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, statistical mechanics, stochastic PDEs, interacting particle systems, growth models, random matrices, symmetric functions, quantum integrable systems.

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
- Member, MSRI (Berkeley, CA) 2010

Honors and Distinctions

- 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
- Kurt O. Friedrichs Prize, Courant Institute 2011
- Wilhelm T. Magnus Memorial Prize, Courant Institute 2010

Grants (as PI)

- NSF DMS:1937254, *RTG: Research Training in Applied Mathematics at Columbia University.* Amount: $1,900,000 (August 2019 - July 2024).
- NSF DMS:1811143, *Scaling Limits of Growth in Random Media.* Amount: $500,000 (July 2018 – June 2023).
- NSF DMS:1804339, *Workshop on Transport and Localization in Random Media: Theory and Applications.* Amount: $30,000 (April 2018 – March 2019).
- NSF DMS:1724870, *Northeast Probability Seminar 2017-2019.* Amount: $75,960 (September 2017 – August 2020).
- NSF DMS:1642595, *CBMS Conference: Dyson-Schwinger equations, topological expansions and random matrices.* Amount: $37,800 (August 2017)
- NSF DMS:1664650, *FRG: Collaborative Research: Integrable Probability.* Amount: $315,418 (July 2017 – June 2020).
- NSF DMS:1637087, *Conference on quantum integrable systems, conformal field theories and stochastic processes.* Amount $29,990 (July 2016).
- Packard Fellowship in Science and Engineering. Amount $875,000 (October 2014 – October 2019).
- NSF DMS:1445391, *Northeast Probability Seminar 2014.* Amount $63,300 (September 2014 – September 2017).

• NSF DMS:1208998, *Exact solvability of the Kardar-Parisi-Zhang stochastic partial differential equation.* Amount: $151,826 (July 2012 – June 2016).
• NSF Graduate Research Fellowship Award (July 2006 – June 2010).

Organizer

• MSRI Jumbo Semester Program on Universality and Integrability in Random Matrix Theory and Interacting Particle Systems (Berkeley, CA) 2021
• Random Growth Models and KPZ Universality (Banff, CA) 2021
• CMI-HIMR Summer School in Integrable Probability (Oxford, UK) 2020
• IntProb 2020 NYC (New York, NY) 2020
• 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
• CBMS Conference: Dyson-Schwinger equations, topological expansions and random matrices (New York, NY) 2017
• Park City Mathematics Institute on Random Matrix Theory (Park City, UT) 2017
• Dynamics, Aging and Universality in Complex Systems, NYU (New York, NY) 2017
• Columbia University Symposium on Probability & Society (New York, NY) 2017, 2020
• Quantum Integrable Systems, Conformal Field Theories and Stochastic Processes, Institut D'Etudes Scientifiques de Cargese (Corsica, FR) 2016
• Semester Program on New Approaches to Non-equilibrium and Random Systems, Kavli Institute for Theoretical Physics (Santa Barbara, CA) 2016
• Stochastic Models and Probability (Including Random Matrices, SLE, KPZ and S(P)DE's), International Congress on Mathematical Physics Topical Session (Santiago, CL) 2015
• Random polymers and algebraic combinatorics (Oxford, UK) 2015
• Northeast Probability Seminar (New York, NY) 2014, 2017
• Clay Research Conference on Advances in Probability: Integrability, Universality and Beyond, Mathematics Institute (Oxford, UK) 2014
• From Macdonald Processes to Hecke Algebras and Quantum Integrable Systems, Institute Henri Poincare (Paris, FR) 2014
• Summer Workshop on Stochastic Partial Differential Equations, Mathematical Science Research Institute (Berkeley, CA) 2014
• Columbia-Princeton Probability Day, Columbia University (New York, NY) 2014-present
• Columbia-Courant Joint Probability Seminar Series (New York, NY) 2013-present
• Columbia Probability Seminar (New York, NY) 2013-present
• NYC Integrable Probability Working Group (New York, NY) 2016-present
• Charles River Lectures on Probability and Related Topics (Cambridge, MA) 2012-2014
• Workshop on the KPZ Equation and Universality Class, American Institute of Mathematics (Palo Alto, CA) 2011
• MIT Probability Seminar (Cambridge, MA) 2011-2013
• Harvard-MIT Random Matrix Theory Seminar (Cambridge, MA) 2013
• Courant Random Maps and Random Matrices Seminar (New York, NY) 2009-2010
• Courant Asymmetric Simple Exclusion Process Seminar (New York, NY) 2008-2009
• Courant Graduate Student Probability Seminar (New York, NY) 2008-2010

Other Professional Activities

• Member of AMS Centennial Fellowship Committee (Chair in 2018-2019) 2017-2019
• Member of Math Meetings Subcommittee of the AMS Committee on Meetings and Conferences 2017-present
• Designated Editor, International Mathematics Research Notices 2019-present
• Associate Editor / Founding Member, Probability and Mathematical Physics 2019-present
• Editorial Board, Bulletins of the AMS 2018-present
• Editorial Board, Journal of Functional Analysis 2017-present
• Editorial Board, SIGMA 2017-present

- Associated Editor, Probability Theory and Related Fields 2015-present
- Editorial Board, Selecta Mathematica 2015-present
- Associate Editor, Annales de l'Institut Henri Poincaré 2013-present
- Editorial Board, Journal of Statistical Physics 2013-present
- Guest Editor-in-Chief, Journal of Statistical Physics issue in honor of Joel Lebowitz 2019
- Guest Editor, SIGMA "Special Issue on Asymptotics and Universality in Random Matrices, Random Growth Processes, Integrable Systems and Statistical Physics in honor of Percy Deift and Craig Tracy" 2016
- Scientific Board, Northeast Probability Seminar 2014-present
- Member of Promotions and Tenure Committee for Columbia Faculty of Arts and Sciences 2019-2022
- Advisor, Columbia Mathematical Contest in Modeling Team 2015-present
- Member, Program for Mathematical Genomics at Columbia University 2018-present
- Member, Cancer Dynamics Center at Columbia University 2019-present
- Post-Doctoral Mentor: Guillaume Barraquand (Columbia, 2015-2018), 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), Alisa Knizel (Columbia, 2017-2020), Evgeni Dimitrov (Columbia, 2018-2022), Konstantin Matetski (Columbia, 2018-2022).
- Ph.D. Advisor: Xuan Wu (Columbia, 2014-), Promit Ghosal (Columbia, 2015-), Yier Lin (Columbia, 2016-), Mark Rychnovsky (Columbia, 2016-), Shalin Parekh (Columbia, 2017-), Sayan Das (Columbia, 2018-), Weitao Zhu (Columbia, 2018-).
- Undergraduate Mentor: Yujin Kim (Columbia, 2018-2019) Matthew Lerner-Brecher (Columbia, 2019-), Romain Panis (ENS Paris exchange to Columbia, 2019).
- High School Student Mentor: Sameer Pai (Bergen County Academies, 2019–present).
- Faculty Mentor: Daniel Lacker (Columbia IEOR, 2017-).

Congress Lectures

1. Plenary lecture (Mahler Lecture), Australian Mathematical Society annual conference, Sidney, Australia; Title: *Integrable Probability*; December 2017
2. Invited lecture, International Congress of Mathematicians, Seoul, Korea; Title: *Macdonald processes, quantum integrable systems and the KPZ class*; August 2014
3. Plenary lecture, 37th Conference on Stochastic Processes and their Applications, Buenos Aires, Argentina; Title: *Integrable probability: beyond the Gaussian universality class*; July 2014
4. Invited lecture, International Congress of Mathematical Physics, Aalborg, Denmark; Title: *Exactly solvable directed random polymers in* $1+1$ *dimension*; August 2012

Distinguished Lectures

1. Mahler Lectures, Australia; Titles: *Beyond the Gaussian Universality Class* (delivered at University of Technology Sydney, Macquarie University, Australian National University, University of Melbourne, University of Queensland), *Random permutations, partitions and PDEs* (delivered at University of Sydney, Monash University, University of Queensland), *Diffusion in Random Media* (delivered at La Trobe University, University of Melbourne, University of Adelaide), *Stochastic Quantum Integrable Systems* (delivered at Australian National University); October-November 2018
2. Chern-Simons Lectures, Berkeley CA; Title: *Analysis of stochastic quantum integrable systems (Lecture 1: q-TASEP, q-Bosons and their KPZ limits; Lecture 2: Bethe ansatz and Markov duality; Lecture 3: Bridges to Macdonald processes and Gibbsian line ensembles)*; April 2017
3. Abel Symposium 2016 on Computation and Combinatorics in Dynamics, Stochastics and Control; Rosendal, Norway; Title *Integrable probability*; August 2016

4. 50th Swiss Probability Seminar Celebration, Zurich, Switzerland; Title: *Fluctuations at the leading edge and Pfaffian processes*; June 2016
5. Texas Analysis and Mathematical Physics Symposium, U.T. Dallas; Title: *Integrable probability and the KPZ universality class*; November 2015
6. Charles River Lectures on Probably and Relative Topics, Microsoft Research New England; Title: *Integrable probability and the KPZ universality class*; October 2015
7. Mathematics Park, Institute Henri Poincare; Title: *Universal phenomena in random systems*; May 2015
8. Lipschitz Lectures, Hausdorff Center of Mathematics. Title: *Integrable probability and Macdonald processes*; Organized by Anton Bovier and Patrik Ferrari January 2013
9. MSRI Evans Lecture, University of California Berkeley; Title: *Beyond the Gaussian universality class*; September 2010

Colloquia

1. University of Chicago; Title: *TBD*; May 2020
2. Renaissance Technologies; Title: *Beyond the Gaussian university class*; September 2019
3. University of Michigan; Title: *A twisted tail of KPZ, Coulomb gas and Painleve*; April 2019
4. Centre International de Rencontres Mathḿatiques; Title: *A twisted tail of KPZ, Coulomb gas and Painleve*; March 2019
5. Queens College; Title: *A drunk walk in a drunk world*; November 2018
6. Georgia Tech; Title: *Integrable Probability*; January 2018
7. Stanford; Title: *Stochastic six vertex model*; October 2017
8. University of Southern California (Center for Applied Mathematical Sciences): Title: *Beyond the Gaussian universality class: traffic, growth, matrices and their universal fluctuations*; October 2017
9. University of California Berkeley; Title: *A drunk walk in a drunk world*; April 2017
10. SUNY Binghamton; Title: *A drunk walk in a drunk world*; March 2017
11. Rutgers; Title: *Integrable probability and the KPZ universality class*; December 2016
12. Montreal; Title: *Integrable probability and the KPZ universality class*; September 2016
13. Center for Communications Research, Princeton; Title: *A drunk walk in a drunk world*; June 2016
14. Kavli Institute for Theoretical Physics; Title: *The Kardar-Parisi-Zhang (KPZ) equation at thirty*; March 2016
15. Caltech; Title: *A drunk walk in a drunk world*; February 2016
16. University of Maryland; Title: *A drunk walk in a drunk world*; December 2015
17. University of Oregon; Title: *A drunk walk in a drunk world*; October 2015
18. University of Washington; Title: *A drunk walk in a drunk world*; October 2015
19. Mathématiques Appliquées à Paris 5; Title: *Beyond the Gaussian universality class*; June 2015
20. Temple University; Title: *Beyond the Gaussian universality class*; March 2015
21. University of Geneva; Title: *Integrable probability: beyond the Gaussian universality class*; May 2014
22. University of Connecticut; Title: *Integrable particle systems and Macdonald processes*; September 2013

23. Stanford University; Title: *Integrable particle systems and Macdonald processes*; February 2013
24. University of California Los Angeles; Title: *Integrable particle systems and Macdonald processes*; February 2013
25. University of Virginia; Title: *Integrable particle systems and Macdonald processes*; November 2012
26. University of Toronto; Title: *Integrable probability*; November 2012
27. Courant Institute, NYU; Title: *Integrable probability*; October 2012

Lecture Series and Mini-Courses

1. 50th Saint-Flour Probability Summer School, Saint-Flour France; Title: *TBD*; Organized by Christophe Bahadoran, Hacne Djellout, Arnaud Guillin. July 2020
2. 2020 PIMS Probability Summer School, Vancouver Canada; Title: *Interacting particle systems, growth models, stochastic PDEs and directed polymers through the lens of the stochastic six vertex model*; Organized by Omer Angel, Ed Perkins, Mathav Murugan, Louigi Addario-Berry, Alex Fribergh. June 2020
3. 3rd Haifa Probability School, Haifa Israel; Title: *A tail of two times for the KPZ equation*; Organized by Dima Ioffe, Oren Louidor, Leonid Mytnik, Lorenzo Zambotti. February 2020
4. 12th Mathematical Society of Japan-Seasonal Institute (MSJ-SI) "Stochastic analysis, random fields and integrable probability", Kyushu University Japan; Title *Stochastic vertex models*; Organized by Yuzuru Inahama, Takashi Kumagai, Hirofumi Osada, Tomohiro Sasamoto, Tomoyuki Shirai, Hideki Tanemura. August 2019
5. Interacting Particle Systems and Parabolic PDEs, Banff Research Station, Calgary Canada; Title *Talk 1: Extreme value statistics for random walks in space-time random environments. Talks 2 and 3: Stochastic PDE limits for some interacting particle systems.*; Organized by Julien Berestycki, Lenya Ryzhik, Leonid Mytnik, Jean-Michel Roquejoffre. August 2018
6. School on Random Matrix Theory, University of Michigan, Ann Arbor, Michigan; Title *Integrable Probability and KPZ*; Organized by Jinho Baik and Rajesh Nadakuditi. June 2018
7. Integrable Models in Statistical Mechanics, Limit Shapes and Combinatorics, St. Petersburg, Russia; Title *Stochastic quantum integrable systems*; Organized by Nicolai Reshetikhin. July 2017
8. Probabilistic Perspectives in Nonlinear PDEs, Edinburgh, Scotland; Title *Fluctuations and SPDE limit of interacting particle systems*; Organized by Susan Friedlander, Nathan Glatt-Holtz, Tadahiro Oh, Oana Pocovnic, Georgie Richards. June 2017
9. AMS Short Course on First and Last Passage Percolation Models, Altanta, Georgia; Title *KPZ fluctuations in exactly solvable models*; Organized by M. Damron, F. Rassoul-Agha, T. Seppalainen. January 2017
10. London Mathematical Society – Clay Mathematics Institute Research School. Title: *Integrable probability and the KPZ universality classes*; Organized by Alison Ethridge and Dmitry Belyaev July 2015
11. Institute Henri Poincare. Title: *Integrable probability: Macdonald processes, quantum integrable systems and the Kardar-Parisi-Zhang university class*; Organized by Cedric Villani May 2015
12. New Researcher Tutorials at Seminar on Stochastic Processes, University of Delaware. Title: *Integrable probability and the Kardar-Parisi-Zhang universality class*; Organized

by Nayantara Bhatnagar, Mokshay Madiman, Petr Plechac, Douglas Rizzolo April 2015

13. Introductory School for Institute Henri Poincare trimester on Disordered System, Random Spatial Processes and Applications, Centre International de Rencontres Mathematiques Luminy, Marseille France. Title: *Integrable probability*; Organized by Jean Phillip Bouchaud, Pierluigi Contucci, Cristian Giardina, Pierre Nolin, Vladas Sidoravicius and Vincent Vargas January 2015
14. Summer College on Non-Linear Dynamics, Instabilities and Patterns in Classical and Quantum Systems, International Centre for Theoretical Physics (ICTP), Trieste Italy. Title: *Quantum Integrability and the Kardar-Parisi-Zhang universality class*; Organized by Pierre Le Doussal and Pasquale Calabreses July 2014
15. Summer School on Stochastic Partial Differential Equations, Mathematical Sciences Research Institute (MSRI). Title: *Integrable probability*; Organized by Yuri Bakhtin, Ivan Corwin and James Nolin July 2014
16. Paris France. Title: *Quantum Integrability and the Kardar-Parisi-Zhang universality class*; Organized by Lorenzo Zambotti June 2014
17. Summer School on Random Matrix Theory, Bielefeld University, Germany. Title: *Integrable particle systems and Macdonald processes*; Organized by Friedrich Goetze and Gernot Akemann August 2013
18. Summer School on KPZ Equation and Rough Paths, Centre Henri Lebesgue, Rennes France. Title: *Integrable probability and the KPZ equation*; Organized by Arnaud Debussche, Mihai Gradinaru and Florent Malrieu June 2013
19. Simons Symposium on the Kardar-Parisi-Zhang Equation, St. John, U.S. Virgin Island. Title: *Integrability in the Kardar-Parisi-Zhang universality class*; Organized by Alexei Borodin, Jeremy Quastel, Herbert Spohn. February 2013
20. Chiba University, Japan. Title: *Symmetric functions, quantum many body systems and some of their applications in probability*; Organized by Tomohiro Sasamoto May 2012
21. Grandes Matrices Aléatoires, Paris France. Title: *KPZ equation and its universality class*; Organized by Sandrine Péché and Alice Guionnet March 2012
22. London Mathematical Society Invited Lectures (supplementary lectures for Alexei Borodin), Glasgow UK. Title: *Directed random polymers*; Organized by Misha Feigin March 2012
23. NSF Pan-American Advanced Studies Institute, Chile. Title: *Exact solvability of the Kardar-Parisi-Zhang equation*; Organized by Gérard Ben Arous, Pablo Ferrari, Charles Newman, Alejandro Ramírez, Vladas Sidoravicius, María Eulalia Vares January 2012
24. 4th La Pietra Week in Probability, Florence Italy. Title: *The Kardar-Parisi-Zhang equation and universality class*; Organized by Alberto Gandolfi, Fabio Martinelli, Charles Newman, Vladas Sidoravicius June 2011
25. Groupe de Travail at the Institut Herri Poincaré, Paris France. Title: *The Kardar-Parisi-Zhang equation and universality class*; Organized by Thierry Bodineau, Mustapha Mourragui and Ellen Saada June 2011
26. IMPA, Brazil. Title: *The Kardar-Parisi-Zhang equation and universality class*; Organized by Vladas Sidoravicius February 2011
27. U.C. Berkeley, Berkeley USA. Title: *The Kardar-Parisi-Zhang equation and universality class*; Organized by Fraydoun Rezakhanlou October-November 2010

Conference Lectures

1. Random Matrix Theory and beyond, Stockholm Sweden; Title: *TBD*; Organized by Sunil Chhita, Maurice Duits, Erik Duse, Gaultier Lambert, Mustazee Rahman and Kevin Schnelli. June 2021
2. Second Conference on New Developments in Probability, Tulane; Title: *TBD*; Organized by Eric Vanden-Eijnden, Nathan Glatt-Holtz, Kay Kirkpatrick, Scott McKinley, Tai Melcher and Kavita Ramanan. May 2020
3. Asymptotic Algebraic Combinatorics, IPAM, UCLA; Title: *TBD*; Organized by Jonathan Novak, Igor Pak, Greta Panova. February 2020
4. Symposium on Random Matrices in Biology, Columbia; Title: *Products of thin random matrices and random walks in random media*; Organized by Andrew Blumberg, Ivan Corwin, Raul Rabadan. November 2019
5. Faces of Integrability, CRM Montreal; Title: *A twisted tail of KPZ, Coulomb gas and Painleve.*; Organized by Jacques Hurtubise, Nicolai Reshetikhin, Lauren Williams. May 2019
6. Francois Dunlop Birthday Conference, Florence Italy; Title: *Some SPDE limits of interacting particle systems*; Organized by Thierry Gobron, Francesca R. Nardi, Pierre Picco, Ellen Saada. April 2019
7. Amir Dembo Birthday Conference, Stanford; Title: *Tails of KPZ*; Organized by Jason Miller, Andrea Montanari, Scott Sheffield, Nike Sun. December 2018
8. Scaling limits, rough paths, quantum field theory: Conclusions and future directions, Cambridge UK; Title:*The dynamic ASEP*; Organized by Antti Kupiainen, Felix Otto and Jeremy Quastel. December 2019
9. Mehran Kardar Birthday Conference, MIT; Title: *How to solve the KPZ equation*; Organized by Leon Balents. June 2018
10. Fourth Duke Mathematical Journal Conference, Duke; Title: *Integrable probability and stochastic PDEs*; Organized by Robert Bryant, Richard Hain, Lenhard Ng, Colleen Robles, Jonathan Wahl. April 2018
11. International Workshop on Classical and Quantum Integrable Systems, Dubna Russia; Title *KPZ Fluctuations for some stochastic vertex models and Macdonald processes*; Organized by Alexei Isaev, Vyacheslav Spiridonov, Sergei Derkachov, Pavel Pyatov, Anastasia Trofimova. July 2017
12. Thera Stochastics – A Mathematics Conference in Honor of Ioannis Karatzas, Santorini Greece; Title *Fluctuations of interacting particle systems*; Organized by Michael Anthropelos, Kostas Kardaras, Marcel Nutz, Johannes Ruf. June 2017
13. 117th Statistical mechanics conference, Rutgers, New Jersey; Title: *Integrability and random interface growth*; Organized by Joel Lebowitz. May 2017
14. Asymptotic Representation Theory, Institute Henri Poincare, Paris, France; Title *Half-space integrable probability and KPZ*; Organized by Valentin Feray, Pierre-Loic Meliot. February 2017
15. Recent advances in mathematical physics, Tokyo, Japan; Title: *Stochastic quantum integrable systems*; Organized by M.Jimbo, A.Kuniba, T.Sasamoto, S.Kakei, Y.Komori, K.R. Ito, T.Eguchi, Y.Kazama, Y.Tachikawa, Y.Hikida. January 2017
16. AMS Special Session on Random Matrices, Random Percolation and Random Sequence Alignments, Atlanta, Georgia; Title *A drunk walk in a drunk world*; Organized by M. Damron, R. Gong. January 2017
17. Clifford lectures conference for Pierre van Moerbeke, Tulane; Title *Integrable probability*; Organized by Victor Moll. November 2016

18. Stochastic Partial Differential Equations, Simons Center, Stonybrook New York; Title: *A drunk walk in a drunk world*; Organized by Martin Hairer. May 2016

19. Infinite Analysis 2016: New Developments in Integrable Systems, Osaka, Japan; Title: *Stochastic quantum integrable systems and the KPZ class*; Organized by Atsuo Kuniba, Tomoki Nakanishi, Masato Okado, Tomohiro Sasamoto, Yoshihiro Takeyama. March 2016

20. Six-vertex models, dimers, shapes, and all that, Simons Center, Stonybrook New York; Title: *Stochastic higher-spin vertex models and their self-duality*; Organized by Pavel Bleher, Vladimir Korepin and Bernard Nienhuis. March 2016

21. FrankFest: Conference on Isoperimetric Problems and Manifolds with Density, Williamstown Massachusetts; Title: *Integrable probability and the KPZ universality class*; Organized by Colin Adams and Cesar Silva. February 2016

22. Random processes and random media: A conference on the occasion of Alain-Sol Sznitman's 60th birthday, Zurich, Switzerland; Title: *The exactly solvable beta random walk in random environment*; Organized by Gerard Ben Arous, Erwin Bolthausen, Vladas Sidoravicius, Wendelin Werner, Tristan Riviere. January 2016

23. Random matrices, random growth processes and statistical physics, Stonybrook New York; Title: *Fluctuations at the leading edge and Pfaffian processes*; Organized by Brian Rider, Dan Romik, Alexander Soshnikov. September 2015

24. Random Interfaces and Integrable Probability, Galileo Galilei Institute, Florence, Italy; Title *Stochastic quantum integrable systems*; Organized by Alexei Borodin, Jérémie Bouttier, Filippo Colomo, Richard Kenyon. June 2015

25. Centre Research Mathematics Workshop on Asymptotics in Integrable Systems, Random Matrices, Random Processes and Universality, Montreal, Canada; Title: *Stochastic quantum integrable systems*; Organized by Jinho Baik, Marco Bertola, Ken McLaughlin, Thomas Kriecherbauer, Alexander Tovbis. June 2015

26. 113th Statistical mechanics conference, Rutgers, New Jersey; Title: *Stochastic quantum integrable systems*; Organized by Joel Lebowitz. May 2015

27. Institute for Computational and Experimental Research in Mathematics (ICERM) workshop on Limit Shapes, Providence, Rhode Island; Title: *Stochastic quantum integrable systems*; Organized by Marek Biskup, Alexei Borodin, Beatrice de Tiliere, Richard Kenyon, Senya Shlosman April 2015

28. Institute Henri Poincare Conference on Interacting Particle Systems and Non-Equilibrium Dynamics, Paris, France; Title: *Stochastic quantum integrable systems*; Organized by Jean-Philippe Bouchaud, Pierluigi Contucci, Cristian Giardina, Pierre Nolin, Vladas Sidoravicius, Vincent Vargas March 2015

29. Fourth Abel Conference: A Celebration of Yakov G. Sinai, Institute for Mathematics and its Applications, Minnesota; Title: *Fluctuations of the stationary stochastic Burgers / Kardar-Parisi-Zhang equations*; Organized by Leonid Bunimovich, Dmitry Dolgopyat, Helge Holden, Konstantin Khanin October 2014

30. Interface fluctuations and KPZ universality class - unifying mathematical, theoretical, and experimental approaches, Kyoto, Japan; Title: *Macdonald processes and quantum integrable systems*; Organized by Hisao Hayakawa, Takashi Imamura, Tomohiro Sasamoto, Kazumasa Takeuchi, Yu Watanabe August 2014

31. 16th Rencontres Mathematiques de Rouen, Rouen, France; Title: *Macdonald processes, quantum integrable systems and the KPZ universality class*; Organized by Jean-Baptiste Bardet, Olivier Benois, Pierre Calka, Claudio Landim, Mustapha Mourragui, and Ellen Saada. June 2014

32. Stochastic analysis: around the KPZ universality class, Oberwolfach, Germany; Title: *Macdonald processes, quantum integrable systems and the KPZ universality class*; Organized by Alice Guionnet, Martin Hairer, Wendelin Werner. June 2014

33. Workshop on Random Matrices and Random Systems, Institute for Advanced Studies, Princeton New Jersey; Title: *Plancherel theory for ASEP, XXZ and the* (q, μ, ν)*-Boson process*; Organized by Gerard Ben Arous, Kurt Johansson, and Horng-Tzer Yau. April 2014

34. Rough Paths: Theory and Applications, Institute for Pure and Applied Mathematics, Los Angeles California; Title: *KPZ line ensemble*; Organized by Marek Biskup, Dan Crisan , Peter Fritz, Massimiliano Gubinelli, and Martin Hairer. January 2014

35. Cornell Summer School, Ithaca New York; Title *ASEP, q-TASEP and integrable quantum many body systems*; Organized by Laurent Saloff-Coste and Lionel Levine. August 2013

36. Random Matrix Theory and Applications, University of Michigan, Ann Arbor Michigan; Title: *Integrable particle systems and Macdonald processes - part I*; Organized by Jinho Baik. June 2013

37. Workshop on Analytical Aspects of Mathematical Physics, Zurich Switzerland; Title: *Integrable particle systems and Macdonald processes*; Organized by Jürg Fröhlich, Gian Michele Graf and Arthur Jaffe. May 2013

38. Emerging Trends in Probability Theorey, Max Planck Institute for Mathematics in the Sciences Conference, Leipzig Germany; Title: *Integrable particle systems and Macdonald processes*; Organized by Erwin Bolthausen, Juergen Jost, Wolfgang Hackbusch and Felix Otto. April 2013

39. Random polymers, Eurandom Eindhoven Netherlands; Title: *A rigorous replica trick for directed polymers*; Organized by Frank den Hollander, Vladas Sidoravicius, Stu Whittington. January 2013

40. 108th Statistical mechanics conference, Rutgers, New Jersey; Title: *Integrability in the Kardar-Parisi-Zhang universality class*; Organized by Joel Lebowitz. December 2012

41. Integrable Systems, Growth Processes and KPZ Universality, Banff Canada; Title: *From duality to determinants for ASEP*; Organized by Estelle Basor, John Harnad, Jeremy Quastel, Timo Seppalainen, Craig Tracy September 2012

42. Interacting Particle Systems and Related Topics, Florence Italy; Title: *From duality to determinants for ASEP*; Organized by A. Asselah, P. Dai Pra, G. Giacomin, P. Picco, E. Saada, L. Zambotti. August 2012

43. Discrete Probability on Surfaces, Mathematical Association of America Mathfest invited session, Madison, Wisconsin; Title: *Beyond the Gaussian universality class*; Organized by Richard Kenyon. August 2012

44. Stochastic Partial Differential Equations with Applications, World Congress in Probability and Statistics invited session, Istambul, Turkey; Title: *The statistics of the Kardar-Parisi-Zhang equation*; Organized by Martin Hairer. July 2012

45. Interacting Particle Systems, World Congress in Probability and Statistics invited session, Istambul, Turkey; Title: *From duality to determinants for ASEP*; Organized by Timo Seppäläinen. July 2012

46. Random Polymers, Institute for Mathematical Sciences of the National University of Singapore; Title: *Directed random polymers and Macdonald processes*; Organized by Frank den Hollander, Rongfeng Sun and Nikolaos Zygouras. May 2012

47. Random Walks and Random Media, Mathematical Sciences Research Institute, Berkeley California; Title: *Directed random polymers and Macdonald processes*; Organized by Noam Berger, Nina Gantert, Andrea Montanari, Alain-Sol Sznitman, and Ofer Zeitouni. May 2012

48. UK Easter Probability Meeting, Warwick, UK; Title: *Beyond the Gaussian universality class*; Organized by Sigurd Assing, David Elworthy, Christina Goldschmidt, Ben Hambly, Martin Hairer, Wifred Kendall, Roman Kotecky, Xue-Mei Li, Neil OConnell, Roger Tribe, Jon Warren. March 2011

49. Interacting Particle Systems, Growth Models and Random Matrices, Warwick Symposium on Probability, Warwick, UK; Title: *Directed random polymers and Macdonald processes*; Organized by Neil O'Connel, Janosch Ortmann, and Jon Warren. March 2011

50. Disordered Media, Warwick Symposium on Probability, Warwick, UK; Title: *The Airy line ensemble: continuum statistics and Gibbs property*; Organized by Ben Hambly, Neil O'Connell and Nikolaos Zygouras. September 2011

51. Stochastic Coalescence and Random Growth Models minisymposium, 7th International Congress on Industrial and Applied Mathematics, Vancouver, BC; Title: *The KPZ equation is in the KPZ universality class*; Organized by Bob Pego and Ravi Srinivasan July 2011

52. 35th Conference on Stochastic Processes and their Applications, Random Matrix session, Oaxaca, MX; Title: *Directed polymers, the KPZ equation and exactly solvable systems*; Organized by Brian Rider June 2011

53. 4th La Pietra week in Probability at Finaly, Florence Italy. Title: *Continuum statistics and properties for the Airy$_2$ process*; Organized by Alberto Gandolfi, Fabio Martinelli, Charles Newman, Vladas Sidoravicius June 2011

54. Stochastic Analysis, Oberwolfach, Germany; Title: *Exactly solvable finite temperature polymers and the geometric RSK correspondence*; Organized by Alice Guionnet, Wendelin Werner and Ofer Zeitouni June 2011

55. Random Environments, Cornell; Title: *Probability Distribution of the Free Energy of the Continuum Directed Random Polymer in* $1+1$ *dimensions*; Organized by Jon Peterson and Firas Rassoul-Agha May 2011

56. Workshop on Interacting Processes in Random Environments, Fields Institute Toronto, Canada; Title: *Probability Distribution of the Free Energy of the Continuum Directed Random Polymer in* $1+1$ *dimensions*; Organized by Tom Alberts, Ken Alexander, Dima Ioffe and Timo Seppäläinen February 2011

57. Large Scale Stochastic Dynamics, Oberwolfach, Germany; Title: *How to solve the Kardar-Parisi-Zhang stochastic PDE*; Organized by Claudio Landim, Stefano Olla and Herbert Spohn November 2010

58. MSRI/Evans Lecture Series, Berkeley; Title: *Beyond the Gaussian universality class*; Organized by Jinho Baik, Alexei Borodin, Percy Deift, Alice Guionnet, Craig Tracy and Pierre van Moerbeke September 2010

59. 28th Annual Western States Mathematical Physics Meeting, CalTech; Title: *Probability distribution of the free energy of the continuum directed random polymer in 1+1 dimensions*; Organized by Barry Simon February 2010

60. MSRI Random Matrix summer workshop, Berkeley; Organized by Jinho Baik, Percy Deift, Toufic Suidan and Brian Rider July 2009

61. Interacting Stochastic Particle Systems, Centre de Recherches Mathématiques, Montreal; Title: *Current Fluctuations for TASEP with Two-sided Densities*; Organized by Kostya Khanin, Joel Lebowitz, Jeremy Quastel and Timo Seppäläinen May 2009

Seminar Lectures

1. Marseilles Dynamique, Arithmétique, Combinatoire; Title: *Random permutations, partitions and PDEs.* March 2019
2. Centre International de Rencontres Mathḿatiques; Title: *TBD.* March 2019
3. Rutgers Mathematical Physics Seminar; Title: *Extreme value statistics for diffusions in space-time random media.* October 2018
4. Princeton Ergodic Theory and Statistical Mechanics Seminar; Title: *A tail of KPZ.* February 2018
5. U.C. Davis Mathematical Physics and Probability Seminar; Title: *Transversal fluctuations for ASEP and Hall-Littlewood processes.* October 2017
6. Stanford Operations Research and Institute for Computational and Mathematical Engineering Joint Seminar; Title: *Beyond the Gaussian universality class: traffic, growth, matrices and their universal fluctuations*; October 2017
7. Columbia Applied Probability and Risk Seminar; Title: *Beyond the Gaussian universality class.* March 2017
8. UCLA Probability Seminar; Title: *Open ASEP in the weakly asymmetric regime.* October 2016
9. MIT Probability Seminar; Title: *Dynamics preserving two-dimensional Gibbs ensembles and Macdonald processes.* May 2016
10. Caltech, Mathematical Physics Seminar; Title: *Stochastic quantum integrable systems.* February 2016
11. University of Maryland Probability Seminar; Title: *Stochastic quantum integrable systems.* December 2015
12. University of Oregon, Probability Seminar; Title: *Fluctuations at the leading edge and Pfaffian processes.* October 2015
13. University of Illinois, Urban Champaign Probability Seminar; Title: *Stochastic quantum integrable systems.* October 2015
14. Temple University and University of Pennsylvania Joint Probability Seminar; Title: *Stochastic quantum integrable systems.* March 2015
15. Columbia Informal Mathematical Physics Seminar; Title: *Stochastic quantum integrable systems.* March 2015
16. Harvard Probability Seminar; Title: *Stochastic quantum integrable systems.* March 2015
17. ICERM Phase Transitions and Emergent Properties Seminar; Title: *Stochastic quantum integrable systems, part II.* February 2015
18. Brown University Probability Seminar; Title: *Stochastic quantum integrable systems, part I.* February 2015
19. Princeton Mathematical Physics Seminar; Title *Stochastic higher spin vertex models on the line.* December 2014
20. University of Virginia; Title: *Spectral theory and duality for Bethe ansatz solvable interacting particle systems.* November 2014
21. Princeton Probability Seminar; Title *Fluctuations of the stationary Kardar-Parisi-Zhang equations.* November 2014
22. University of Texas Mathematical Physics Seminar; Title *Beyond the Gaussian universality class.* October 2014
23. Columbia-Courant Joint Probability Seminar; Title *Spectral theory and duality for Bethe ansatz solvable interacting particle systems.* October 2014

24. City University of New York Probability Seminar; Title: *Integrable probability: beyond the Gaussian universality class.* September 2014
25. Laboratoire de Probabilités Universités Paris 6 et Paris 7 Seminaire de Probabilites; Title: *Macdonald processes, quantum integrable systems and the Kardar-Parisi-Zhang universality class.* June 2014
26. Weizmann Institute; Title: *Macdonald processes, quantum integrable systems and the Kardar-Parisi-Zhang universality class.* June 2014
27. Ecole Normal Superior Séminaire des Mathématiques; Title: *Beyond the Gaussian universality class.* May 2014
28. Zurich Probability Seminar; Title: *Spectral theory of ASEP, XXZ and the q-Hahn Boson process.* May 2014
29. University of Geneva Mathematical Physics Seminar; Title: *Spectral theory of ASEP, XXZ and the q-Hahn Boson process.* May 2014
30. Institute for Advanced Studies Non-equilibrium Dynamics and Random Matrices Seminar: Title: *KPZ line ensemble.* December 2013
31. U.C. Berkeley Probability Seminar; Title: *Integrable particle systems and Macdonald processes.* September 2013
32. U.C. Davis Mathematical Physics and Probability Seminar; Title: *Spectral theory for the q-Boson particle system.* September 2013
33. Columbia University Probability Seminar; Title: *Spectral theory for the q-Boson particle system.* September 2013
34. Zurich Probability Seminar; Title: *ASEP, q-TASEP and integrable quantum many body systems.* May 2013
35. Brown University Probability Seminar; Title: *Integrable particle systems and Macdonald processes.* April 2013
36. MIT Combinatorics Seminar; Title: *Integrable particle systems and Macdonald processes.* April 2013
37. MIT Macdonald Processes Seminar; Title: *Delta Bose gas and directed polymers* and *Discrete and q-deformed Bose gases, particle systems and directed polymers.* March 2013
38. Harvard Probability Seminar; Title: *From duality to determinants for ASEP.* March 2013
39. Columbia University Probability Seminar; Title: *Integrable particle systems and Macdonald processes.* December 2012
40. University of Virginia; Title: *From duality to determinants for ASEP.* November 2012
41. Brown University Discrete Math Seminar; Title: *From duality to determinants for ASEP.* November 2012
42. Georgia Tech Probability Seminar; Title: *Beyond the Gaussian university class.* October 2012
43. Northeastern University Applied and Interdisciplinary Mathematics Seminar; Title: *Beyond the Gaussian university class.* October 2012
44. Boston University Probability Seminar; Title: *Beyond the Gaussian university class.* October 2012
45. University of Utah Stochastics Seminar; Title: *Directed random polymers and Macdonald processes.* September 2012
46. University of Maryland Probability Seminar; Title: *Directed random polymers and Macdonald processes.* September 2012

47. Tokyo University Integrable Systems Seminar; Title: *Integrability in the Kardar-Parisi-Zhang universality class.* May 2012
48. Columbia Probability Seminar; Title: *Directed random polymers and Macdonald processes.* April 2012
49. Harvard Probability Seminar; Title: *Gibbsian line ensembles.* March 2012
50. MIT Probability Seminar; Title: *Directed random polymers and Macdonald processes.* March 2012
51. University of Chicago Probability Seminar; Title: *Directed random polymers and Macdonald processes.* March 2012
52. University of British Columbia Probability Seminar; Title: *Directed random polymers and Macdonald processes.* March 2012
53. Harvard Probability Seminar; Title: *Quantum many body systems solvable via a new integral ansatz.* March 2012
54. Rutgers Mathematical Physics Seminar; Title: *Directed random polymers and Macdonald processes.* February 2012
55. University of Michigan Combinatorics Seminar; Title: *Tropical combinatorics and Whittaker functions.* February 2012
56. University of Michigan Analysis/Probability Seminar; Title: *Directed random polymers and Macdonald processes.* February 2012
57. Harvard Random Matrix Seminar; Title: *Directed random polymers and Macdonald processes.* February 2012
58. Institute for Advanced Studies Joint Princeton Mathematical Physics Seminar; Title: *Macdonald processes and some applications in probability and integrable systems.* November 2011
59. Duke University Probability seminar; Title: *Brownian Gibbs line ensembles.* November 2011
60. U.C. Berkeley Statistics seminar; Title: *Brownian Gibbs line ensembles.* November 2011
61. U.C. Berkeley Combinatorics seminar; Title: *Tropical combinatorics and Whittaker functions.* October 2011
62. Courant Institute Probability Seminar; Title: *Brownian Gibbs line ensembles.* October 2011
63. Boston University Center for Polymer Studies seminar; Title: *The continuum directed random polymer.* September 2011
64. MIT Probability seminar; Title: *Brownian Gibbs line ensembles.* September 2011
65. Microsoft Research Theory group, Redmond Washington; Title: *Beyond the Gaussian universality class.* July 2011
66. Laboratoire de Probabilités Universités Paris 6 et Paris 7 Seminaire de Probabilites; Title: *The Kardar-Parisi-Zhang equation.* June 2011
67. Courant Institute Probability Seminar; Title: *Harmonic analysis of the geometric Robinson-Schensted-Knuth correspondence via Whittaker functions.* May 2011
68. Harvard Random Matrix Seminar; Talk 1 title: *Harmonic analysis of the geometric Robinson-Schensted-Knuth correspondence via Whittaker functions*; Talk 2 title: *In pursuit of universality and solvability for the Kardar-Parisi-Zhang equation and class.* May 2011

69. Brown University Discrete Mathematics Seminar; Title: *Probability Distribution of the Free Energy of the Continuum Directed Random Polymer in* $1+1$ *dimensions.* May 2011
70. University of Rochester Probability Seminar; Title: *Probability Distribution of the Free Energy of the Continuum Directed Random Polymer in* $1+1$ *dimensions.* April 2011
71. Courant Institute Probability Seminar; Title: *Probability Distribution of the Free Energy of the Continuum Directed Random Polymer in* $1+1$ *dimensions.* March 2011
72. Princeton University Ergodic Theory and Statistical Mechanics Seminar; Title: *Probability Distribution of the Free Energy of the Continuum Directed Random Polymer in* $1+1$ *dimensions.* March 2011
73. Institute for Advanced Studies Analysis/Mathematical Physics Seminar; Title: *The KPZ equation and universality class* February 2011
74. EURANDOM Random Spatial Structures program Seminar; Title: *Beyond the Gaussian universality class.* January 2011
75. Delft (Netherlands) Probability Seminar; Title: *Beyond the Gaussian universality class.* January 2011
76. Universite Catholique de Louvain Seminar; Title: *Beyond the Gaussian universality class.* January 2011
77. University of Warwick Reading seminar on Random Matrices; Title: *An introduction to the KPZ equation and universality class.* January 2011
78. Weizmann Institute Probability Seminar; Title: *The KPZ equation: Beyond the Gaussian universality class.* January 2011
79. Tel Aviv University Horowitz Seminar on Probability, Ergodic Theory and Dynamical Systems; Title: *Beyond the Gaussian universality class.* January 2011
80. MIT Special Mathematics Seminar; Title: *The KPZ universality class and equation.* December 2010
81. UC Irvine Probability Seminar; Title: *Beyond the Gaussian universality class.* December 2010
82. UCLA Probability Seminar; Title: *The KPZ equation and universality class.* December 2010
83. Columbia Probability Seminar; *Beyond the Gaussian universality class.* November 2010
84. Stanford Probability Seminar; Title: *How to solve the Kardar-Parisi-Zhang stochastic PDE.* October 2010
85. U.C. Davis Mathematical Physics and Probability Seminar; Title: *How to solve the Kardar-Parisi-Zhang stochastic PDE.* October 2010
86. University of British Columbia Probability Seminar; Title: *The KPZ universality class and equation.* October 2010
87. Toronto Probability Seminar; Title: *Fluctuations for the KPZ universality class.* July 2010
88. City University of New York Probability Seminar; Title: *Fluctuations in traffic flow, crystal growth and random matrices.* February 2010
89. Courant Institute Probability Seminar; Title: *Fluctuations of the totally asymmetric simple exclusion process.* February 2010
90. University of Utah Stochastics Seminar; Title: *Fluctuations in the height of random crystals.* January 2010

91. MIT Probability Seminar; Title: *Fluctuations in traffic flow, crystal growth and random matrices.* November 2009

92. University of Wisconsin Probability Seminar; Title: *Directed last passage percolation with step-function boundary conditions.* October 2009

93. Harvard Random Matrix Seminar; Title: *Fluctuations in traffic flow, crystal growth and random matrices.* September 2009

94. Courant Random Maps and Random Matrices Seminar; Three lectures: *(1): Introduction to maps. (2-3) Matrix integrals and map enumeration.* 2009

95. Courant Asymmetric Simple Exclusion Process Seminar; Eleven lectures: *(1): The Master Equation for ASEP. (2) Particle Position Distributions in ASEP. (3) General Particle Position Distributions in ASEP. (4-8) Asymptotics in ASEP with step initial conditions. (9-10) Random Processes Associated with TASEP and LPP. (11) Current Fluctuations of SSEP.* 2008-2009

Contributed Talks

1. Clay Mathematics Institute 2010 Summer School, Buzios, Brazil. July 2010
2. Orthogonal Polynomials, applications in Statistics and Stochastic Processes workshop, Warwick, UK. July 2010
3. School of Analysis with Applications, Tucson, Arizona. March 2010
4. Frontier Probability Days, Utah. March 2009

Non-Academic positions

• Ninth grade math teacher, Asperger's Institute school, New York, NY 2007-2008
• Portfolio Management Associate, Ellington Captial Management, Old Greenwich, CT 2006-2007
• Teacher, The Math Circle, Cambridge, MA 2005-2006
• Nuclear modeling division, Anatech Corporation, Poughkeepsie, NY 2002-2004

Courses taught

• Fall 2016: Mathematics G6151, Graduate Analysis and Probability I (Columbia University); Statistics G9301, Seminar Probability Theory (Columbia University).
• Fall 2017: Mathematics G6151, Graduate Analysis and Probability I (Columbia University); Statistics G9301, Seminar Probability Theory (Columbia University).
• Fall 2018: Statistics G9301, Seminar Probability Theory (Columbia University).
• Spring 2019: Mathematics G6153, Graduate Probability II (Columbia University); Statistics G9301, Seminar Probability Theory (Columbia University).
• Fall 2019: Mathematics G6151, Graduate Analysis and Probability I (Columbia University); Statistics G9301, Seminar Probability Theory (Columbia University).