

CURRICULUM VITAE

Name: Ivan Zachary Corwin

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Education	Courant Institute, NYU (New York, NY), Ph.D. in Mathematics 2007-2011 Harvard University (Cambridge, MA), A.B. Magna Cum Laude in Mathematics 2002-2006
Research Interests	Probability, mathematical physics, quantum integrable systems, stochastic partial differential equations, random matrix theory.
Academic positions	Full Professor, Columbia University (New York, NY) 2017- Associate Professor, Columbia University (New York, NY) 2013-2017 Research Fellow, Clay Mathematics Institute (Cambridge, MA) 2012-2016 Visiting Professor, Pierre and Marie Curie University (Paris, France) 2014-2015 C.L.E. Moore Instructor, MIT (Cambridge, MA) 2012-2014 Postdoctoral Fellow, Microsoft Research (Cambridge, MA) 2011-2012
Honors and Distinctions	Simons Fellowship in Mathematics 2021 Visiting Miller Professorship 2021 Fellow of the IMS 2018 Gerald L. Alexanderson Award 2017 Packard Fellowship 2014-2019 Rollo Davidson Prize 2014 Poincaré Chair, Institute Henri Poincaré 2014-2015 Invited Lecture, International Congress of Mathematicians 2014 Young Scientist Prize, International Union of Pure and Applied Physics 2012 Clay Research Fellowship 2012-2016 Schramm Memorial Postdoctoral Fellowship 2011-2014
Grants (as PI)	<ul style="list-style-type: none">• W. M. Keck Foundation Science and Engineering Grant, <i>Extreme Diffusion</i>. \$1,000,000 (January 2021 - December 2023).• NSF DMS:1937254, <i>RTG: Research Training in Applied Mathematics at Columbia University</i>. \$1,900,000 (August 2019 - July 2024).• NSF DMS:1811143, <i>Scaling Limits of Growth in Random Media</i>. \$500,000 (July 2018 – June 2023).• NSF DMS:1804339, <i>Workshop on Transport and Localization in Random Media: Theory and Applications</i>. \$30,000 (April 2018 – March 2019).• NSF DMS:1724870, <i>Northeast Probability Seminar 2017-2019</i>. \$75,960 (September 2017 – August 2020).• NSF DMS:1642595, <i>CBMS Conference: Dyson-Schwinger equations, topological expansions and random matrices</i>. \$37,800 (August 2017)• NSF DMS:1664650, <i>FRG: Collaborative Research: Integrable Probability</i>. \$315,418 (July 2017 – June 2020).• NSF DMS:1637087, <i>Conference on quantum integrable systems, conformal field theories and stochastic processes</i>. \$29,990 (July 2016).• Packard Fellowship in Science and Engineering. \$875,000 (October 2014 – October 2019).• NSF DMS:1445391, <i>Northeast Probability Seminar 2014</i>. \$63,300 (September 2014 – September 2017).• NSF DMS:1208998, <i>Exact solvability of the Kardar-Parisi-Zhang stochastic partial differential equation</i>. \$151,826 (July 2012 – June 2016).• NSF Graduate Research Fellowship Award (July 2006 – June 2010).
Professional Service	Semester program lead organizer: ◊ Universality and Integrability in Random Matrix Theory and Integrable Systems (MSRI Berkeley, CA, 2021).

- ◇ New Approaches to Non-equilibrium and Random Systems (KITP Santa Barbara CA, 2016).

Summer school organizer:

- ◇ CMI-HIMR Summer School in Integrable Probability (Oxford UK, 2020).
- ◇ Park City Mathematics Institute on Random Matrix Theory (Park City UT, 2017).
- ◇ Quantum Integrable Systems, Conformal Field Theories and Stochastic Processes (Corsica FR, 2016).
- ◇ Summer Workshop on Stochastic Partial Differential Equations, (MSRI Berkeley CA, 2014).

Conference organizer:

- ◇ Random Growth Models and KPZ Universality (Banff CA, 2021).
- ◇ IntProb 2020 NYC (New York NY, 2021).
- ◇ Symposium on Random Matrices in Biology (New York NY, 2019).
- ◇ CMI at 20 (Oxford UK, 2018).
- ◇ Workshop on Transport and Localization in Random Media: Theory and Applications (New York NY, 2018).
- ◇ Dyson-Schwinger equations, topological expansions and random matrices (New York NY, 2017).
- ◇ Dynamics, Aging and Universality in Complex Systems (New York NY, 2017).
- ◇ Random polymers and algebraic combinatorics (Oxford UK, 2015).
- ◇ Clay Research Conference on Advances in Probability (Oxford UK, 2014).
- ◇ From Macdonald Processes to Hecke Algebras and Quantum Integrable Systems (IHP Paris FR, 2014).
- ◇ Workshop on the KPZ Equation and Universality Class (AIM Palo Alto CA, 2011).

Seminar organizer:

- ◇ Probability and the City Online Seminar (2020–present).
- ◇ Integrable Probability Online Seminar (2020–present)
- ◇ Northeast Probability Seminar (2014, 2017, 2020).
- ◇ Columbia-Princeton Probability Day (2014–present).
- ◇ Columbia-Courant Joint Probability Seminar (2013–present).
- ◇ Columbia University Symposium on Probability and Society (2017, 2020).
- ◇ New York City Integrable Probability Working Group (2016–present).
- ◇ Columbia Probability Seminar (2013–present).
- ◇ Charles River Lectures on Probability and Related Topics (2012–2014).
- ◇ MIT Probability Seminar (2011–2013).

Journal editor:

- ◇ Annales de l'Institut Henri Poincaré (Associate Editor, 2013–present).
- ◇ Bulletins of AMS (Editorial Board, 2018–present).
- ◇ International Mathematics Research Notices (Designated Editor, 2019–present).
- ◇ Journal of Functional Analysis (Editorial Board, 2017–present).
- ◇ Journal of Statistical Physics (Editorial Board, 2013–present; Guest Editor-in-Chief for special issue in honor of Joel Lebowitz).
- ◇ Probability and Mathematical Physics (Associate Editor and Founding Member, 2019–present).
- ◇ Probability Theory and Related Fields (Associate Editor, 2015–present).
- ◇ Selecta Mathematica (Editorial Board, 2015–present).
- ◇ SIGMA (Symmetry, Integrability and Geometry: Methods and Applications) (Editorial Board, 2017–present; Guest Editor for special issue in honor of Percy Deift and Craig Tracy).

Advisor (female advisees marked with *):

- ◇ Postdoctoral Fellows
 - Guillaume Barraquand (Columbia, 2015–2018; followed by CNRS at ENS Physics).
 - Jeffrey Kuan (Columbia, 2015–2018; followed by tenure track at Texas A&M).

- Hao Shen (Columbia, 2015–2018; followed by tenure track at U. Wisconsin).
- Li-Cheng Tsai (Columbia, 2016–2019; followed by tenure track at Rutgers).
- *Alisa Knizel (Columbia, 2017–2020; follow by tenure track at U. Chicago Statistics).
- Evgeni Dimitrov (Columbia, 2018–present).
- Konstantin Matetski (Columbia, 2018–present).
- Andrew Ahn (Columbia, 2020–present).
- ◇ Graduate Students
 - *Xuan Wu (Columbia, 2014–2020; followed by postdoc at U. Chicago).
 - Promit Ghosal (Columbia, 2015–2020; followed by postdoc at MIT).
 - Yier Lin (Columbia, 2016–present).
 - Mark Rychnovsky (Columbia, 2016–present).
 - Shalin Parakh (Columbia, 2017–present).
 - Sayan Das (Columbia, 2018–present).
 - *Weitao Zhu (Columbia, 2018–present).
 - *Hindy Drillick (Columbia, 2019–present).
 - *Zoe Himwich (Columbia, 2019–present).
- ◇ Undergraduates Students
 - Yujin Kim (Columbia senior thesis, 2018–2019; followed by graduate school at Courant).
 - Romain Panis (ENS Paris exchange with Columbia, 2019).
 - Matthew Lerner-Brecher (Columbia senior thesis, 2019–2020; followed by graduate school at MIT).
 - Christian Serio (Columbia senior thesis, 2020–2021).
 - *Cassandra Marcussen (Columbia reading course, 2020).
 - Julien Luzzatto (Columbia reading course, 2020).
- ◇ High School Students
 - Sameer Pai (Bergen County Academies, 2019–2020; followed by college at MIT).
 - Simon Sun (Bergen County Academies, 2020–2021).
 - Gregory Pylypovych (Bergen County Academies, 2020–2021).
- ◇ Junior Faculty Mentoring
 - Daniel Lacker (Columbia Industrial Engineering and Operations Research, 2017–).
 - Amol Aggarwal (Columbia Mathematics, 2020–)
 - Wenpin Tang (Columbia Industrial Engineering and Operations Research, 2020–).

University committees and initiatives:

- ◇ Columbia Initiative for Probability and Society, Director (Columbia, 2017–present).
- ◇ Data Science Institute, Executive Committee Member (Columbia, 2020–present).
- ◇ Program for Mathematical Genomics, Member (Columbia, 2018–present).
- ◇ Center for Cancer Dynamics, Member (Columbia, 2019–present).
- ◇ Columbia Quantum Initiative, Key Faculty (Columbia, 2019–present).
- ◇ Promotions and Tenure Committee for Columbia University Faculty of Arts and Sciences, Member (Columbia, 2019–2022).
- ◇ Science Plan: Computational and Theoretical Science Discussion Group Committee, Member (Columbia, 2019).
- ◇ Diversity, Equity and Inclusion Committee for Columbia Mathematics, Chair (Columbia, 2020–present).
- ◇ Columbia University Math Modeling Workshop, Organizer (Columbia, January 2021).

Professional committees:

- ◇ Centennial Fellowship Committee (AMS, 2017-2019; Chair in 2018–2019).
- ◇ Math Meetings Subcommittee of the Committee on Meetings and Conferences (AMS, 2017–present).
- ◇ Scientific Program Committee for SPA (Stochastic Processes and their Applications) (2022).
- ◇ Scientific Board for the One World Probability Seminar (2020–present).
- ◇ Co-chair for the One World Probability Seminar (fall 2020).
- ◇ Scientific Advisory Board for the Institute for Computational & Experimental Research in Mathematics (2020–present).

**Congress
Lectures**

- ◇ 61st Annual Meeting of the Australian Mathematical Society 2017 (Plenary).
- ◇ International Congress of Mathematicians 2014 (Invited).
- ◇ 37th Conference on Stochastic Processes and their Applications 2014 (Plenary).
- ◇ International Congress of Mathematical Physics 2012 (Invited).

**Distinguished
Lectures**

- ◇ Midwest Probability Colloquium (Zoom, 2020).
- ◇ Mahler Lectures (Australia, 2018).
- ◇ Chern-Simons Lectures (Berkeley CA, 2017).
- ◇ Abel Symposium (Rosendal Norway, 2016).
- ◇ 50th Swiss Probability Seminar Celebration (Zurich CH, 2016).
- ◇ Texas Analysis and Mathematical Physics Symposium (Dallas TX, 2015).
- ◇ Charles River Lectures on Probability and Related Topics (Cambridge MA, 2015).
- ◇ Lipschitz Lectures (Bonn Germany, 2013).
- ◇ MSRI Evans Lecture (Berkeley CA, 2010).

Colloquia

- ◇ Caltech (2016)
- ◇ Centre International de Rencontres Mathématiques (2019)
- ◇ Courant Institute (2012).
- ◇ Ecole Normal Superior: Mathematics (2014).
- ◇ Georgia Tech (2018).
- ◇ Kavli Institute for Theoretical Physics (2016).
- ◇ Mathématiques Appliquées à Paris 5 (2015).
- ◇ Montreal (2016).
- ◇ Queens College (2018).
- ◇ Renaissance Technologies (2019).
- ◇ Rutgers (2016).
- ◇ Stanford University (2017, 2013).
- ◇ SUNY Binghamton (2017).
- ◇ Temple University (2015).
- ◇ University of California Berkeley (2017).
- ◇ University of California Los Angeles (2013).
- ◇ University of Chicago (2020).
- ◇ University of Connecticut (2013).
- ◇ University of Geneva (2014).
- ◇ University of Maryland (2015).
- ◇ University of Michigan (2019).
- ◇ University of Oregon (2015).
- ◇ University of Southern California (2017).
- ◇ University of Texas, Austin (2020).
- ◇ University of Toronto (2012).
- ◇ University of Virginia (2012).
- ◇ University of Washington (2015).

Lecture Series

- ◇ 2020 PIMS Probability Summer School (Vancouver Canada, 2022).
- ◇ 50th Saint-Flour Probability Summer School (Saint-Flour France, 2021).
- ◇ Online Probability Summer School (2020).
- ◇ 3d Haifa Probability School (Haifa Israel, 2020).
- ◇ 12th Mathematical Society of Japan-Seasonal Institute (MSJ-SI) “Stochastic analysis, random fields and integrable probability” (Kyushu University Japan, 2019).
- ◇ Interacting Particle Systems and Parabolic PDEs (Banff Research Station, Calgary Canada, 2018).
- ◇ School on Random Matrix Theory (Michigan, 2018).
- ◇ Integrable Models in Statistical Mechanics, Limit Shapes and Combinatorics (St. Petersburg Russia, 2017).
- ◇ Probabilistic Perspectives in Nonlinear PDEs (Edinburgh Scotland, 2017).
- ◇ AMS Short Course on First and Last Passage Percolation Models (Atlanta GA, 2017).
- ◇ London Mathematical Society – Clay Mathematics Institute Research School (Oxford UK, 2015).
- ◇ Institute Henri Poincare (Paris France, 2015).
- ◇ New Researcher Tutorials at Seminar on Stochastic Processes (Delaware, 2015).
- ◇ Introductory School for Institute Henri Poincare trimester on Disordered System, Random Spatial Processes and Applications (Marseilles FR, 2015).
- ◇ Summer College on Non-Linear Dynamics, Instabilities and Patterns in Classical and Quantum Systems (Trieste IT, 2014).
- ◇ Summer School on Stochastic Partial Differential Equations (Berkeley CA, 2014).
- ◇ Paris 6 (Paris FR, 2014).
- ◇ Summer School on Random Matrix Theory (Bielefeld DE, 2013).
- ◇ Summer School on KPZ Equation and Rough Paths (Rennes FR, 2013).
- ◇ Simons Symposium on the Kardar-Parisi-Zhang Equation (U.S. Virgin Island, 2013).
- ◇ Chiba University (Chiba JP, 2012).
- ◇ Grandes Matrices Aléatoires (Paris FR, 2012).
- ◇ NSF Pan-American Advanced Studies Institute (Santiago CL, 2012).
- ◇ 4th La Pietra Week in Probability (Florence IT, 2011).
- ◇ Groupe de Travail at the Institut Herri Poincaré (Paris FR, 2011).
- ◇ IMPA (Rio de Janeiro BR, 2011).
- ◇ U.C. Berkeley (Berkeley CA, 2010).

Conference Lectures

- ◇ Random Matrix Theory and beyond (Stockholm Sweden, 2021).
- ◇ Second Conference on New Developments in Probability (Tulane, 2021).
- ◇ Midwest Probability Colloquium (2020).
- ◇ Online conference on Statistical Mechanics, Integrable Systems and Probability (2020).
- ◇ Asymptotic Algebraic Combinatorics (Los Angeles, 2020).
- ◇ Symposium on Random Matrices in Biology (New York, 2019).
- ◇ Faces of Integrability (Montreal Canada, 2019).
- ◇ Scaling limits, rough paths, quantum field theory: Conclusions and future directions (Cambridge UK, 2019).
- ◇ Amir Dembo Birthday Conference (Stanford, 2018).
- ◇ Faces of Integrability (Montreal, 2018).
- ◇ Mehran Kardar Birthday Conference (MIT, 2017).
- ◇ Fourth Duke Mathematical Journal Conference (Duke, 2017).
- ◇ Classical and Quantum Integrable Systems (Dubna RU, 2017).
- ◇ Thera Stochastics (Santorini GR, 2017).
- ◇ 117th Statistical Mechanics Conference (Rutgers NJ, 2017).
- ◇ Asymptotic Representation Theory (Paris FR, 2017).
- ◇ Recent Advances in Mathematical Physics (Tokyo JP, 2017).
- ◇ AMS Special Session on Random Matrices, Random Percolation and Random Sequence Alignments (Atlanta GA, 2017).
- ◇ Clifford Lectures (New Orleans LA, 2016).
- ◇ Stochastic Partial Differential Equations (Stonybrook NY, 2016)

- ◇ Infinite Analysis 2016: New Developments in Integrable Systems (Osaka JP, 2016).
- ◇ Six-Vortex Models, Dimers, Shapes, and All That (Stonybrook NY, 2016).
- ◇ Isoperimetric Problems and Manifolds with Density (Williamstown MA, 2016).
- ◇ Random Processes and Random Media (Zurich CH, 2016).
- ◇ Random Matrices, Random Growth Processes and Statistical Physics (Stonybrook NY, 2015).
- ◇ Random Interfaces and Integrable Probability (Florence IT, 2015).
- ◇ Asymptotics in Integrable Systems, Random Matrices, Random Processes and Universality (Montreal CA, 2015).
- ◇ 113th Statistical Mechanics Conference (Rutgers NJ 2015).
- ◇ Limit Shapes (Providence RI, 2015).
- ◇ Interacting Particle Systems and Non-Equilibrium Dynamics (Paris FR, 2015).
- ◇ Fourth Abel Conference (Minnesota, 2014).
- ◇ Interface fluctuations and KPZ universality class - unifying mathematical, theoretical, and experimental approaches (Kyoto JP, 2014).
- ◇ 16th Rencontres Mathématiques de Rouen (Rouen FR, 2014).
- ◇ Stochastic analysis: Around the KPZ Universality Class (Oberwolfach DE, 2014).
- ◇ Random Matrices and Random Systems (Princeton NJ, 2014).
- ◇ Rough Paths: Theory and Applications (Los Angeles CA, 2014).
- ◇ Cornell Probability Summer School (Ithaca NY, 2013).
- ◇ Random Matrix Theory and Applications (Ann Arbor MI, 2013).
- ◇ Analytical Aspects of Mathematical Physics (Zurich CH, 2013).
- ◇ Emerging Trends in Probability Theory (Leipzig DE, 2013).
- ◇ Random polymers (Eindhoven NE, 2013).
- ◇ 108th Statistical Mechanics Conference (Rutgers NJ, 2012).
- ◇ Integrable Systems, Growth Processes and KPZ Universality (Banff CA, 2012).
- ◇ Interacting Particle Systems and Related Topics (Florence IT, 2012).
- ◇ Discrete Probability on Surfaces (Madison WI, 2012).
- ◇ Stochastic Partial Differential Equations with Applications (Istanbul TR, 2012).
- ◇ Random Polymers (Singapore, 2012).
- ◇ Random Walks and Random Media (Berkeley CA, 2012).
- ◇ UK Easter Probability Meeting (Warwick UK, 2011).
- ◇ Interacting Particle Systems, Growth Models and Random Matrices (Warwick UK, 2011).
- ◇ Disordered Media (Warwick UK, 2011).
- ◇ 4th La Pietra week in Probability (Florence IT, 2011).
- ◇ Stochastic Analysis (Oberwolfach DE, 2011).
- ◇ Random Environments (Ithaca NY, 2011).
- ◇ Interacting Processes in Random Environments (Toronto CA, 2011).
- ◇ Large Scale Stochastic Dynamics (Oberwolfach DE, 2010).
- ◇ 28th Annual Western States Mathematical Physics Meeting (Los Angeles CA, 2010).
- ◇ Interacting Stochastic Particle Systems (Montreal CA, 2009).

Seminar Lectures

- ◇ Boston University: Probability (2012), Polymer Studies (2011).
- ◇ Brown University: Probability (2015, 2013), Discrete Math (2012, 2011).
- ◇ Caltech: Mathematical Physics (2016).
- ◇ Centre International de Rencontres Mathématiques (2019)
- ◇ Columbia University: Applied Probability and Risk (2017), Informal Mathematical Physics (2015), Probability (2013, 2012², 2010).
- ◇ Courant: Probability (2011³, 2010).
- ◇ CUNY: Probability (2014, 2010).
- ◇ Delft: Probability (2011)
- ◇ Duke: Probability (2011).
- ◇ EURANDOM: Random Spatial Structures (2011).
- ◇ Georgia Tech: Probability (2012).
- ◇ Harvard: Probability (2015, 2013, 2012², 2011), Random Matrix (2012, 2009).
- ◇ IAS: Random Matrix (2013), Mathematical Physics (2011), Analysis/Mathematical Physics (2011).

- ◇ Marseilles Dynamique, Arithmétique, Combinatoire (2019).
- ◇ Microsoft Research: Theory (2011).
- ◇ MIT: Probability (2016, 2012, 2011, 2009), Combinatorics (2013).
- ◇ Northeastern University: Applied and Interdisciplinary Mathematics (2012).
- ◇ Paris 6 and 7: Probability (2014, 2011).
- ◇ Princeton: Mathematical Physics (2014), Probability (2014), Ergodic Theory and Statistical Mechanics (2011,2018).
- ◇ Rutgers: Mathematical Physics (2012, 2018, 2020).
- ◇ Stanford: Probability (2010), Operations Research and Institute for Computational and Mathematical Engineering Joint Seminar (2017).
- ◇ Tel Aviv University: Probability (2011)
- ◇ Temple University and University of Pennsylvania: Probability (2015).
- ◇ Tokyo University: Integrable Systems (2012).
- ◇ UC Berkeley: Probability (2013), Statistics (2011), Combinatorics (2011).
- ◇ UC Davis: Mathematical Physics and Probability (2017, 2013, 2010).
- ◇ UC Irvine: Probability (2010, 2020).
- ◇ UCLA: Probability (2016, 2010).
- ◇ UIUC: Probability (2015).
- ◇ UMD: Probability (2015, 2012).
- ◇ UO: Probability (2015).
- ◇ UT Austin: Mathematical Physics (2014).
- ◇ UVA: Probability (2014, 2012).
- ◇ Universite Catholique de Louvain: Probability (2011).
- ◇ University of British Columbia: Probability (2012, 2010).
- ◇ University of Chicago: Probability (2012).
- ◇ University of Geneva: Mathematical Physics (2014).
- ◇ University of Michigan: Combinatorics (2012), Analysis/Probability (2012).
- ◇ University of Rochester: Probability (2011).
- ◇ University of Toronto: Probability (2010).
- ◇ University of Utah: Stochastics (2012, 2010).
- ◇ University of Warwick: Random Matrix (2011).
- ◇ University of Wisconsin: Probability (2009).
- ◇ Weizmann Institute: Probability (2014, 2011).
- ◇ Zurich: Probability (2014, 2013).

Courses Taught

- ◇ Graduate Analysis and Probability I (Fall 2016, 2017, 2019).
- ◇ Graduate Probability II (Spring 2019, 2021).
- ◇ Probability Seminar (Fall 2016, 2017, 2018, 2019, 2020 and Spring 2019, 2020, 2021).
- ◇ Topics in Stochastic Analysis (Spring 2020).
- ◇ Supervised Reading Course (Fall 2020 in Markov Chain Mixing; Spring 2021 in Random Walks).