.

SIAM Conference on Applications of Dynamical systems, Snowbird, May 2019.

AMS Eastern Sectional Meeting, Newark, September 2018.

International Congress of Mathematicians, Rio de Janeiro, August 2018.

Seminar on Stochastic Processes, Brown University, May 2018.

Joint Mathematics Meetings, San Diego, January 2018.

Mathfest, Chicago, August 2017.

AIM SQuaRE on Stochastic thermodynamics and random billiards, June 2017

Seminar on Stochastic Processes, University of Virginia, March 2017.

Joint Mathematics Meetings, Atlanta, January 2017.

Mathfest, Columbus, August 2016.

The 11th AIMS Conference on Dynamical Systems, Differential Equations and Applications, Orlando, July 2016.

Service at Mount Holyoke College

Academic Administrative Board member, 2020 – 2023

Math/Stat liaison for STEMPOC student group, 2018 – 2020

Subcommittee on the Goldwater Fellowship, 2017 – 2020

Math/Stat TAs and graders co-organizer, 2017 – 2018

Data science curriculum committee, 2016 – 2017

Problem solving club co-advisor, 2016 – 2017

Math/Stat LITS liaison, 2016 – 2017

Professional Memberships

Member, American Mathematical Society, 2007 – Present.

Member, Mathematical Association of America, 2016 – Present.

Last updated: December 29, 2022