

Miklós Z. Rácz

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Employment

- 2017 — present **Princeton University**, Princeton, NJ, USA.
Assistant Professor in the ORFE Department
Affiliated Faculty in the Center for Statistics and Machine Learning (CSML), 2019 — present
- 2015 — 2017 **Microsoft Research**, Redmond, WA, USA.
Postdoctoral researcher in the Theory Group

Education

- 2010 — 2015 **PhD**, Statistics, **University of California, Berkeley**.
MS, Computer Science, **University of California, Berkeley**.
Dissertation (PhD): *Influences in Voting and Growing Networks*
Thesis (MS): *A quantitative Gibbard-Satterthwaite theorem without neutrality*
Advisor: Elchanan Mossel
- 2005 — 2010 **MS**, Mathematics, **Budapest University of Technology and Economics (BUTE)**.
Thesis: *Competing Prices: Analyzing a Stochastic Interacting Particle System*
Advisors: Márton Balázs and Bálint Tóth
- 1999 — 2005 **Fazekas Mihály High School**, Budapest, Hungary.
Special mathematics class, graduated with honors

Further Experience

- 2017 — present **Microsoft Research**, Redmond, WA.
Consulting Researcher
- Fall 2020 **Simons Institute for the Theory of Computing**, Berkeley, CA.
Visiting Scientist in the Probability, Geometry, and Computation in High Dimensions program
- 2015 — 2017 **Microsoft Research**, Redmond, WA & **University of Washington**, Seattle, WA.
Mentor: Sergey Yekhanin
I worked on statistical error correction algorithms for DNA sequencing.
This is part of a larger MSR-UW group effort to make DNA Storage a reality. DNA Storage aims to use synthetic DNA as a high-density, durable, and easy-to-manipulate storage medium of digital data.
- Summer 2014 **Microsoft Research**, Redmond, WA.
Mentor: Sébastien Bubeck
I was a research intern in the Theory Group, working on statistical inference problems on random graphs.
- Summer 2009 **University of Oxford**, Oxford, UK.
Mentors: Jotun Hein, Rune Lyngsø, and István Miklós
I was a summer research student in the Department of Statistics, working on the infinite sites model in population genetics.

Summer 2008 **University of California, Los Angeles, CA.**

Mentors: Susana Serna and Gilles Gnacadja

I was a summer research student in the Research in Industrial Projects for Students (RIPS) program at the Institute for Pure and Applied Mathematics (IPAM). I worked on a team of four students, modeling and measuring unstable behavior in hematopoiesis.

Awards and Honors

For teaching

- Princeton Engineering Commendation List for Outstanding Teaching, 2021
For the teaching of ORF 526: Probability Theory in Fall 2020.
- Princeton Engineering Commendation List for Outstanding Teaching, 2020
For the teaching of ORF 387: Networks in Spring 2020.
- Princeton Engineering Commendation List for Outstanding Teaching, 2020
For the teaching of ORF 526: Probability Theory in Fall 2019.
- Excellence in Teaching Award, Princeton University, 2020
Student-run and student-selected teaching award, given by Princeton's Undergraduate and Graduate Engineering Councils for the teaching of ORF 350: Analysis of Big Data in Spring 2019.
- 250th Anniversary Fund for Innovation in Undergraduate Education, Princeton University, 2019
- Outstanding Graduate Student Instructor Award, UC Berkeley, 2014 - 2015

For research

- Howard B. Wentz, Jr. Junior Faculty Award, Princeton University, 2020
- Princeton SEAS Innovation Award, 2019
- UC Berkeley Graduate Fellowship, 2010 - 2012
- Scholarship of the Hungarian Republic, 2009 - 2010
- SIAM Award for Outstanding Talk in Applied Mathematics, MAA MathFest 2009
- Outstanding Student of the Faculty of Natural Sciences, BUTE, 2008 - 2009
- Second Prize, National Scientific Student Conference, Hungary, April 2009
- Scholarship of the Faculty of Natural Sciences, BUTE, Fall 2008, Spring 2009

Funding and Grants

- Princeton University 250th Anniversary Fund for Innovation in Undergraduate Education Grant, *Networks: Connecting the ORFE Undergraduate Curriculum*, \$23k, 2019
- Princeton University SEAS Innovation Research Grant, *Network Disruption and the Spread of Misinformation*, \$60k, 2019 - 2021
- NSF grant DMS 1811724, *Dynamic Networks: Probabilistic Models and Inference Problems*, \$150k, 2018 - 2021

Publications and Preprints

- [33] **Tree trace reconstruction using subtraces**

Tatiana Brailovskaya and Miklos Z. Racz
Submitted, 2021.

- [32] **Approximate Trace Reconstruction**

Sami Davies, Miklos Z. Racz, Cyrus Rashtchian, and Benjamin G. Schiffer
Submitted, 2020.

- [31] **Batch Optimization for DNA Synthesis**
Konstantin Makarychev, Miklos Z. Racz, Cyrus Rashtchian, and Sergey Yekhanin
Submitted, 2020.
- [30] **Rumor source detection with multiple observations under adaptive diffusions**
Miklos Z. Racz and Jacob Richey
IEEE Transactions on Network Science and Engineering, to appear, 2021.
- [29] **Correlated randomly growing graphs**
Miklos Z. Racz and Anirudh Sridhar
Submitted, 2020.
- [28] **Network disruption: maximizing disagreement and polarization in social networks**
Mayee F. Chen and Miklos Z. Racz
Submitted, 2020.
- [27] **Reconstructing Trees from Traces**
Sami Davies, Miklos Z. Racz, and Cyrus Rashtchian
Annals of Applied Probability, to appear, 2021.
An extended abstract appeared at the *Conference on Learning Theory (COLT)*, 2019.
- [26] **Finding a planted clique by adaptive probing**
Miklos Z. Racz and Benjamin Schiffer
ALEA Latin American Journal of Probability and Mathematical Statistics, 17:775–790, 2020.
- [25] **Finding cliques using few probes**
Uriel Feige, David Gamarnik, Joe Neeman, Miklos Z. Racz, and Prasad Tetali
Random Structures & Algorithms, 56(1):142–153, 2020.
- [24] **DNA assembly for nanopore data storage readout**
Randolph Lopez, Yuan-Jyue Chen, Siena Dumas Ang, Sergey Yekhanin, Konstantin Makarychev, Miklos Z. Racz, Georg Seelig, Karin Strauss, and Luis Ceze
Nature Communications, 10:2933, 2019.
- [23] **How fragile are information cascades?**
Yuval Peres, Miklos Z. Racz, Allan Sly, and Izabella Stuhl
Annals of Applied Probability, 30(6):2796–2814, 2020.
- [22] **Geographic and Temporal Trends in Fake News Consumption During the 2016 US Presidential Election**
Adam Fourney*, Miklos Z. Racz*, Gireeja Ranade*, Markus Mobius, Eric Horvitz
International Conference on Information and Knowledge Management (CIKM), 2017.
* These authors contributed equally and are presented in alphabetical order.
- [21] **Clustering Billions of Reads for DNA Data Storage**
Cyrus Rashtchian, Konstantin Makarychev, Miklos Racz, Siena Dumas Ang, Djordje Jevdjic, Sergey Yekhanin, Luis Ceze, and Karin Strauss
Advances in Neural Information Processing Systems (NeurIPS), 2017.
Selected for a spotlight presentation (top 4.7% of submissions).
- [20] **Optimal control for diffusions on graphs**
Laura Florescu, Yuval Peres, and Miklos Z. Racz
SIAM Journal on Discrete Mathematics, 32(4):2941–2972, 2018.

- [19] **Scaling up DNA data storage and random access retrieval**
Lee Organick, Siena Dumas Ang, Yuan-Jyue Chen, Randolph Lopez, Sergey Yekhanin, Konstantin Makarychev, Miklos Z. Racz, Govinda Kamath, Parikshit Gopalan, Bichlien Nguyen, Christopher Takahashi, Sharon Newman, Hsing-Yeh Parker, Cyrus Rashtchian, Kendall Stewart, Gagan Gupta, Robert Carlson, John Mulligan, Douglas Carmean, Georg Seelig, Luis Ceze, and Karin Strauss
Nature Biotechnology, 36:242–248, 2018.
- [18] **A smooth transition from Wishart to GOE**
Miklos Z. Racz and Jacob Richey
Journal of Theoretical Probability, 32(2):898–906, 2019.
- [17] **Basic models and questions in statistical network analysis**
Miklos Z. Racz and Sébastien Bubeck
Statistics Surveys, 11:1–47, 2017.
- [16] **Rate-limited control of systems with unknown gain**
Victoria Kostina, Yuval Peres, Miklos Z. Racz, and Gireeja Ranade
IEEE Allerton Conference on Communication, Control, and Computing, 2016.
- [15] **Sequence assembly from corrupted shotgun reads**
Shirshendu Ganguly, Elchanan Mossel, and Miklos Z. Racz
IEEE International Symposium on Information Theory (ISIT), 2016.
- [14] **Beta-gamma tail asymptotics**
Jim Pitman and Miklos Z. Racz
Electronic Communications in Probability, 20(84):1–7, 2015.
- [13] **Braess’s paradox for the spectral gap in random graphs and delocalization of eigenvectors**
Ronen Eldan, Miklos Z. Racz, and Tselil Schramm
Random Structures & Algorithms, 50(4):584–611, 2017.
- [12] **Testing for high-dimensional geometry in random graphs**
Sébastien Bubeck, Jian Ding, Ronen Eldan, and Miklos Z. Racz
Random Structures & Algorithms, 49(3):503–532, 2016.
- [11] **From trees to seeds: on the inference of the seed from large trees in the uniform attachment model**
Sébastien Bubeck, Ronen Eldan, Elchanan Mossel, and Miklos Z. Racz
Bernoulli, 23(4A):2887–2916, 2017.
- [10] **Can one hear the shape of a population history?**
Junhyong Kim, Elchanan Mossel, Miklos Z. Racz, and Nathan Ross
Theoretical Population Biology, 100:26–38, 2015.
- [9] **On the influence of the seed graph in the preferential attachment model**
Sébastien Bubeck, Elchanan Mossel, and Miklos Z. Racz
IEEE Transactions on Network Science and Engineering, 2(1):30–39, 2015.
- [8] **Coexistence in preferential attachment networks**
Tonći Antunović, Elchanan Mossel, and Miklos Z. Racz
Combinatorics, Probability and Computing, 25(6):797–822, 2016.
- [7] **Dynamic Budget-Constrained Pricing in the Cloud**
Eric Friedman, Miklos Z. Racz, and Scott Shenker
Canadian Conference on Artificial Intelligence, 2015.

- [6] **Multidimensional sticky Brownian motions as limits of exclusion processes**
Miklos Z. Racz and Mykhaylo Shkolnikov
Annals of Applied Probability, 25(3):1155–1188, 2015.
- [5] **A Smooth Transition from Powerlessness to Absolute Power**
Elchanan Mossel, Ariel D. Procaccia, and Miklos Z. Racz
Journal of Artificial Intelligence Research, 48:923–951, 2013.
- [4] **Election Manipulation: The Average Case**
Elchanan Mossel and Miklos Z. Racz
ACM SIGecom Exchanges, 11(2):22–24, 2012.
- [3] **A quantitative Gibbard-Satterthwaite theorem without neutrality**
Elchanan Mossel and Miklos Z. Racz
Combinatorica, 35(3):317–387, 2015.
An extended abstract appeared at the *Symposium on Theory of Computing (STOC)*, 2012.
- [2] **Modeling Flocks and Prices: Jumping Particles with an Attractive Interaction**
Márton Balázs, Miklos Z. Racz, and Bálint Tóth
Annales de l'Institut Henri Poincaré – Probabilités et Statistiques, 50(2):425–454, 2014.
- [1] **Analysis of unstable behavior in a mathematical model for erythropoiesis**
Susana Serna, Jasmine A. Nirody, and Miklos Z. Racz
Journal of Mathematical Biology, 66(3):595–625, 2013.

Patents

- **Trace reconstruction from noisy polynucleotide sequencer reads**
Parikshit Gopalan, Karin Strauss, Siena Dumas Ang, Miklos Racz, Luis Ceze, Sergey Yekhanin, and Nebojsa Jojic
Patent filed, May 2016.

Teaching

Graduate teaching

- Falls 2017—2020 **ORF 526: Probability Theory**, Princeton University.
I was the Instructor for this graduate introduction to probability theory with a focus on stochastic processes.
- Summer 2016 **Basic models and questions in statistical network analysis.**
I co-designed (together with Sébastien Bubeck) this graduate minicourse, consisting of five one-hour lectures, which aim to explain in an elementary way some of the key ideas involved in cutting-edge statistical network analysis research. I also wrote lecture notes which are published in *Statistics Surveys* and available online (38 pages, 10 figures). I taught this minicourse twice:
 - **June 6 – 10, 2016: University of Washington**
Approx. 30 graduate students attended from a variety of departments (math, stat, CS, EE).
 - **July 4 – 8, 2016: XX Brazilian School of Probability**
Approx. 100 participants attended, ranging from masters students to professors.
- Summer 2013 **Probability Models of Information Exchange on Networks**, Cornell University.
I designed and held a tutorial session for Elchanan Mossel's short course at the Cornell Probability Summer School.

Undergraduate teaching

- Spring 2020 & 2021 **ORF 387: Networks**, Princeton University.
I am/was the Instructor for this undergraduate course that showcases how networks are widespread in society, technology, and nature, via a mix of theory and applications.

- Spring 2019 **ORF 350: Analysis of Big Data**, Princeton University.
I was the Instructor for this undergraduate course that introduces statistical principles and computational tools for analyzing data.
- Spring 2018 **ORF 309: Probability and Stochastic Systems**, Princeton University.
I was the Instructor for this undergraduate introduction to probability and its applications.
- Spring 2014 **Stat 150: Stochastic Processes**, UC Berkeley.
I was a Graduate Student Instructor (GSI) for this upper-division course of approx. 60 students, taught by Ani Adhikari. I designed and held weekly discussion sections and held office hours.
- Spring 2013 **Stat 155: Game Theory**, UC Berkeley.
I was a Graduate Student Instructor (GSI) for this upper-division course of approx. 60 students, taught by Elchanan Mossel. I designed and held weekly discussion sections, held office hours, and graded homework, quizzes, and exams.
- Summer 2011 **Stat W21: Introductory Statistics**, UC Berkeley.
I was a Graduate Student Instructor (GSI) for this lower-division course of approx. 250 students, taught by Philip Stark. This was an online course and I held in-person and online office hours.
- 2008 — 2009 **Calculus for civil engineer students**, Budapest University of Technology and Economics.
I was a Teaching Assistant for three semesters. I held discussion sections and graded exams.
- 2007 — 2010 **Mathematics Institute**, Budapest University of Technology and Economics.
I graded homework for various courses in calculus, linear algebra, algebra, and probability theory. I also served as a tutor at the walk-in tutoring center.
- [K-12 teaching](#)
- 2011 — 2015 **Berkeley Math Circle**, Berkeley, CA.
I volunteered as a mathematics teacher and held problem-solving sessions for talented youth at the elementary, middle, and high school level. I designed several problem sets, with topics including probability games and graph theory.
- Spring 2014 **Stanford Math Circle**, Stanford, CA.
I volunteered as a mathematics teacher and held problem-solving sessions for talented middle school students. The sessions were on probability games, based on problem sets that I designed.

Mentoring

[Graduate students \(current\)](#)

Suqi Liu, Princeton University, ORFE, PhD student.

Daniel Rigobon, Princeton University, ORFE, PhD student (co-advised with Ronnie Sircar).

Anirudh Sridhar, Princeton University, EE, PhD student (co-advised with H. Vincent Poor).

[Graduate students \(former\)](#)

- 2016 — 2017 **Jacob Richey**, University of Washington, Mathematics, PhD student.
I mentored Jacob while I was a postdoc at MSR (main advisor: Chris Hoffman).
- Summer 2016 **Govinda Kamath**, Stanford, EE, PhD student.
Together with Sergey Yekhanin, I co-mentored Govinda's 12-week internship at Microsoft Research on a project involving statistical inference and coding theory problems in genomics, motivated by applications in DNA Storage. His work also included the analysis of a large DNA synthesis-sequencing dataset.

[Undergraduate senior theses advised at Princeton University](#)

- 2020 — 2021 **Isabella Faccione**, ORFE
- 2020 — 2021 **Zachary Holecek**, ORFE
- 2020 — 2021 **Alan Wong**, ORFE

- 2019 — 2020 **Adam Chang**, ORFE, recipient of the **Ahmet S. Çakmak Prize**, *awarded for a strong academic record and an innovative thesis*; the **Stanley J. Stein Senior Thesis Prize**, *awarded by the Program in Latin American Studies (PLAS) to the student who writes the best senior thesis on a Latin American-related topic*; as well as the **Joseph Clifton Elgin Prize**, *awarded by the School of Engineering and Applied Science (SEAS) to a graduating senior who has done the most to advance the interests of the School in the community at large*.
- 2019 — 2020 **Nicholas A.G. Johnson**, ORFE, **Valedictorian** of Princeton's Class of 2020; recipient of the **Frank S. Castellana Prize**, *awarded to a graduating senior for outstanding scholarship and academic achievement (top ORFE prize)*; the **James Hayes-Edgar Palmer Prize**, *awarded by the School of Engineering and Applied Science (SEAS) to a graduating senior who has manifested excellent scholarship, a marked capacity for leadership, and promise of creative achievement in engineering*; as well as the **Challenger Thesis Prize in Canadian Studies**.
- 2019 — 2020 **Aslesha Parchure**, ORFE
- 2019 — 2020 **Benjamin Schiffer**, ORFE, recipient of the **Mack Angas Memorial Prize**, *awarded for outstanding senior thesis research*.
- 2018 — 2019 **Patrick Chen**, ORFE
- 2018 — 2019 **Benjamin Laufer**, ORFE, recipient of the **Urban Studies Thesis Prize**, as well as the **Kenneth H. Condit '13 Prize**, *awarded to a graduating senior who has demonstrated leadership through academic achievement and community service*.
- 2018 — 2019 **Timothy Thong**, ORFE
- 2018 Jan — Dec **José Pabón**, Mathematics
- 2017 — 2018 **Hassan Ejaz Chaudhry**, ORFE
- 2017 — 2018 **Kevin Sun**, ORFE, recipient of the **Frank S. Castellana Prize**, *awarded to a graduating senior for outstanding scholarship and academic achievement (top ORFE prize)*.
- 2017 — 2018 **Eric Wu**, ORFE, recipient of the **Eric F.S. Pai '83 Prize**, *awarded to a graduating senior who has written the best thesis in finance*.
- [Undergraduate research advised at Princeton University](#)
- 2020 — 2021 **Vydhourie R.T. Thiyageswaran**, Mathematics
- 2018 — 2019 **Mayee Chen**, ORFE
- 2018 — 2019 **Benjamin Schiffer**, ORFE
- 2018 **Charlie Hou**, ORFE
- 2018 **Walter Li**, ORFE

Selected Invited Talks

[An Adversarial Perspective on Network Disruption](#)

- Workshop on Integrity in Social Networks and Media (online talk) March 12, 2021
- SPOR Seminar (online talk), Eindhoven, The Netherlands February 23, 2021

[Correlated randomly growing graphs](#)

- SIAM Conference on Discrete Mathematics, Portland, OR Summer 2021
- Workshop on Critical and Collective Effects in Graphs and Networks, Woods Hole, MA Summer 2021
- Special Session on Graphs in Data Science at the AMS Spring Southeastern Sectional Meeting (online talk) March 13-14, 2021
- Joint Probability Seminar (online talk), Duke & UNC October 22, 2020

- Mathematical Physics Seminar (online talk), Yeshiva University May 6, 2020
- Probability Seminar, Columbia University January 31, 2020
- Statistical Physics Holiday Seminar, Eötvös University (ELTE), Budapest December 27, 2019
- Probability Seminar, MIT December 2, 2019
- Special Session on Stochastic Evolution of Discrete Structures at the AMS Fall Eastern Sectional Meeting, Binghamton, NY October 13, 2019

Trace reconstruction problems with applications to DNA data storage

- MIFODS Workshop on Learning under Complex Structure, MIT January 27, 2020
- Special Session on Recent Trends in the Mathematics of Data at the AMS Fall Central Sectional Meeting, Madison, WI September 14, 2019

Finding cliques with few probes

- Combinatorics Seminar, Georgia Tech November 8, 2019
- Statistical Physics Holiday Seminar, Eötvös University (ELTE), Budapest December 28, 2018
- Probability Seminar, University of Oxford October 29, 2018

High-dimensional random geometric graphs

- Oxford - Princeton Workshop, Princeton, NJ November 16 - 17, 2018
- Probability Seminar, University of Bristol November 2, 2018
- Applied Probability & Risk Seminar, Columbia University October 4, 2018
- Special Session on Probability, Combinatorics, and Statistical Mechanics at the AMS Fall Eastern Sectional Meeting, Newark, DE September 30, 2018
- Workshop on Critical and Collective Effects in Graphs and Networks, Eindhoven, The Netherlands June 22, 2018
- Research on Algorithms and Incentives in Networks (RAIN) Seminar, Stanford May 23, 2018
- Workshop on Combinatorial Statistics, CRM, Montreal, Canada May 3, 2018
- Computational Statistics and Machine Learning Seminar, Univ. of Oxford March 23, 2018
- Probability Seminar, University of British Columbia January 12, 2017
- Probability Seminar, University of Wisconsin, Madison January 15, 2015
- Theory Lunch, Microsoft Research, Redmond August 27, 2014

How fragile are information cascades?

- Statistical Physics Holiday Seminar, Eötvös University (ELTE), Budapest December 29, 2017
- Probability Seminar, University of Pennsylvania November 14, 2017
- Theory Lunch, Microsoft Research, Redmond April 19, 2017

Statistical Inference in Networks and Genomics

- ORFE Colloquium, Princeton University February 6, 2017
- Mathematics Colloquium, University of Maryland January 24, 2017
- Mathematics Colloquium, University of British Columbia January 13, 2017
- Mathematics Colloquium, University of Wisconsin, Madison January 9, 2017
- Mathematics Colloquium, McGill University December 7, 2016
- Mathematics Colloquium, Carnegie Mellon University December 5, 2016

Finding and hiding the seed

- Dynamic Networks Workshop, Isaac Newton Institute, Cambridge, UK December 16, 2016

- Probability Seminar, Princeton University November 30, 2016
- [Controlled diffusion on graphs](#)
- Probability Seminar, University of Washington November 21, 2016
- [Sequence assembly from corrupted shotgun reads](#)
- MSR Theory Day, Microsoft Research, Redmond March 10, 2016
- [Braess's paradox for the spectral gap in random graphs and delocalization of eigenvectors](#)
- Probability Seminar, University of Colorado, Boulder April 20, 2017
- Probability Seminar, University of Minnesota February 12, 2016
- Theory Lunch, UC Berkeley January 27, 2016
- Random Matrix Seminar, Princeton University November 23, 2015
- Theory Lunch, Microsoft Research, Redmond July 29, 2015
- [From trees to seeds: on the inference of the seed from large random trees](#)
- Probability Seminar, Duke University October 13, 2016
- BIRS Retreat for Young Researchers in Stochastics, Banff September 25, 2016
- Theory Seminar, University of Washington October 13, 2015
- Probability Seminar, University of Bristol March 27, 2015
- Probability Seminar, UC San Diego January 22, 2015
- SILO Seminar, University of Wisconsin, Madison January 14, 2015
- Probability Seminar, Stanford University January 12, 2015
- Probability Seminar, BUTE, Budapest January 6, 2015
- Probability Seminar, UC Berkeley October 22, 2014
- [Multidimensional sticky Brownian motions as limits of exclusion processes](#)
- Monash Workshop on Self-interacting Processes September 7, 2016
- Probability Seminar, University of Wisconsin, Madison November 14, 2013
- [Coexistence in preferential attachment networks](#)
- Risk Management Seminar, UC Berkeley April 15, 2014
- Theory Lunch, Microsoft Research, Redmond June 5, 2013
- Probability Seminar, UCLA May 15, 2013
- Probability Seminar, UC Berkeley March 13, 2013
- [Election manipulation: the average-case](#)
- EconCS Seminar, UC Berkeley April 9, 2013
- Probability Seminar, BUTE, Budapest January 4, 2012
- Combinatorial Stochastic Processes Seminar, UC Berkeley October 14, 2011
- [Modeling Flocks and Prices: Jumping Particles with an Attractive Interaction](#)
- Mathematical Physics & Probability Seminar, UC Davis November 14, 2012
- Statistical Physics Seminar, Eötvös University (ELTE), Budapest April 15, 2009

Organization

2017 — present **Princeton Probability Seminar**, Princeton, NJ.
 Co-organizing with Misha Shkolnikov, Allan Sly, and Ramon van Handel.

- 2018 — 2020 **Princeton ORFE Colloquium**, Princeton, NJ.
Organizer.
- Mar 2019 **Columbia - Princeton Probability Day 2019**, Princeton, NJ.
I co-organized this one-day conference with colleagues at Columbia and Princeton.
- Nov 2016 **Northwest Probability Seminar 2016**, Redmond, WA.
I co-organized this one-day conference with A. Holroyd and Y. Peres.

Editorial Work and Reviewing

I have served on the **Program Committee** of the following conferences/workshops:

- SIAM Workshop on Network Science 2018 (NS18)

I have served as a **Reviewer** for the following journals:

- Annals of Applied Probability
- Annals of Statistics
- Bernoulli Journal
- Combinatorics, Probability, and Computing
- Electronic Communications in Probability
- Electronic Journal of Probability
- Experimental Mathematics
- Involve, a Journal of Mathematics
- Journal of Applied Probability
- Journal of Machine Learning Research
- Journal of the Royal Statistical Society: Series B
- Mathematical Statistics and Learning
- Memoirs of the AMS
- Probability Theory and Related Fields
- Random Structures & Algorithms
- SIAM Journal on Discrete Mathematics
- Theoretical Population Biology
- Theory of Computing
- Transactions on Economics and Computation

I have served as a **Reviewer** for the following conferences:

- COLT 2016, 2018, 2019; DNA 26; ISIT 2017, 2020; ITCS 2019, 2021; NeurIPS 2016, 2017; RANDOM 2017, 2018, 2020; SODA 2017, 2018, 2020; STOC 2016, 2019, 2020

I have served as an **External Reviewer** for:

- Banff International Research Station (BIRS) Workshop proposals

Further Leadership and Service

At Princeton University

- 2018 — 2020 **Faculty Adviser and Fellow**, *Whitman College*, Princeton University.
I served as a faculty adviser for incoming first year students.
- 2018 — 2020 **Faculty Adviser**, *ORFE Class of 2021*, Princeton University.
- 2019 — 2023 **Executive Committee Member**, *Certificate Program in Engineering and Management Systems*, Princeton University.
- 2017 — 2021 **Graduate Admissions Committee**, *ORFE Department*, Princeton University.
- 2020 — 2021 **Undergraduate Curriculum Committee**, *ORFE Department*, Princeton University.

2018 — 2019 **Departmental Liaison**, *ORFE Department*, Princeton University.
Departmental liaison for the university-wide review of the learning management system Blackboard.

Oct 2018 **Panelist**, *ORFE Job Market Panel*, Princeton University.

I have served as a **Reader** of the PhD Thesis for:

- Wenyan Gong, ORFE, 2020
- Thomas Pumir, ORFE, 2020
- Christy V. Graves, PACM, 2019
- Peiqi Wang, ORFE, 2018

I have served as a **Reader** of the Senior Thesis for:

- Heather Newman, Mathematics, 2019

I have served on the **Final Public Oral (FPO) Exam Committee** for:

- Xiuneng Zhu, ORFE, 2018

I have served on the **Masters Thesis Exam Committee** for:

- Elisabetta Cornacchia, Applied Mathematics (EPFL), 2019

I have served on the **General Exam Committee** for:

- Pierre Bayle, ORFE, 2020
- Daniel Rigobon, ORFE, 2020
- Igor Silin, ORFE, 2020
- Anirudh Sridhar, EE, 2020
- Zhi Jiang (Tony) Ye, ORFE, 2020
- Brian Cheung, ORFE, 2019
- Gokce Dayanikli, ORFE, 2019
- Shuangping Li, PACM, 2019
- Lirong Xue, ORFE, 2019
- Suqi Liu, ORFE, 2018
- Guillaume Martinet, ORFE, 2018

I have served on the **Preliminary Exam Committee** for:

- Tatiana Brailovskaya, PACM, 2020
- Dev Dabke, PACM, 2019
- Emily Walters, PACM, 2019
- Jad Rahme, PACM, 2018

I have served on the **Qualifying Exam Committee** for seven students in ORFE.

[At Microsoft Research](#)

March 2016 **Berkeley Statistics Annual Research Symposium (BSTARS)**, UC Berkeley.

I represented Microsoft Research at the annual Industry Alliance event of the Berkeley Statistics Department, where I also gave a short talk illustrating research efforts at Microsoft.

[At UC Berkeley](#)

2014 — 2015 **Head of Student Hospitality Committee**, Department of Statistics, UC Berkeley.

I coordinated the lunches between the departmental seminar speaker and graduate students.

2013 — 2014 **Graduate Admissions Committee**, Department of Statistics, UC Berkeley.

I reviewed 100+ applications to the Statistics PhD program.

2012 — 2013 **Co-President, Statistics Graduate Student Association (SGSA)**, UC Berkeley.

I co-led a team of a dozen student officers who worked on improving graduate student life in the department. We designed and conducted a survey to assess student opinions. We worked closely with faculty who founded the Industry Alliance Program, which in turn greatly benefited graduate students. For instance, based on our suggestions, from the following year onwards, Graduate Student Instructors received an increased stipend, equal to that of Graduate Student Researchers. We also revamped communications between students and the department, e.g., by resurrecting the student newsletter.

2010 — 2014 **Student Seminar Committee**, Department of Statistics, UC Berkeley.

I was involved with organizing the bi-weekly statistics student seminars.