

Han Huang

PROFILE

University of Missouri, Department of Mathematics, Assistant Professor

Email: hhuang@missouri.edu

Website: <https://hhuangmath.com>

EMPLOYMENT

Assistant Professor,
Department of Mathematics, University of Missouri, 2023-current

Postdoc Associate,
MIT, 2022- 2023

Hale Visiting Assistant Professor (postdoc),
School of math, Georgia Institute of Technology, 2019-2022

EDUCATION

University of Michigan - Ann Arbor, Ph.D. , Mathematics, 2013-2019 Advisor: Mark Rudelson

IPAM, Visiting Scholar, Spring 2018

MSRI, Visiting Scholar, Fall 2017

University of Minnesota - Twin Cities, Bachelor of Science, Mathematics, 2009-2013

PUBLICATIONS

- Average-case Analysis of the Gaussian Elimination with Partial Pivoting with *K. Tikhomirov*, submitted [[arXiv](#)]
- Shotgun Assembly of unlabeled Erdos-Renyi graphs with *K. Tikhomirov*, submitted [[arXiv](#)]
- On Dimension-dependent concentration for convex Lipschitz continuous functions in product spaces with *K. Tikhomirov*, Electronic Journal of Probability [[arXiv](#)]
- Rank of Sparse Bernoulli Matrices submitted [[arXiv](#)]
- Distribution of the minimal distance of random linear codes

with *J. Hao, G. Livshyts, and K. Tikhomirov*, IEEE Transactions on Information Theory [\[arXiv\]](#)
 (The conference version is published on 2020 IEEE International Symposium on Information Theory (ISIT))

- A remark on the smallest singular value of powers of Gaussian matrices
 with *K. Tikhomirov*, Electronic Communications in Probability [\[arXiv\]](#)
- Constrained convex bodies with extremal affine surface areas,
 with *O. Giladi, C. Schütt, and E. Werner*, Journal of Functional Analysis [\[arXiv\]](#)
- Size of nodal domains of the eigenvectors of a $G(n,p)$ graph
 with *M. Rudelson*, Random Structures & Algorithms [\[arXiv\]](#)
- Improved bounds for Hadwiger's covering problem via thin-shell estimates,
 With *B. Slomka, T. Tkocz, and B.-H. Vritsiou*, Journal of the European Mathematical Society [\[arXiv\]](#)
- Ulam Floating Body,
 with *B. Slomka and E. Werner*, Journal of the London Math Society, [\[arXiv\]](#)
- Approximations of convex bodies by measure-generated sets
 With *B. Slomka*, Geometriae Dedicata, [\[arXiv\]](#)
- John's position is not good for approximation.
 Israel Journal of Mathematics, [\[arXiv\]](#)
- John Ellipsoid and the Center of Mass.
 Discrete and Computational Geometry, [\[Journal\]](#) [\[arXiv\]](#)
- Upper Bound for the Dvoretzky Dimension in the Milman-Schechtman Theorem
 with *F. Wei*, Geometric Aspects of Functional Analysis: Israel Seminar (GAFA) [\[Journal\]](#) [\[arXiv\]](#)

INVITED TALK

Date	Conference/Workshop	Title
September, 2022		Average-Case Analysis of Gaussian Elimination with Partial Pivoting

June, 2022	Convex Geometry and Partial Differential Equations, CMS Summer Meeting	Average-Case Analysis of Gaussian Elimination with Partial Pivoting
February, 2022	Calculus of Variations in Probability and Geometry Workshop, IPAM	Shotgun Assembly of Erdos Renyi Graph
November, 2021	Probability Seminar, MIT	Shotgun Assembly of Erdos Renyi Graph
March, 2021	High dimensional measures: geometric and probabilistic aspects, Hausdorff Research Institute for Mathematics	Rank of sparse Bernoulli matrices
February, 2021	Online Asymptotic Geometric Analysis Seminar	Rank of sparse Bernoulli matrices
October, 2020	AMS Special Session on Convexity and Probability in High Dimensions	Singularity of sparse Bernoulli matrices with p close to $\log(n)/n$
September, 2020	High dimensional Seminar, Georgia Institute of Technology	Singularity of sparse Bernoulli matrices with p close to $\log(n)/n$
January, 2020	High dimensional Seminar, Georgia Institute of Technology	Improved bounds for Hadwiger covering problem via the thin shell estimate
November, 2019	Stochastic Seminar, Georgia Institute of Technology	The minimal distance of random linear codes
September, 2019	High dimensional Seminar, Georgia Institute of Technology	Size of nodal domains for Erdős-Rényi Graph
September, 2019	High dimensional Seminar, Georgia Institute of Technology	John Ellipsoid is not good for approximation
April, 2019	AMS Special Session on Analytic and Probabilistic Methods in Convex Geometry, University of Hawaii	Size of nodal domains for Erdős-Rényi Graph

October, 2018	AMS Special Session on Random Matrix Theory Beyond Wigner and Wishart, University of Michigan	Size of nodal domains for Erdős-Rényi Graph
October, 2018	Probability Seminar, UCLA	Size of nodal domains for Erdős-Rényi Graph
September, 2018	AMS Special Session on Convex Geometry and Functional Inequalities, University of Delaware	Ulam Floating Bodies
September, 2018	High dimensional Seminar, Georgia Institute of Technology	John Ellipsoid and the Center of Mass
April, 2018	Quantitative Linear Algebra, IPAM	Size of nodal domains for Erdős-Rényi Graph
October, 2017	Geometric Functional Analysis Young Researcher Seminar, MSRI	John's Position is not good for approximation
January, 2017	Probability Seminar, Case Western Reserve University	John Ellipsoid is not good for approximation
July, 2016	Concentration week on Geometric Functional Analysis, Texas A&M	John Ellipsoid and the Center of Mass

CONFERENCE AND WORKSHOPS PARTICIPATION

June, 2022	Convex Geometry and Partial Differential Equations, CMS Summer Meeting
May, 2022	Workshop in Convexity and High-dimensional Probability, Georgia Institute of Technology
February, 2022	Calculus of Variations in Probability and Geometry Workshop, IPAM
March 2021	High dimensional measures: geometric and probabilistic aspects, Hausdorff Research Institute for Mathematics

October 2020	AMS Special Session on Convexity and Probability in High Dimensions
December 2019	Workshop in Convexity and Geometric Aspects of Harmonic Analysis, Georgia Institute of Technology
July 2019	Summer School on Random Matrices, University of California, Los Angeles (as an Instructor for the workshop)
April 2019	AMS Special Session on Analytic and Probabilistic Methods in Convex Geometry, University of Hawaii
October 2018	AMS Special Session on Random Matrix Theory Beyond Wigner and Wishart, University of Michigan
September 2018	AMS Special Session on Convex Geometry and Functional Inequalities, University of Delaware
March 2018 - June 2018	Quantitative Linear Algebra, Institute for Pure & Applied Mathematics.
August 2017 - December 2017	Geometric Functional Analysis and Applications, Mathematical Sciences Research Institute
July, 2016	Concentration Week on Geometric Functional Analysis, Texas A&M University
April, 2016	Informal Analysis Seminar, Kent State University
November, 2015	Informal Analysis Seminar, Kent State University
November, 2015	Analytic and Probabilistic Techniques in Modern Convex Geometry, University of Missouri
August, 2015	Asymptotic Geometric Analysis Mini-Symposium, Case Western Reserve University
August, 2015	CBMS Conference in the Theory of Valuations, Kent State University
March, 2015	Informal Analysis Seminar, Kent State University
October, 2014	Informal Analysis Seminar, University of Michigan, Ann Arbor

July, 2012 Geometric Group Theory, Park City Mathematics Institute - Institute for Advanced Study, Park City.

HONORS AND AWARDS

2019	Summer B. Myers Prize, Best Thesis Award for Math Ph.D. University of Michigan
2017 Winter	Wirt and Mary Cornwell Prize, University of Michigan
2017 Winter	Mathematics Department Graduate Fellowship, University of Michigan
2016	Juha Heinonen Memorial Graduate Fellowship, University of Michigan
2015	Mathematics Department Graduate Fellowship, University of Michigan

TEACHING

2022 Spring	Information Theory (Georgia Institute of Technology)
2021 Fall	Applied Combinatorics (Georgia Institute of Technology)
2021 Spring	Applied Combinatorics (Georgia Institute of Technology)
2020 Fall	Applied Combinatorics (Georgia Institute of Technology)
2020 Spring	Information Theory (Georgia Institute of Technology)
2019 Fall	Applied Combinatorics (Georgia Institute of Technology)
2019 Summer	Random Matrices, Random Matrix Summer School, UCLA
2018 Fall	Calculus 2 (University of Michigan)
2015 Winter	Calculus 2 (University of Michigan)
2014 Fall	Calculus 2 (University of Michigan)
2014 Winter	Calculus 1 (University of Michigan)

2013 Fall

Pre-calculus (University of Michigan)