

Wai-Kit Lam

CONTACT INFORMATION	239 Vincent Hall 206 Church St. SE. Minneapolis, MN 55455, USA	(612) 624-4813 wlam@umn.edu https://wk-lam.github.io/
RESEARCH INTERESTS	Probability theory.	
EDUCATION	Indiana University, Bloomington Ph.D. in Mathematics, 2013 - 2018 Advisor: Michael Damron Dissertation Topic: Topics in critical and first-passage percolation The Chinese University of Hong Kong M.Phil. in Mathematics, 2011 - 2013 Advisor: De-Jun Feng Dissertation Topic: Arithmetic properties of certain sets of fractional dimension B.Sc. in Mathematics, 2008 - 2011	
EMPLOYMENT	University of Minnesota Dunham Jackson Assistant Professor, 2018 - 2021	
PUBLICATIONS/ PREPRINTS	(With M. Damron, C. Janjigian and X. Shen) Tail bounds for the averaged empirical distribution on a geodesic in first-passage percolation. arXiv:2010.08072 (With W.-K. Chen) Universality of approximate message passing algorithms. <i>Electron. J. Probab.</i> 26 (2021), Paper No. 36, 44 pp. (With M. Damron and J. Hanson) Universality of the time constant for 2D critical first-passage percolation. arXiv:1904.12009 (With W.-K. Chen) Order of fluctuations of the free energy in the SK model at critical temperature. <i>ALEA Lat. Am. J. Probab. Math. Stat.</i> 16 (2019), no. 1, 809–816. (With M. Damron and J. Hanson) The size of the boundary in first-passage percolation. <i>Ann. Appl. Probab.</i> 28 (2018), no. 5, 3184–3214. (With M. Damron and X. Wang) Asymptotics for 2D critical first passage percolation. <i>Ann. Probab.</i> 45 (2017), no. 5, 2941–2970.	
TALKS/ PRESENTATIONS	Near-critical avalanches in 2D frozen percolation and forest fires Probability Seminar, CUNY (Mar. 2021) Weierstrass Institute for Applied Analysis and Stochastics (Oct. 2020) Probability and Related Fields Seminar, Indiana University (Feb. 2020) Probability Seminar, University of Minnesota (Jan. 2020) Recent progress on 2D critical first-passage percolation University of Cambridge (Feb. 2021) Random complex systems: examples and applications	

	Special Colloquium, Academia Sinica (Dec. 2020)
	National Taiwan University (Nov. 2020)
	Tail bounds for the averaged empirical distribution on a geodesic in first-passage percolation
	Northwestern University-University of Minnesota Joint Probability Seminar (Sep. 2020)
	The travel time to infinity in percolation
	Bernoulli-IMS One World Symposium 2020 (Aug. 2020)
	(Poster presentation) Interacting Particle Systems, Statistical Mechanics, and Related Topics, UCLA (Mar. 2019)
	Probability Seminar, University of Minnesota (Sep. 2018)
	Universality of the time constant in 2D critical first-passage percolation
	AMS Sectional Meeting, Binghamton University (Oct. 2019)
	Stochastic Processes and their Applications 2019, Northwestern University (July 2019)
	Limit shapes in first-passage percolation
	Functional Analysis Seminar, University of Pittsburgh (Oct. 2018)
	The size of the boundary in first-passage percolation
	Probability Seminar, University of Illinois at Urbana-Champaign (Mar. 2018)
	The size of the boundary in the Eden model
	Seminar, The Chinese University of Hong Kong (May 2017)
	AMS Joint Math Meetings, Atlanta (Jan. 2017)
	Asymptotics for 2D first-passage percolation
	AMS Joint Math Meetings, Atlanta (Jan. 2017)
	Probability and Related Fields Seminar, Indiana University (Oct. 2016)
	Seminar, The Chinese University of Hong Kong (July 2016)
	Arithmetic properties of certain sets of fractional dimension
	Seminar, The Chinese University of Hong Kong (Nov. 2012)
EXPOSITORY TALKS	Several talks on first-passage percolation
	Probability/mathematical physics learning seminar, University of Minnesota (Spring 2019)
	Several talks on random matrix theory
	Graduate student seminar: Random matrix theory, Indiana University (Spring 2018)
	Fourier decay of measures
	Graduate student analysis seminar, Indiana University (Nov. 2015)
	Commutative Banach algebras
	Student seminar, The Chinese University of Hong Kong (July 2015)
	Arithmetic progressions in sets of fractional dimension
	Seminar, The Chinese University of Hong Kong (Mar. 2012)
CONFERENCES/ WORKSHOPS PARTICIPATION	Stochastic Spatial Processes Conference, Ohio State University (Mar. 2021)
	42nd Midwest Probability Colloquium, Northwestern University (Oct. 2020)
	Bernoulli-IMS One World Symposium 2020 (Aug. 2020)
	AMS Joint Math Meetings, Denver (Jan. 2020)
	AMS Sectional Meeting, Binghamton University (Oct. 2019)
	41st Midwest Probability Colloquium, Northwestern University (Oct. 2019)
	Stochastic Processes and their Applications 2019, Northwestern University (July 2019)
	Mathematics Research Communities: Stochastic Spatial Models, Whispering Pines

(June 2019)
 2019 Spring Probability Workshop, Academia Sinica (May 2019)
 Interacting Particle Systems, Statistical Mechanics, and Related Topics, UCLA (Mar. 2019)
 Spin Glasses and Related Topics, BIRS (Oct. 2018)
 Workshop on Fractal Geometry and Related Topics, CUHK (May 2018)
 Wabash Modern Analysis Seminar, Wabash College (Feb. 2018)
 AMS Sectional Meeting, Indiana University (Apr. 2017)
 AMS Joint Math Meetings, Atlanta (Jan. 2017)
 School and Workshop on Random Interacting Systems, University of Bath (June 2016)
 Midwest Workshop on Asymptotic Analysis, Indiana University (Oct. 2015)
 AMS Sectional Meeting, Michigan State University (Mar. 2015)
 International Conference on Advances on Fractals and Related Topics, CUHK (Dec. 2012)
 Workshop on Fractals and Related Fields, CUHK (Feb. 2012)
 Kyoto University/CUHK Joint Workshop on Analysis and Geometry of Fractals and Metric Measure Spaces, CUHK (Mar. 2010)

TEACHING EXPERIENCE

At UMN:
 Spring 2021 Instructor, MATH 5652 Introduction to Stochastic Processes.
 Fall 2020 Instructor, MATH 5651 Basic Theory of Probability and Statistics (two sections).
 Spring 2020 Instructor, MATH 5652 Introduction to Stochastic Processes.
 Fall 2019 Instructor, MATH 5652 Introduction to Stochastic Processes (two sections).
 Spring 2019 Instructor, MATH 5651 Basic Theory of Probability and Statistics.
 Fall 2018 Instructor, MATH 5651 Basic Theory of Probability and Statistics (two sections).

 At IU:
 Fall 2017 Instructor, MATH-D116 Introduction to Finite Mathematics.
 Fall 2016 Instructor, MATH-M018 Basic Algebra for Finite Mathematics (two sections).
 Fall 2014 Recitation instructor, MATH-M211 Calculus I (two sections).
 Spring 2014 Recitation instructor, MATH-M212 Calculus II.

 At CUHK:
 Spring 2013 Teaching assistant, MATH2220 Mathematics Laboratory II.
 Fall 2012 Teaching assistant, MATH2050 Mathematical Analysis I.
 Spring 2012 Teaching assistant, MATH2220 Mathematics Laboratory II.
 Fall 2011 Teaching assistant, MATH2050 Elementary Analysis I.

 EPYMT (Enrichment Programme for Young Mathematics Talents):
 Summer 2012 Teaching assistant, Understanding Non-Euclidean Geometry.
 Summer 2011 Teaching assistant, Understanding Non-Euclidean Geometry.
 Summer 2009 Teaching assistant, Number Theory and Cryptography.

MENTORING

Undergraduate senior project:
 Lu Zhang (Spring 2019), Xiaoyi Duan (Fall 2019), Lukuan Wang, Wanchen Zhang (Spring 2020), Brandon Kolstoe, Feng Su (Spring 2021)
 Directed Reading Program:
 Beixi Lei (Fall 2015)

EDITORIAL SERVICE

Refereed articles for Annales de l'Institut Henri Poincaré, Electronic Communications

in Probability, Journal of Statistical Physics, and some conference proceedings.

Reviewed articles for Mathscinet.

SERVICE

Co-organizer, Probability seminar (Fall 2018 – Spring 2021)

Organizer, Graduate student seminar: Random matrix theory (Spring 2018)

Student helper and organizer, Directed Reading Program (Spring 2016)

Student helper, Science Fest (Oct. 2015)