

7. *On effective equidistribution for quotients of $SL(d, \mathbb{R})$*
(with Menny Aka, Manfred Einsiedler and Amir Mohammadi)
Israel Journal of Mathematics, 236 (2020), 365-391.
6. *New bounds in reduction theory of indefinite ternary integral quadratic forms*
(with Gregory A. Margulis)
Advances in Mathematics, 327 (2018), 410-424.
5. *Effective estimates on integral quadratic forms: Masser's conjecture, generators of orthogonal groups, and bounds in reduction theory*
(with Gregory A. Margulis)
Geometric and Functional Analysis, 26 (2016), no. 3, 874-908.
4. *Small generators of cocompact arithmetic Fuchsian groups*
(with Michelle Chu)
Proceedings of the American Mathematical Society, 144 (2016), no. 12, 5121-5127.
3. *Effective equidistribution of translates of maximal horospherical measures in the space of lattices*
(with Kathryn Dabbs and Michael Kelly)
Journal of Modern Dynamics, 10 (2016), 229-254.
2. *Effective limit distributions of the Frobenius numbers*
Compositio Mathematica, 151 (2015), no. 5, 898-916.
1. *Spectral gap actions and invariant states*
(with Chi-Keung Ng)
International Mathematics Research Notices, (2014), no. 18, 4917-4931.

ACADEMIC GRANTS AND AWARDS

1. Principal Investigator, the Simons Foundation Collaboration Grants for Mathematicians #853671 (\$42,000), "Dynamics, Group Actions and Number Theory", 2021 - 2026.
2. Principal Investigator, NSF Conference Grant DMS #2000176 (\$6,000), "A Dynamical Systems Weekend Conference at Wesleyan", 2020 - 2021.
3. Principal Investigator, NSF Standard Grant DMS #1700109 (\$143,999), "Group Actions, Homogeneous Dynamics and Number Theory", 2017 - 2022.
4. Principal Investigator, the Simons Foundation Collaboration Grants for Mathematicians #426090 (\$35,000), "Homogeneous Dynamics, Group Actions, and Number Theory", 2016 - 2021 (terminated in 2018 with acceptance of NSF Grant DMS #1700109).
5. Silver Medal of PhD Thesis, New World Mathematics Awards, International Consortium of Chinese Mathematicians, 2016.
6. Gamelin Endowed Postdoctoral Fellowship, Mathematical Sciences Research Institute, 2015.
7. AMS Simons Travel Grant, \$4,000, the Simons Foundation, 2014 - 2016.

INVITED ACADEMIC TALKS

Conference Talks

1. AMS Special Session on Quadratic Forms, Modular Forms, and Applications, **Boston**, Jan 2023.
2. Conference on the Arithmetic Theory of Quadratic Forms, **Seoul National University**, Korea, Jan 2019.
3. Manhattan Algebra Day, **City University of New York**, Dec 2016.
4. Advances in Homogeneous Dynamics, **MSRI**, May 2015
5. Introductory Workshop: Geometric and Arithmetic Aspects of Homogeneous Dynamics, **MSRI**, Feb 2015
6. ICM Satellite Conference on Quadratic Forms and Related Topics, **Gyeongju**, Korea, Aug 2014
7. Dynamics on Homogeneous Spaces and Applications, **Université Lyon 1**, France, Jun 2013
8. AMS sectional meeting, **Boston College**, Apr 2013
9. International Conference on Abstract Harmonic Analysis, **Nankai University**, China, Jun 2011
10. AMS sectional meeting, **Holy Cross College**, Apr 2011
11. International Conference on Banach Spaces and Operator Spaces, **Nankai University**, China, Jul 2007

Colloquia

1. Brandeis-Harvard-MIT-Northeastern Joint Mathematics Colloquium, **Brandeis University**, Mar 2016
2. Department colloquium, **Wesleyan University**, Oct 2014

Lecture Series

1. Dynamics of Group Actions (8 lectures), **Tsinghua University**, China, Jul - Aug 2016

Invited Seminar Talks

1. Analysis seminar, **University of Connecticut**, Feb 2020.
2. Analysis seminar, **University at Buffalo**, Oct 2019.
3. Complex analysis and dynamics seminar, **Graduate Center of CUNY**, Feb 2019
4. Dynamical systems seminar, **Penn State University**, Apr 2018
5. Algebra and number theory seminar, **Wesleyan University**, Mar 2018
6. Dynamics seminar, **University of Chicago**, Feb 2018
7. Math department seminar, **Capital Normal University**, China, Jun 2016
8. Math department seminar, **Peking University**, China, May 2016
9. Geometry seminar, **University of Michigan**, Oct 2015
10. Group, Lie and number theory seminar, **University of Michigan**, Oct 2015
11. Group actions and dynamics seminar, **The University of Texas at Austin**, Apr 2015
12. Postdoc seminar, **MSRI**, Apr 2015
13. Group actions and dynamics seminar, **The University of Texas at Austin**, Sep 2014
14. IMS number theory seminar, **The Chinese University of Hong Kong**, Hong Kong, Jun 2014
15. "Every topics" seminar, **Brandies University**, Mar 2014
16. Ergodic theory and dynamics seminar, **University of Illinois at Urbana-Champaign**, Mar 2014
17. Algebra seminar, **Wesleyan University**, Feb 2014
18. Group actions and dynamics seminar, **Yale University**, Jan 2014
19. Groups, dynamics and related topic seminar, **Technion**, Israel, Dec 2013
20. Ergodic theory seminar, **The Hebrew University of Jerusalem**, Israel, Dec 2013
21. Group actions and dynamics seminar, **The University of Texas at Austin**, Nov 2013
22. Group actions and dynamics seminar, **Texas A&M University**, Nov 2013
23. Linear analysis seminar, **Texas A&M University**, Nov 2013
24. Applied analysis seminar, **The University of Massachusetts Amherst**, Oct 2013
25. Dynamics and analysis seminar, **Wesleyan University**, Oct 2013
26. Group actions and dynamics seminar, **Yale University**, Oct 2013

27. Number theory seminar, **École polytechnique fédérale de Lausanne**, Switzerland, Jun 2013
28. Groups and geometry seminar, **Université de Geneve**, Switzerland, Dec 2012
29. Dynamics seminar, **Université Paris-Sud 11 (Orsay)**, France, Nov 2012
30. Dynamics seminar, **Université de Rennes 1**, France, Nov 2012
31. Algebra seminar, **The State University of New York, Buffalo**, Oct 2012
32. Math department seminar, **Xiamen University**, China, Jul 2012
33. Math department seminar, **Shandong University**, China, Jun 2012
34. Math department seminar, **Peking University**, China, May 2012
35. Math department seminar, **Nankai University**, China, May 2012
36. Math department seminar, **Fudan University**, China, May 2012
37. Ergodic theory and statistical mechanics seminar, **Princeton University**, May 2012
38. Group actions and dynamics seminar, **Yale University**, Mar 2012
39. Number theory seminar, **University of Illinois at Urbana-Champaign**, Feb 2011
40. Ergodic theory and statistical mechanics seminar, **Princeton University**, Feb 2011
41. Ergodic theory seminar, **Erwin Schrödinger Institute**, Austria, Jul 2010

TEACHING EXPERIENCE AT WESLEYAN UNIVERSITY

Regular Courses

- MATH 122, Calculus II:** Spring 2020, Spring 2021, Spring 2022, Fall 2022
- MATH 222, Multivariable Calculus:** Fall 2015, Fall 2016, Fall 2017, Fall 2018
- MATH 223, Linear Algebra:** Spring 2016, Fall 2024
- MATH 225, Fundamentals of Analysis:** Spring 2020, Fall 2020
- MATH 226, Complex Analysis:** Fall 2019
- MATH 228, Discrete Mathematics:** Fall 2015, Spring 2018, Spring 2021
- MATH 231, An Introduction to Probability:** Fall 2016, Fall 2018, Fall 2023
- MATH 233, Stochastic Processes:** Spring 2024
- MATH 255, Fundamentals of Analysis II:** Fall 2017, Spring 2022
- MATH 513, Analysis I:** Fall 2020, Fall 2021, Fall 2023
- MATH 516, Analysis II:** Spring 2016, Spring 2018, Fall 2019, Fall 2022

Ph.D. Thesis Supervised

- Jacob Tolman:** Spring 2022 - present.

Master Thesis Supervised

- Qiyuan Zheng:** 2021, MA in Mathematics
Thesis: Central limit theorems: proofs and extensions to applications in renewal theory

Undergraduate Honor Thesis/Presentation Mentoring

- Haochen Gao:** 2021, BA with High Honor in Mathematics
Thesis: Finiteness of class number
- Zheng Mao:** 2020, BA with Honor in Mathematics
Presentation (waived due to the outbreak of COVID-19): On the Riemann mapping theorem
- Rocco Davino:** 2018, BA with High Honor in Mathematics
Presentation: On the Radon-Nikodym theorem
- Yiren Chai:** 2017, BA with Honor in Mathematics

Thesis: Symmetric random walk

Individual Tutorial Courses

Spring 2021: Haochen Gao

Fall 2020: Elvin Shrestha

Spring 2020: Miguel O'Malley, Nate Gillman

Spring 2018: Rocco Davino

Spring 2017: Yiren Chai

Fall 2016: Yiren Chai, Nancy Tang

Wesleyan Teaching Apprentice Tutorial

Jihong Gan '23: MATH228, Spring 2021

Cheng Shi '22: MATH225, Fall 2020

Yuan Wang '20: MATH225, Spring 2020

Zheng Mao '20: MATH226, Fall 2019

Yulia Alexandr '19: MATH231, Fall 2018

Wesleyan Summer Research Tutorial

Haochen Gao '21: Summer 2019, Summer 2020

ACADEMIC SERVICES

Journal Refereeing

Combinatorica, Compositio Mathematica, Ergodic Theory and Dynamical Systems, International Mathematics Research Notices, Inventiones Mathematicae, Journal of Modern Dynamics, L'Enseign Math, Memoires de la Societe Mathematique de France.

Grant Reviewer

The Simons Foundation (2022), National Science Foundation (2023).

Synergistic Activities

A Dynamical Weekend at Wesleyan: <http://dynamicalweekend.conference.wesleyan.edu/>

A weekend mini-conference on dynamics, groups, number theory, geometry, and related topics, co-organized with Adam Fieldsteel (Wesleyan), March 2023.

AIM Special Session on Little School Dynamics: Cool Research at PUIs:

Special sessions at the Joint Mathematics Meetings, co-organized with Kimberly Ayers (Carroll College), David M. McClendon (Ferris State University), Andrew Parrish (Eastern Illinois University) and Ami Radunskaya (Pomona College), January 2022 in Seattle and January 2023 in Boston.

Little School Dynamics: <https://aimath.org/programs/researchcommunities/dynamics/>

An online research community, sponsored by AIM and the NSF, with the aim of stimulating, supporting, and promoting dynamics research for faculties at Primarily Undergraduate Institutions, co-organized with Kimberly Ayers (Carroll College), David M. McClendon (Ferris State University), Andrew Parrish (Eastern Illinois University) and Ami Radunskaya (Pomona College), since 2021.

New England Dynamics and Number Theory Seminar: <https://nednt.wescreates.wesleyan.edu/>

An online international seminar featuring research talks on ergodic theory, homogeneous dynamics, number theory, co-organized with Dmitry Kleinbock (Brandeis), Keith Merrill (Brandeis) and Felipe

Ramirez (Wesleyan), since 2020.

American Mathematical Society Sectional Meeting:

AMS special session in homogeneous dynamics (Stony Brook University), co-organized with Dmitry Kleinbock (Brandeis), March 2016.

Seminar/Colloquia Organization

The Coven/Wood Lecture Series in Mathematics at Wesleyan University (co-organizer, 2016)

Mathematics Colloquia at Wesleyan University (organizer, 2015 - 2016)

Analysis Seminar at Wesleyan University (co-organizer, since 2015)

Topology et al. Seminar at Wesleyan University (co-organizer, since 2015)

Other Service to Wesleyan Mathematics and Computer Science Department

Search Committee for Visiting Instructor in Mathematics: Fall 2022

Director of Math Club: 2020 - 2021.

Departmental Advisory Committee: 2016 - 2017, 2018 - 2019, 2019 - 2020, Fall 2020.

Graduate Education Committee: 2017 - 2018, 2021-2022, Fall 2022.

Graduate Preliminary Exam Committee: Dan Alvey, 2019; Andre Oliveira, 2018; Cameron Bishop, 2016.

PhD Thesis Committee: Andre Oliveira, 2021; Noelle Sawyer, 2020.

Service to Wesleyan University Outside the Mathematics and Computer Science Department

Wesleyan remote teaching cohort: Fall 2020.

Poster session referee for QAC 201: Spring 2021, Spring 2016.