

Ziv Scully's Curriculum Vitae

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Website: <https://ziv.codes>

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Academic Appointments

Cornell University , <i>Assistant Professor, ORIE</i>	Ithaca, NY, 2023–present
Massachusetts Institute of Technology , <i>Postdoctoral Fellow</i>	Cambridge, MA, Spring 2023
Harvard University , <i>Postdoctoral Fellow</i>	Berkeley, CA, Spring 2023
University of California, Berkeley , <i>Postdoctoral Fellow</i>	Pittsburgh, PA, Fall 2022

Education

Carnegie Mellon University , <i>PhD and MS, Computer Science</i> THESIS ADVISORS: Mor Harchol-Balter and Guy Blelloch.	Pittsburgh, PA, 2016–2022
Massachusetts Institute of Technology , <i>BS, Math with Computer Science</i> RESEARCH MENTOR: Adam Chlipala.	Cambridge, MA, 2012–2016
Brookline High School	Brookline, MA, 2008–2012

Industry Positions and Internships

NOVID (ExpII, Inc.) , <i>Algorithms Consultant</i>	Pittsburgh, PA, Winter 2020
IBM Research , <i>Research Intern</i>	Yorktown Heights, NY, Summer 2019
Harvard Medical School , <i>Research Intern</i>	Boston, MA, Summer 2016
Intentional Software Corporation , <i>Software Developer Intern</i>	Bellevue, WA, Summer 2015
Bridgewater Associates , <i>Technology Associate Intern</i>	Westport, CT, Summer 2014
TripAdvisor , <i>Software Engineering Intern</i>	Newton, MA, Summer 2013

Awards

Performance 2023 Best Paper Award , <i>Winner</i>	November 2023
SIGMETRICS Doctoral Dissertation Award , <i>Winner</i>	November 2022
CMU SCS Distinguished Dissertation Award , <i>Honorable Mention</i>	November 2022
INFORMS George Nicholson Student Paper Competition , <i>Winner</i>	October 2022
SIGMETRICS 2021 Best Paper Award , <i>Winner</i>	June 2021
STOC 2021 TheoryFest , <i>Featured Paper</i>	June 2021
SIGMETRICS 2020 Best Video Award , <i>Winner</i>	June 2020
SIGMETRICS 2019 Kenneth C. Sevcik Outstanding Student Paper Award , <i>Winner</i>	June 2019
Performance 2018 Best Student Paper Award , <i>Winner</i>	December 2018
INFORMS Applied Probability Society Best Student Paper Prize , <i>Finalist</i>	November 2018
National Science Foundation Graduate Fellowship Program , <i>Awardee</i>	2016–2019
ARCS Foundation Scholarship , <i>Recipient</i>	2016–2019

PLDI 2016 Student Research Competition, *Undergraduate Third Place*
National Merit Scholarship Program, *Finalist*
Intel Science Talent Search, *Semifinalist*
Siemens Competition, *Regional Semifinalist*

June 2016
February 2012
January 2012
October 2011

Awards Won by Advised Students

SIGMETRICS 2021 Student Research Competition, *Undergraduate Winner: Edwin Peng* *June 2021*

Publications

- [38] Runhan Xie, Isaac Grosf, and Ziv Scully. 2024. **Heavy-Traffic Optimal Size- and State-Aware Dispatching**. *Proceedings of the ACM on Measurement and Analysis of Computing Systems* 8, 1, Article 9 (Feb. 2024), 36 pages. doi:[10.1145/3639035](https://doi.org/10.1145/3639035).
- [37] Ziv Scully and Lucas van Kreveld. 2024. **When Does the Gittins Policy Have Asymptotically Optimal Response Time Tail in the M/G/1?** *Operations Research* 72, 2 (Feb. 2024). doi:[10.1287/opre.2022.0038](https://doi.org/10.1287/opre.2022.0038).
- [36] Yige Hong and Ziv Scully. 2024. **Performance of the Gittins Policy in the G/G/1 and G/G/k, with and without Setup Times**. *Performance Evaluation* 163, Article 102377 (Jan. 2024), 26 pages. doi:[10.1016/j.peva.2023.102377](https://doi.org/10.1016/j.peva.2023.102377).
- [35] Yige Hong and Ziv Scully. 2023. **Performance of the Gittins Policy in the G/G/1 and G/G/k, with and without Setup Times**. *ACM SIGMETRICS Performance Evaluation Review* 51, 2 (Sept. 2023), 33–35. doi:[10.1145/3626570.3626583](https://doi.org/10.1145/3626570.3626583).
- [34] Runhan Xie and Ziv Scully. 2023. **Reducing Heavy-Traffic Response Time with Asymmetric Dispatching**. *ACM SIGMETRICS Performance Evaluation Review* 51, 2 (Sept. 2023), 36–38. doi:[10.1145/3626570.3626584](https://doi.org/10.1145/3626570.3626584).
- [33] Ziv Scully. 2023. **The Role of Advanced Math in Teaching Performance Modeling**. *ACM SIGMETRICS Performance Evaluation Review* 51, 2 (Sept. 2023), 59–64. doi:[10.1145/3626570.3626591](https://doi.org/10.1145/3626570.3626591).
- [32] Samuli Aalto and Ziv Scully. 2023. **Minimizing the Mean Slowdown in the M/G/1 Queue**. *Queueing Systems* 104, 3-4 (Aug. 2023), 187–210. doi:[10.1007/s11134-023-09888-6](https://doi.org/10.1007/s11134-023-09888-6).
- [31] Samuli Aalto and Ziv Scully. 2022. **On the Gittins Index for Multistage Jobs**. *Queueing Systems* 102, 3-4 (Dec. 2022), 353–371. doi:[10.1007/s11134-022-09760-z](https://doi.org/10.1007/s11134-022-09760-z).
- [30] Isaac Grosf, Ziv Scully, Mor Harchol-Balter, and Alan Scheller-Wolf. 2022. **Optimal Scheduling in the Multiserver-Job Model under Heavy Traffic**. *Proceedings of the ACM on Measurement and Analysis of Computing Systems* 6, 3, Article 51 (Dec. 2022), 32 pages. doi:[10.1145/3570612](https://doi.org/10.1145/3570612).
- [29] Ziv Scully. 2022. **A New Toolbox for Scheduling Theory**. Ph.D. Dissertation. Carnegie Mellon University, Pittsburgh, PA. <https://ziv.codes/pdf/scully-thesis.pdf>.
- [28] Mor Harchol-Balter and Ziv Scully. 2022. **The Most Common Queueing Theory Questions Asked by Computer Systems Practitioners**. *ACM SIGMETRICS Performance Evaluation Review* 49, 4 (June 2022), 3–7. doi:[10.1145/3543146.3543148](https://doi.org/10.1145/3543146.3543148).
- [27] Ziv Scully. 2022. **Bounding Mean Slowdown in Multiserver Systems**. *ACM SIGMETRICS Performance Evaluation Review* 49, 2 (Jan. 2022), 36–38. doi:[10.1145/3512798.3512812](https://doi.org/10.1145/3512798.3512812).

- [26] Ziv Scully, Isaac Grosof, and Michael Mitzenmacher. 2022. **Uniform Bounds for Scheduling with Job Size Estimates**. In *13th Innovations in Theoretical Computer Science Conference (ITCS 2022) (Leibniz International Proceedings in Informatics (LIPIcs))*. Schloss Dagstuhl–Leibniz-Zentrum fuer Informatik, Berkeley, CA, Article 41, 30 pages. doi:[10.4230/LIPIcs.ITCS.2022.114](https://doi.org/10.4230/LIPIcs.ITCS.2022.114).
- [25] Ziv Scully and Lucas van Kreveld. 2022. **When Does the Gittins Policy Have Asymptotically Optimal Response Time Tail?** *ACM SIGMETRICS Performance Evaluation Review* 49, 2 (Jan. 2022), 18–20. doi:[10.1145/3512798.3512806](https://doi.org/10.1145/3512798.3512806).
- [24] Ziv Scully and Mor Harchol-Balter. 2021. **The Gittins Policy in the M/G/1 Queue**. In *19th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt 2021)*. IFIP, Philadelphia, PA, 248–255. doi:[10.23919/WiOpt52861.2021.9589051](https://doi.org/10.23919/WiOpt52861.2021.9589051).
- [23] Ziv Scully and Mor Harchol-Balter. 2021. **How to Schedule Near-Optimally under Real-World Constraints**. *arXiv:2110.11579*.
- [22] Isaac Grosof, Kunhe Yang, Ziv Scully, and Mor Harchol-Balter. 2021. **Nudge: Stochastically Improving upon FCFS**. *Proceedings of the ACM on Measurement and Analysis of Computing Systems* 5, 2, Article 21 (June 2021), 29 pages. doi:[10.1145/3460088](https://doi.org/10.1145/3460088).
- [21] Ziv Scully, Isaac Grosof, and Mor Harchol-Balter. 2021. **Optimal Multiserver Scheduling with Unknown Job Sizes in Heavy Traffic**. *Performance Evaluation* 145, Article 102150 (Jan. 2021), 31 pages. doi:[10.1016/j.peva.2020.102150](https://doi.org/10.1016/j.peva.2020.102150).
- [20] Ziv Scully, Isaac Grosof, and Mor Harchol-Balter. 2020. **The Gittins Policy Is Nearly Optimal in the M/G/k under Extremely General Conditions**. *Proceedings of the ACM on Measurement and Analysis of Computing Systems* 4, 3, Article 43 (Nov. 2020), 29 pages. doi:[10.1145/3428328](https://doi.org/10.1145/3428328).
- [19] Ziv Scully, Isaac Grosof, and Mor Harchol-Balter. 2020. **Optimal Multiserver Scheduling with Unknown Job Sizes in Heavy Traffic**. *ACM SIGMETRICS Performance Evaluation Review* 48, 2 (Nov. 2020), 33–35. doi:[10.1145/3439602.3439615](https://doi.org/10.1145/3439602.3439615).
- [18] Ziv Scully, Lucas van Kreveld, Onno J. Boxma, Jan-Pieter Dorsman, and Adam Wierman. 2020. **Characterizing Policies with Optimal Response Time Tails under Heavy-Tailed Job Sizes**. *Proceedings of the ACM on Measurement and Analysis of Computing Systems* 4, 2, Article 30 (June 2020), 33 pages. doi:[10.1145/3392148](https://doi.org/10.1145/3392148).
- [17] Ziv Scully, Mor Harchol-Balter, and Alan Scheller-Wolf. 2020. **Simple Near-Optimal Scheduling for the M/G/1**. *Proceedings of the ACM on Measurement and Analysis of Computing Systems* 4, 1, Article 11 (May 2020), 29 pages. doi:[10.1145/3379477](https://doi.org/10.1145/3379477).
- [16] Illés Antal Horváth, Ziv Scully, and Benny Van Houdt. 2019. **Mean Field Analysis of Join-below-Threshold Load Balancing for Resource Sharing Servers**. *Proceedings of the ACM on Measurement and Analysis of Computing Systems* 3, 3, Article 57 (Dec. 2019), 21 pages. doi:[10.1145/3366705](https://doi.org/10.1145/3366705).
- [15] Ziv Scully, Mor Harchol-Balter, and Alan Scheller-Wolf. 2019. **Simple Near-Optimal Scheduling for the M/G/1**. *ACM SIGMETRICS Performance Evaluation Review* 47, 2 (Dec. 2019), 24–26. doi:[10.1145/3374888.3374898](https://doi.org/10.1145/3374888.3374898).
- [14] Ziv Scully. 2019. **Open Problem—M/G/1 Scheduling with Preemption Delays**. *Stochastic Systems* 9, 3 (Sept. 2019), 311–312. doi:[10.1287/stsy.2019.0047](https://doi.org/10.1287/stsy.2019.0047).
- [13] Naama Ben-David, Ziv Scully, and Guy E. Blelloch. 2019. **Unfair Scheduling Patterns in NUMA Architectures**. In *28th International Conference on Parallel Architectures and Compilation Techniques (PACT 2019)*. IEEE, Seattle, WA, 205–218. doi:[10.1109/PACT.2019.00024](https://doi.org/10.1109/PACT.2019.00024).

- [12] Isaac Grosf, Ziv Scully, and Mor Harchol-Balter. 2019. **Load Balancing Guardrails: Keeping Your Heavy Traffic on the Road to Low Response Times**. *Proceedings of the ACM on Measurement and Analysis of Computing Systems* 3, 2, Article 42 (June 2019), 31 pages. doi:10.1145/3341617.3326157.
- [11] Anupam Gupta, Haotian Jiang, Ziv Scully, and Sahil Singla. 2019. **The Markovian Price of Information**. In *Integer Programming and Combinatorial Optimization, 20th International Conference (IPCO 2019) (Lecture Notes in Computer Science, Vol. 11480)*, Andrea Lodi and Viswanath Nagarajan (Eds.). Springer, Cham, Switzerland, 233–246. doi:10.1007/978-3-030-17953-3_18.
- [10] Isaac Grosf, Ziv Scully, and Mor Harchol-Balter. 2019. **SRPT for Multiserver Systems**. *ACM SIGMETRICS Performance Evaluation Review* 46, 2 (Jan. 2019), 9–11. doi:10.1145/3305218.3305223.
- [9] Ziv Scully, Mor Harchol-Balter, and Alan Scheller-Wolf. 2018. **Optimal Scheduling and Exact Response Time Analysis for Multistage Jobs**. arXiv:1805.06865.
- [8] Isaac Grosf, Ziv Scully, and Mor Harchol-Balter. 2018. **SRPT for Multiserver Systems**. *Performance Evaluation* 127–128 (Nov. 2018), 154–175. doi:10.1016/j.peva.2018.10.001.
- [7] Ziv Scully and Mor Harchol-Balter. 2018. **SOAP Bubbles: Robust Scheduling under Adversarial Noise**. In *56th Annual Allerton Conference on Communication, Control, and Computing*. IEEE, Monticello, IL, 144–154. doi:10.1109/ALLERTON.2018.8635963.
- [6] Ziv Scully, Mor Harchol-Balter, and Alan Scheller-Wolf. 2018. **SOAP: One Clean Analysis of All Age-Based Scheduling Policies**. *Proceedings of the ACM on Measurement and Analysis of Computing Systems* 2, 1, Article 16 (April 2018), 30 pages. doi:10.1145/3179419.
- [5] Ziv Scully, Guy E. Blelloch, Mor Harchol-Balter, and Alan Scheller-Wolf. 2017. **Optimally Scheduling Jobs with Multiple Tasks**. *ACM SIGMETRICS Performance Evaluation Review* 45, 2 (Oct. 2017), 36–38. doi:10.1145/3152042.3152055.
- [4] Ziv Scully and Adam Chlipala. 2017. **A Program Optimization for Automatic Database Result Caching**. In *Proceedings of the 44th ACM SIGPLAN Symposium on Principles of Programming Languages (POPL 2017)*. ACM, Paris, France, 271–284. doi:10.1145/3009837.3009891.
- [3] Tian-Yi Jiang, Ziv Scully, and Yan X. Zhang. 2015. **Motors and Impossible Firing Patterns in the Parallel Chip-Firing Game**. *SIAM Journal on Discrete Mathematics* 29, 1 (March 2015), 615–630. doi:10.1137/130933770.
- [2] Ziv Scully, Tian-Yi Jiang, and Yan X. Zhang. 2014. **Firing Patterns in the Parallel Chip-Firing Game**. In *26th International Conference on Formal Power Series and Algebraic Combinatorics (FPSAC 2014) (DMTCS Proceedings, Vol. AT)*, Louis J. Billera and Isabella Novik (Eds.). Discrete Mathematics and Theoretical Computer Science, Chicago, IL, 537–548. https://hal.inria.fr/hal-01207550.
- [1] Tanya Khovanova and Ziv Scully. 2013. **Efficient Calculation of Determinants of Symbolic Matrices with Many Variables**. arXiv:1304.4691.

Teaching

Cornell ORIE 3510, *Instructor*

Ithaca, NY, Fall 2023

Cornell ORIE 6500, *Instructor*

Ithaca, NY, Fall 2023

CMU 15-920: *Pilot Course on DEI Topics, Instructor*

Pittsburgh, PA, Fall 2021

CMU 15-455, *Teaching Assistant*

Pittsburgh, PA, Spring 2020

CMU 15-857, *Teaching Assistant*

Pittsburgh, PA, Fall 2017

MIT Educational Studies Program, *AP Physics C Teacher*

Cambridge, MA, 2014–2015

MIT 6.01, *Lab Assistant*

Cambridge, MA, Spring 2013

Student Advising

Qian Xie , <i>Cornell PhD</i>	<i>2023–present</i>
Amit Harlev , <i>Cornell PhD</i>	<i>2023–present</i>
Shefali Ramakrishna , <i>Cornell PhD</i>	<i>2023–present</i>
George Yu , <i>Cornell PhD</i>	<i>2023–present</i>
Edwin Peng , <i>CMU Undergraduate</i>	<i>September 2019–May 2022</i>
Evan Wu , <i>CMU Undergraduate</i>	<i>May–September 2020</i>

Academic Service

Cornell ORIE Colloquium , <i>Organizer</i>	<i>August 2023–present</i>
ACM EC 2024 Program Committee , <i>Member</i>	<i>January–March 2024</i>
ACM SIGMETRICS / IFIP Performance 2024 Program Committee , <i>Member</i>	<i>August 2023–March 2024</i>
IFIP Performance 2023 Program Committee , <i>Member</i>	<i>May–July 2023</i>
INFORMS APS Best Student Paper Prize Committee , <i>Member</i>	<i>June–August 2023</i>
CMU CSD Diversity, Equity, and Inclusion Committee , <i>Member</i>	<i>April 2021–August 2022</i>
CMU Scheduling and Queueing At LLunch (SQUALL) , <i>Organizer</i>	<i>February 2021–August 2022</i>
CMU CSD Doctoral Review Committee , <i>Member</i>	<i>January 2018–August 2022</i>
IFIP Performance 2021 Program Committee , <i>Member</i>	<i>May–July 2021</i>
CMU CSD Admitted PhD Student Visit Day , <i>Website Chair</i>	<i>2018–2019</i>

Reviewing

ACM EC (PC member), ACM SIGMETRICS (PC member), ACM Transactions on Modeling and Computer Simulation, ACM Transactions on Modeling and Performance Evaluation of Computing Systems, Discrete Mathematics, EATCS ICALP, European Journal of Operational Research, FUN with Algorithms, IEEE Transactions on Parallel and Distributed Systems, IEEE/ACM Transactions on Networking, IFIP Performance (PC member), Indagationes Mathematicae, INFORMS Journal on Computing, Mathematics of Operations Research, Management Science, Omega, Operations Research, Operations Research Letters, Performance Evaluation, Queueing Systems, Stochastic Models.

Conference and Workshop Presentations

Simons Institute Data-Driven Decision Processes Reunion , <i>Talk</i>	<i>Berkeley, CA, January 2024</i>
TALK: “Local Hedging Approximately Solves Pandora’s Box Problems with Optional Inspection”.	
2023 INFORMS APS Conference , <i>Invited talk</i>	<i>Nancy, France, June 2023</i>
TALK: “Performance of the Gittins Policy in the G/G/1 and G/G/k, With and Without Setup Times”.	
TeaPACS at SIGMETRICS 2023 , <i>Invited talk</i>	<i>Orlando, FL, June 2023</i>
TALK: “The Role of Advanced Math in Teaching Performance Modeling”.	
LATA at SIGMETRICS 2023 , <i>Invited talk</i>	<i>Orlando, FL, June 2023</i>
TALK: “Uniform Bounds for Scheduling with Job Size Estimates”.	
2023 Joint Mathematics Meetings , <i>Invited talk</i>	<i>Boston, MA, January 2023</i>
TALK: “How Robust Is the Gittins Policy for Queue Scheduling?”	

- 2022 INFORMS Annual Meeting**, *Invited talk* Indianapolis, IN, *October 2022*
 TALK: “The Gittins Policy is Nearly Optimal in the M/G/k under Extremely General Conditions”, in INFORMS George Nicholson Best Student Paper Competition award session.
- EURO 2022**, *Invited talk* Espoo, Finland, *July 2022*
 TALK: “The Gittins Policy in the M/G/1 Queue”.
- 2022 CORS/INFORMS International**, *Two invited talks* Vancouver, BC, Canada, *June 2022*
 TALK 1: “Drifting Towards Progress in Multiserver Scheduling”.
 TALK 2: “WINE: A New Queueing Identity for Analyzing Scheduling Policies in Multiserver Systems”.
- ITCS 2022**, *Talk* Berkeley, CA (virtual), *January 2022*
 TALK: “Uniform Bounds for Scheduling with Job Size Estimates”.
- 2021 INFORMS Annual Meeting**, *Invited talk* Los Angeles, CA (virtual), *October 2021*
 TALK: “A New Queueing Identity with Applications to Multiserver Scheduling”.
- WiOpt 2021**, *Invited talk* Philadelphia, PA (virtual), *October 2021*
 TALK: “The Gittins Policy in the M/G/1 Queue”.
- SIGMETRICS 2021**, *Tutorial and talk* Beijing, China (virtual), *June 2021*
 TUTORIAL: “Coupling Techniques for Complex Control Problems”, with Sid Banerjee.
 TALK: “The Gittins Policy is Nearly Optimal in the M/G/k under Extremely General Conditions”.
- MAMA at SIGMETRICS 2021**, *Talk* Beijing, China (virtual), *June 2021*
 TALK: “Bounding Mean Slowdown in Multiserver Systems”.
- Performance 2020**, *Talk* Milan, Italy (virtual), *November 2020*
 TALK: “Optimal Multiserver Scheduling with Unknown Job Sizes in Heavy Traffic”.
- SIGMETRICS 2020**, *Two talks* Boston, MA (virtual), *June 2020*
 TALK 1: “Simple Near-Optimal Scheduling for the M/G/1”.
 TALK 2: “Characterizing Policies with Optimal Response Time Tails under Heavy-Tailed Job Sizes”.
- MAMA at SIGMETRICS 2020**, *Talk* Boston, MA (virtual), *June 2020*
 TALK: “Optimal Multiserver Scheduling with Unknown Job Sizes in Heavy Traffic”.
- 2019 INFORMS Annual Meeting**, *Invited talk* Seattle, WA, *October 2019*
 TALK: “Simple Near-Optimal Scheduling for the M/G/1”.
- Cornell ORIE Young Researchers Workshop 2019**, *Invited talk* Ithaca, NY, *October 2019*
 TALK: “Simple Near-Optimal Scheduling for the M/G/1”.
- PACT 2019**, *Talk* Seattle, WA, *September 2019*
 TALK: “Unfair Scheduling Patterns in NUMA Architectures”.
- SIGMETRICS 2019**, *Tutorial* Phoenix, AZ, *June 2019*
 TUTORIAL: “The Power of SOAP Scheduling”, with Mor Harchol-Balter.
- MAMA at SIGMETRICS 2019**, *Talk* Phoenix, AZ, *June 2019*
 TALK: “Simple Near-Optimal Scheduling for the M/G/1”.
- Young European Queueing Theorists 2018**, *Invited talk* Toulouse, France, *December 2018*
 TALK: “Optimal Scheduling and Exact Response Time Analysis for Multistage Jobs”.
- 2018 INFORMS Annual Meeting**, *Three invited talks* Phoenix, AZ, *November 2018*
 TALK 1: “SOAP: One Clean Analysis of All Age-Based Scheduling Policies”, in INFORMS APS Best Student Paper Prize award session.

TALK 2: "Optimal Scheduling and Exact Response Time Analysis for Multistage Jobs".

TALK 3: "Open Problem—M/G/1 Scheduling with Preemption Delays", in INFORMS APS "Open Problems in Applied Probability" session.

SIGMETRICS 2018, *Talk and poster*

Irvine, CA, *June 2018*

TALK: "SOAP: One Clean Analysis of All Age-Based Scheduling Policies". POSTER: "SOAP: One Clean Analysis of All Age-Based Scheduling Policies".

IMACCS 2018, *Poster*

Columbus, OH, *June 2018*

POSTER: "SOAP: One Clean Analysis of All Age-Based Scheduling Policies".

2017 INFORMS Annual Meeting, *Invited talk*

Houston, TX, *October 2017*

TALK: "Optimally Scheduling Jobs with Multiple Tasks".

2017 INFORMS APS Conference, *Invited talk*

Evanston, IL, *July 2017*

TALK: "Optimally Scheduling Jobs with Multiple Tasks".

MAMA at SIGMETRICS 2017, *Talk*

Urbana, IL, *June 2017*

TALK: "Optimally Scheduling Jobs with Multiple Tasks".

POPL 2017, *Talk*

Paris, France, *January 2017*

TALK: "A Program Optimization for Automatic Database Result Caching".

PLDI 2016 Student Research Competition, *Talk and poster*

Santa Barbara, CA, *June 2016*

TALK: "A Program Optimization for Automatic Database Result Caching".

POSTER: "A Program Optimization for Automatic Database Result Caching".

2012 MIT PRIMES Conference, *Talk*

Cambridge, MA, *May 2012*

TALK: "Efficient Calculation of Determinants of Symbolic Matrices with Many Variables".

2012 MAA Undergraduate Student Poster Session, *Poster*

Boston, MA, *January 2012*

POSTER: "Trees and Motors in the Parallel Chip-Firing Game".

2011 MIT PRIMES Conference, *Talk*

Cambridge, MA, *May 2011*

TALK: "Progress on the Parallel Chip-Firing Problem".

Visits and Other Talks

Cornell University

Ithaca, NY, *August 2023*

TALK: "WINE: A New Queueing Identity for Analyzing Scheduling Policies in Multiserver Systems".

VENUE: CAM Colloquium.

Cornell University

Ithaca, NY, *August 2023*

TALK: "Local Hedging Approximately Solves Pandora's Box Problems with Optional Inspection".

VENUE: CS Theory Seminar.

Stanford University

Stanford, CA, *May 2023*

HOST: Jann Spiess.

TALK: "A New Toolbox for Scheduling Theory".

VENUE: GSB OIT Seminar.

TCS+

Virtual seminar, *February 2023*

TALK: "Recent Progress in Queueing and Scheduling Theory (for a TCS Audience)".

Massachusetts Institute of TechnologyCambridge, MA, *February 2023*

TALK: "Local Hedging for Combinatorial Pandora's Box Problems with Optional Inspection".

VENUE: Algorithms & Complexity Seminar.

Harvard UniversityCambridge, MA, *February 2023*

TALK: "A New Toolbox for Scheduling Theory".

VENUE: Systems-Theory Seminar.

UC BerkeleyBerkeley, CA, *August 2022*

TALK: "Markov-Process Multi-Golf: A Gittins Index Tutorial".

VENUE: Data-Driven Decision Processes Whiteboard Talk.

Northwestern UniversityEvanston, IL, *August 2022*

HOST: Anton Braverman.

TALK: "A New Toolbox for Scheduling Theory".

University of AmsterdamAmsterdam, The Netherlands, *July 2022*

HOST: Jan-Pieter Dorsman.

TALK: "A New Toolbox for Scheduling Theory".

VENUE: Applied Probability Seminar.

Eindhoven University of TechnologyEindhoven, The Netherlands, *June 2022*

HOST: Onno Boxma.

TALK: "A New Toolbox for Scheduling Theory".

VENUE: SOR Seminar.

University of MichiganAnn Arbor, MI (virtual), *February 2022*

HOST: Eunshin Byon.

TALK: "A New Toolbox for Scheduling Theory".

VENUE: IOE Seminar.

Cornell UniversityIthaca, NY (virtual), *January 2022*

HOST: David A. Goldberg.

TALK: "A New Toolbox for Scheduling Theory".

VENUE: ORIE Special Seminar.

University of ChicagoChicago, IL (virtual), *January 2022*

HOST: René Caldentey.

TALK: "A New Toolbox for Scheduling Theory".

VENUE: Workshop in Operations/Management Science.

California Institute of TechnologyPasadena, CA (virtual), *January 2022*

HOSTS: Pietro Perona and Adam Wierman.

TALK: "A New Toolbox for Scheduling Theory".

VENUE: Frontiers in Computing + Mathematical Sciences Symposium.

University of MichiganAnn Arbor, MI (virtual), *September 2021*

HOST: Lei Ying.

TALK: "How to Schedule Near-Optimally under Real-World Constraints".

VENUE: CSP Seminar.

Cornell UniversityIthaca, NY, *July–August 2021*

HOST: Sid Banerjee.

Stanford UniversityStanford, CA (virtual), *May 2021*

HOST: Balaji Prabhakar.

TALK: "The Gittins Policy is Nearly Optimal in the M/G/k under Extremely General Conditions".

VENUE: Information Theory Forum.

The Ohio State UniversityColumbus, OH (virtual), *March 2021*

HOST: Ness Shroff.

TALK: "Near-Optimal Scheduling: Towards a Unified Theory".

University of Illinois at Urbana-ChampaignUrbana, IL (virtual), *February 2021*

HOST: R. Srikant.

TALK: "The Gittins Policy is Nearly Optimal in the M/G/k under Extremely General Conditions".

VENUE: SINE Seminar.

Carnegie Mellon UniversityPittsburgh, PA (virtual), *November 2020*

TALK: "The Gittins Policy is Nearly Optimal in the M/G/k under Extremely General Conditions".

VENUE: CS Theory Lunch.

Stanford UniversityStanford, CA, *October 2019*

HOST: Ramesh Johari.

TALK: "Simple Near-Optimal Scheduling for the M/G/1".

VENUE: ISL Colloquium.

University of California, BerkeleyBerkeley, CA, *October 2019*

HOST: Rhonda Righter.

TALK: "SOAP: One Clean Analysis of All Age-Based Scheduling Policies".

VENUE: IEOR Seminar.

University of WashingtonSeattle, WA, *September 2019*

HOST: Anna Karlin.

TALK: "SOAP: One Clean Analysis of All Age-Based Scheduling Policies".

VENUE: CS Theory Seminar.

IBM ResearchYorktown Heights, NY, *June–August 2019*

HOSTS: Mark Squillante and Soumyadip Ghosh.

TALK: "SOAP: One Clean Analysis of All Age-Based Scheduling Policies".

VENUE: IBM Research Seminar.

University of AntwerpAntwerp, Belgium, *April–May 2019*

HOST: Benny Van-Houdt.

Eindhoven University of TechnologyEindhoven, The Netherlands, *December 2018*

HOST: Onno Boxma.

TALK: "SOAP: One Clean Analysis of All Age-Based Scheduling Policies".

VENUE: Stochastics Colloquium.

University of AmsterdamAmsterdam, The Netherlands, *December 2018*

HOST: Jan-Pieter Dorsman.

TALK: "SOAP: One Clean Analysis of All Age-Based Scheduling Policies".

VENUE: SPIP Meeting.

California Institute of TechnologyPasadena, CA, *June 2018*

HOST: Adam Wierman.

Carnegie Mellon UniversityPittsburgh, PA, *April 2018*

TALK: "SOAP: One Clean Analysis of All Age-Based Scheduling Policies".

VENUE: CS Theory Lunch.

Carnegie Mellon UniversityPittsburgh, PA, *February 2017*

TALK: "Scheduling with the Gittins Index".

VENUE: CS Theory Lunch.

Conference Sessions Organized

2022 INFORMS Annual MeetingIndianapolis, IN, *October 2022*

Queueing and Scheduling: Multiserver Systems and Uncertainty.

2022 CORS/INFORMS International ConferenceVancouver, BC, Canada, *June 2022*

Multiserver Queues: Emerging Techniques in Performance Analysis.

Other Activities

SIGBOVIK Organizing Committee, *General Chair, Committee Member*Pittsburgh, PA, *2017–2018*Served on the committee that organizes SIGBOVIK, a tongue-in-cheek conference featuring ~~joke~~ Extremely Serious™ computer science research that occurs every $O(\text{April } 1)$ at CMU. Served as general chair in 2018.**CMU SCS Musical**, *Music Director, Musician*Pittsburgh, PA, *2017–2018*

Played in (2017–2018) and conducted (2018) the pit band for the CMU School of Computer Science musical. Instruments: clarinet, tenor sax, drum pad.

MIT Educational Studies Program, *Program Director, Teacher*Cambridge, MA, *2012–2017*

Codirected two educational programs for middle- and high-school students, Spring HSSP 2013 and ProveIt 2013–2014, and taught numerous classes to middle- and high-school students on a variety of math and programming topics, including aforementioned employment teaching AP Physics C.

MIT Asymptones, *President, Singer, Arranger*Cambridge, MA, *2012–2016*

Sang bass and arranged music for the Asymptones a cappella group. Served as group president in 2015.

MIT Alpha Epsilon Pi Philanthropy, *Logistics Lead, Graphic Designer*Cambridge, MA, *2013–2014*

Designed a novel event, produced graphics, and led logistics for MIT AEP's 2014 philanthropy campaign, which raised \$30,000 for the Save a Child's Heart charity.