

# Andrew Daw

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ACADEMIC POSITIONS	<b>University of Southern California</b> Data Sciences and Operations, <i>Marshall School of Business</i> <ul style="list-style-type: none"><li>• Assistant Professor</li></ul> <i>June 2020 - Pres.</i>
CONTACT	<b>andrew.daw@usc.edu</b> <b>faculty.marshall.usc.edu/andrew-daw</b> (213) 764-4220 401B Bridge Hall, Los Angeles, CA 90089
EDUCATION	<b>Cornell University</b> , Ithaca, NY <ul style="list-style-type: none"><li>• Ph.D. in Operations Research <i>August 2020</i><ul style="list-style-type: none"><li>– <i>Thesis</i>: Batches, Bursts, and Service Systems</li><li>– <i>Advisor</i>: Jamol Pender; <i>Minor Advisors</i>: Jim Dai (<i>Statistics</i>), Sid Resnick (<i>Applied Mathematics</i>)</li></ul></li><li>• M.S. in Operations Research <i>August 2018</i></li></ul> <b>University of Florida</b> , Gainesville, FL <ul style="list-style-type: none"><li>• B.S. in Industrial and Systems Engineering <i>May 2015</i></li></ul>
WORKING PAPERS	Andrew Daw and Galit Yom-Tov. <b>Asymmetries of Service: Interdependence and Synchronicity</b> . ( <i>In Preparation</i> ). (2023). <ul style="list-style-type: none"><li>• <i>Selected for presentation at the 16th Annual Behavioral Operations Conference, 2023</i></li></ul> Katerina Giannoutsou and Andrew Daw. <b>Price-Waiting Trade-offs in Ridehailing Platforms</b> . ( <i>In Preparation</i> ). (2023).  Andrew Daw, Gal Mendelson, and Noa Zychlinski. <b>The Home Hospitalization Paradox: Tradeoffs of Telemedicine</b> . ( <i>In Progress</i> ). (2023).  Andrew Daw, Robert C. Hampshire, and Jamol Pender. <b>How to Staff when Customers Arrive in Batches</b> . ( <i>Major Revision, Management Science</i> ). (2023). <ul style="list-style-type: none"><li>• <i>Third Place in the 2019 IBM Best Student Paper Award Competition from Informs Service Science</i></li></ul> Andrew Daw, Brian Fralix, and Jamol Pender. <b>Establishing Convergence of Infinite-Server Queues with Batch Arrivals to Shot-Noise Processes</b> . ( <i>Submitted</i> ). (2023).
JOURNAL PUBLICATIONS	Andrew Daw, Antonio Castellanos, Galit Yom-Tov, Jamol Pender, and Leor Gruendlinger. <b>The Co-Production of Service: Modeling Services in Contact Centers Using Hawkes Processes</b> . <i>Management Science</i> . (2023, to appear). <ul style="list-style-type: none"><li>• <i>Finalist (top three) for the Production and Operations Management Society Applied Research Challenge (ARC) at POMS 2022</i></li><li>• <i>Selected for presentation in the Service Management SIG Conference at MSOM 2021 (10 chosen from ~100 submissions)</i></li></ul> Andrew Daw. <b>Conditional Uniformity and Hawkes Processes</b> . <i>Mathematics of Operations Research</i> . (2023, to appear). <ul style="list-style-type: none"><li>• <i>Finalist in the 2022 Informs Junior Faculty Interest Group (JFIG) Paper Competition</i></li></ul> Andrew Daw and Jamol Pender. <b>Matrix Calculations for Moments of Markov Processes</b> . <i>Advances in Applied Probability</i> . 55.1 (2023): 126-150.

Andrew Daw. **Services Shaped by History**. *Queueing Systems*. 100.3-4 (2022): 409-411.

- *Invited, peer-reviewed open problem note for the “100 Views on Queues” special issue celebrating the 100<sup>th</sup> volume of Queueing Systems*

Andrew Daw and Jamol Pender. **An Ephemeral Self-Exciting Point Process**. *Advances in Applied Probability*. 54.2 (2022): 340-403.

Andrew Daw and Jamol Pender. **On the Distributions of Infinite Server Queues with Batch Arrivals**. *Queueing Systems*. 91.3-4 (2019): 367-401.

- *Second Place in the 2019 Informs Minority Issues Forum Paper Competition (submitted by Jamol Pender)*

Andrew Daw and Jamol Pender. **New Perspectives on the Erlang-A Queue**. *Advances in Applied Probability*. 51.1 (2019): 268-299.

Andrew Daw and Jamol Pender. **Queues Driven by Hawkes Processes**. *Stochastic Systems*. 8.3 (2018): 192-229.

CONFERENCE  
PUBLICATIONS  
AND  
UNDERGRADUATE  
RESEARCH  
ADVISING

Andrew Daw and Galit Yom-Tov. **Markov Process Simulations of Service Systems with Concurrent Hawkes Service Interactions**. *Proceedings of the 2023 Winter Simulation Conference (WSC)*. IEEE (2023).

Michelangelo Harris, Brian Liu, Cean Park, Ravi Ramireddy, Gloria Ren, Max Ren, Shangdi Yu, Andrew Daw, and Jamol Pender. **Analyzing the Spotify Top 200 Through a Point Process Lens**. (2019).

Samantha Nirenberg, Andrew Daw, and Jamol Pender. **Queue Length Rounding and Delayed Information in Disney World Queues**. *Proceedings of the 2018 Winter Simulation Conference (WSC)*. IEEE (2018).

*Undergraduate research advising roles:*

- **Faculty Advisor**, University of Southern California JumpStart, 2023
  - With Matteo Sesia (also in DSO), we were the first Marshall faculty to ever participate in this university-level pipeline-to-PhD program for underrepresented students
- **Graduate Student Advisor**, Cornell Operations Research Applied Learning (CORAL), 2018 - 2020
- **Graduate Student Advisor**, Engineering Summer Mathematics Institute, Diversity Programs in Engineering, Cornell University, 2018

TEXTBOOK  
CHAPTERS

Alec Dalton and Andrew Daw. **Managing Capacity and Waits**. In *Operations Management in the Hospitality Industry*. Edited by Peter Szende, Alec Dalton, and Michelle Yoo. Emerald Publishing Limited, Bingley, pp. 167-187. (2021).

FUNDED AWARDS

- 2023–2027    **United States – Israel Binational Science Foundation (BSF)**  
Research Proposal Title: *Modeling, Identifying, and Managing Contact Center Performance in the Presence of Customer and Agent Behavior*  
Value: \$155,600 (with Israeli PIs: Yair Goldberg and Galit Yom-Tov, Technion)
- 2023        **National Science Foundation (NSF)**  
Research Proposal Title: *Travel: NSF Student Travel Grant for IFIP WG 7.3 Performance 2023*  
Value: \$15,000

- 2017–2020    **National Science Foundation (NSF) Graduate Research Fellowship**  
 Research Proposal Title: *Systems of Unknown Service Quality: Hawkes Processes and Queueing Theory*  
 Value: \$102,000
- 2019            **Cornell University Graduate School Research Travel Grant**  
 In support of travel to the Service Enterprise Engineering (SEE) Lab at the Technion to initiate research and access proprietary data.  
 Value: \$2,000
- 2015–2016    **First Year Fellowship**, School of Operations Research & Information Engineering, Cornell University

## PRESENTATIONS

### *Asymmetries of Service: Interdependence and Synchronicity*

- 2023 Informs Annual Meeting, Phoenix, AZ. (Oct. 2023)
- 21st Informs Applied Probability Society Conference, Nancy, France. (June 2023)
- 2023 MSOM Conference, Montreal, Canada. (June 2023)
- 16th Annual Behavioral Operations Conference, Baltimore, MD. (June 2023)
- 2023 POMS Annual Conference, Orlando, FL. (May 2023)

### *Conditional Uniformity and Hawkes Processes*

- 21st Informs Applied Probability Society Conference, Nancy, France. (June 2023)
- 2022 Informs Annual Meeting (Applied Probability Cluster and JFIG Paper Competition), Indianapolis, IN. (Oct. 2022)

### *How to Staff When Customers Arrive in Batches*

- 2022 MSOM Conference, Munich, Germany. (June 2022)

### *The Co-Production of Service: Modeling Services in Contact Centers using Hawkes Processes*

- 2021 Informs Annual Meeting, Anaheim, CA. (Oct. 2021)
- 2021 Service Management SIG, MSOM Conference, Indiana Univ. (Online). (June 2021)
- 2020 Informs Annual Meeting, Online. (Nov. 2020)

### *Beyond Safety Drivers: Staffing a Teleoperations System for Autonomous Vehicles*

- 2019 Informs Annual Meeting, Seattle, WA. (Oct. 2019)
- 2019 Young Researchers Workshop, Cornell University. (Oct. 2019)
- 2019 YinzOR Conference Poster Session, Carnegie Mellon University. (Aug. 2019)

### *The Queue-Hawkes Process: Ephemeral Self-Excitement*

- 2019 Informs Annual Meeting, Seattle, WA. (Oct. 2019)
- 20th Informs Applied Probability Society Conference, Brisbane, Australia. (Jul. 2019)
- 2018 Young Researchers Workshop (Poster), Cornell University. (Oct. 2018)

### *Self-Exciting Processes in Queues*

- Probability Seminar, Department of Mathematics, Cornell University. (Feb. 2019)
- Candidacy Exam, Cornell University. (Aug. 2018)

### *Queue Length Rounding and Delayed Information in Disney World Queues*

- 2018 Winter Simulation Conference, Gothenburg, Sweden. (Dec. 2018)

### *Exact Simulation of the Queue-Hawkes Process*

- 2018 Winter Simulation Conference (Poster), Gothenburg, Sweden. (Dec. 2018)

### *New Perspectives on the Erlang-A*

- 2018 Informs Annual Meeting, Phoenix, AZ. (Oct. 2018)

### *Queues Driven by Hawkes Processes*

- 2017 Informs Annual Meeting, Houston, TX. (Oct. 2017)

*Club Queues*

- 2016 Young Researchers Workshop (Poster), Cornell University. (Oct. 2016)

*What is Operations Research?*

- 2016 Engineering Summer Mathematics Institute, Cornell University. (Aug. 2016)

TEACHING

**Instructor** BUAD 313: Advanced Operations Management and Analytics  
*USC Marshall*  
*Fall 2023 (Inaugural Semester)*

**Core Coordinator** BUAD 311: Operations Management  
*USC Marshall*  
*Fall 2021*

**Instructor** BUAD 311: Operations Management  
*USC Marshall*  
*Fall 2022, 2021, 2020*

**Instructor** MATH 112: Contemporary Mathematics  
*Cornell Prison Education Program*  
*Fall, Spring 2019*

**Instructor** ORIE 3510 / 5510 / STSCI 3510: Intro. to Stochastic Processes  
*Cornell Engineering*  
*Summer 2017, 2016*

THESIS

COMMITTEES

**Doctoral committee chair:**

- *Katerina Giannoutsou*, (current)

**Doctoral committee member:**

- *Shobhit Jain*, June 2021 (advised by Kimon Drakopoulos and Raman Randhawa)

SERVICE

**At the University of Southern California (USC):**

- *Member* of Data Sciences and Operations (DSO) Research Committee  
(2023 - Pres.)
- *Faculty Adviser* for USC Los Angeles Community Impact (LACI) Student Org.  
(2023 - Pres.)
- *Organizer* of 2023 Southern California Operations Research / Operations Management Day (SoCal OR/OM Day) Mini-Conference  
(May 2023)
- *Course Co-Designer* for BUAD 313 : Advanced Operations Management and Analytics, a new core undergraduate course that offers an advanced version of the standard core operations management class. This new course has been proposed, designed, and developed in tandem with Paat Rusmevichientong, who will teach the class in Spring semesters  
(Spring 2022 - Fall 2023)
- *Faculty Recruiting Co-Coordinator* for Operations Management Group in DSO  
(Fall 2021 - Spring 2022)
- *Core Course Co-Coordinator* for BUAD 311: Operations Management  
(Fall 2021)
- *Seminar Co-Organizer* for Operations Management Group in DSO  
(2020 - 2023)
- *PhD Open House & Appl. Review* for Operations Management Group in DSO  
(2021 - Pres.)

- *Faculty Adviser* for Operations Management Association Student Org. (2020 - Pres.)
- *Faculty Marshal* at USC Commencement (Spring 2022)
- *Faculty Marshal* at Marshall Commencement (Spring 2022)
- *Faculty Marshal* at USC New Student Convocation (Fall 2021)

#### **In Professional Organizations and Academic Societies:**

- *Council Member* in the Informs Applied Probability Society (*elected by peers*) (2022 - Pres.)
- *Webmaster / Communications* for the Informs Applied Probability Society (2020 - 2022)
- *Committee Member* for the Informs George Nicholson Student Paper Competition (2023)
- *Judge* for the Informs Minority Issues Form (MIF) Best Paper Award (2023)
- *Judge* for the Informs Public Sector Operations Research (PSOR) Best Paper Award (2023)
- *Reviewer* for the MSOM Service Management SIG (2023, 2022)
- *Reviewer* for the MSOM Healthcare Operation SIG (2022)
- *Judge* for the Informs BOM Best Working Paper Award (2022, 2021)

#### **In Conferences:**

- *Student Travel Grant Chair* for IFIP WG 7.3 Performance 2023 (Chicago, IL, 2023)
- *Applied Probability Cluster Co-Chair* for the 2023 Informs Annual Meeting (Phoenix, AZ, 2023)
- *Session Chair* for the Informs Applied Probability Society Conference (21<sup>st</sup> Conf., Nancy, France, 2023; 20<sup>th</sup> Conf., Brisbane, Australia, 2019)
  - “*Hawkes Processes: New Models and Theory*” in 2023 was (to the best of my knowledge) the first all-Hawkes-process session at an Informs or APS conference!
- *Session Chair* for the 2023 POMS Annual Conference: Service Operations Track (Orlando, FL, 2023)
- *Session Chair* for the Informs Annual Meeting: Applied Probability Cluster and Service Science Clusters (Indianapolis, IN, 2022)
- *Session Chair* for the second Data-Driven Queueing Challenges (DDQCII) (Online, 2022)
- *Discussant* in the Healthcare SIG, MSOM Conference 2022 (Munich, Germany, 2022)
- *Organizer* of the Interactive Hybrid Forum at the Stochastic Networks Conference (Cornell University, Ithaca, NY, 2022)

#### **In Journals:**

- *Referee:*  
Operations Research, Management Science, Manufacturing and Service Operations Management, Mathematics of Operations Research, Queueing Systems, Stochastic Systems, Operations Research Letters, Production and Operations Management, Journal of Applied Probability, SIAM Journal on Control and Optimization, Probability in the Engineering and Informational Sciences

**In Outreach:**

- *Faculty Advisor* in the JumpStart Pathway-to-PhD program, Univ. of Southern California (2023)
- *Science Fair Judge* at Hawthorne and Horace Mann Elementary Schools (2023)
- *Science Olympiad Guest Speaker* at Horace Mann Elementary School (2023)
- *Computer Science Week Guest Speaker* at STEM Prep Elementary School (2021)
- *Business Faculty* in Univ. of Southern California Summer Programs (2022, 2021)
- *Math Faculty* in the Cornell Prison Education Program (2019)
- *Founder* of the PhD Mentor/Mentee Program in Operations Research Graduation Association, Cornell University (2018)
- *Running Buddy* for Girls on the Run at Smith Elementary School (2018)
- *Volunteer* in Girls' Adventures in Math (GAIM) at Cornell University (2018)
- *Mentor* in the CUEmpower Mentoring Program by Diversity Programs in Engineering, Cornell University (2017-2020)

INDUSTRY  
EXPERIENCE

*Consultant* to **Trophy Point LLC**, providing modeling and analysis on housing options for a large university, 2019  
*Intern*, Management Engineering & Consulting Services, **University of Florida Health - Shands Hospital**, 2014-2015  
*Intern*, Information Analytics & Innovation, **Sears Holdings Corporation**, 2013  
*Intern*, Workforce Management, **Walt Disney World Resort**, 2012

PROFESSIONAL  
DEVELOPMENT

*Completed courses and workshops at USC:*

- **CET Accelerated Online Teaching Intensive**, 2020

*Completed courses and workshops at Cornell:*

- **Teaching and Learning in the Diverse Classroom**, 2019
- **Research from Start to Publish Workshop**, 2019
- **Fostering Critical Thinking Skills Teaching Workshop**, 2018
- **Theater Techniques for Enhancing Teaching & Public Speaking**, 2016
- **The Practice of Inclusive Teaching in STEM**, 2016

*Organized sessions and panels at Cornell:*

- **Concrete Steps to Prepare for an Academic Career Panel**, 2018
- **Research Techniques Workshop**, 2017

- **Steps for Academic Success Panel, 2017**
- **Fellowship Application Workshop, 2017**