Mathieu Dahan

Assistant Professor
H. Milton Stewart School of Industrial and Systems Engineering

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I.   Earned Degrees

Ph.D.	06/2019	Massachusetts Institute of Technology, Cambridge, MA
M.S.	02/2016	*Computational Science and Engineering*
		Advisor: Saurabh Amin
M.S.	12/2016	École Centrale Paris, Paris, France
B.S.	09/2013	*Applied Mathematics*
B.S.	11/2013	Paris-Sud University, Paris, France
		Mathematics

II.   Employment History

Assistant Professor	*School of Industrial and Systems Engineering*	08/2019 – Present
	Georgia Institute of Technology, Atlanta, GA	
Research/Teaching Assistant	*Center for Computational Engineering*	09/2014 – 05/2019
	Massachusetts Institute of Technology, Cambridge, MA	
Research Scientist Intern	*Supply Chain Optimization Technologies*	06/2016 – 08/2016
	Amazon.com, Seattle, WA	

III.   Honors and Awards

A.   International or National Awards

- *Student Recognition of Excellence in Teaching: CIOS Honor Roll*, Fall 2022, Spring 2023
- *DARPA Riser*, 2022
- *HICSS-55 Best Paper Award*, Finalist, 2022
- *Princeton Day of Optimization Best Poster Award*, 2018
- *MIT Robert B. Guenassia Award*, 2018
- *Abdul Latif Jameel World Water & Food Security Lab Fellowships*, Honorable Mention, 2017
- *MIT Robert E. Thurber Fellowship*, 2016

B.   Institute or School Awards

- *6 Thank a Teacher Program Awards*, 2021-2022

C. Student Advisee Awards

- Onkar Kulkarni: *Atlanta Air Cargo Association Research Excellence Award*, 2024

- J. Haden Boone: *Herbert P. Haley Fellowship*, 2023

- J. Haden Boone: *NSF Graduate Research Fellowship*, 2023

- Lacy Greening: *Atlanta Air Cargo Association Research Excellence Award*, 2023

IV. Research, Scholarship, and Creative Activities

Boldface: Student co-author †: Presenting co-author

A. Academic Publications

A.1. Published and Accepted Journal Articles

J8. **Jezdimir Milošević**, Mathieu Dahan, Saurabh Amin, Henrik Sandberg, "Strategic Sensor Placement Based on Actuator Security Indices," *IEEE Transactions on Control of Network Systems*, October 2023.

J7. **Bastián Bahamondes**, Mathieu Dahan, "Hide-and-Seek Game with Capacitated and Heterogeneous Locations," *Decision Analysis*, October 2023.

J6. **Lacy Greening**, Mathieu Dahan, Alan Erera, "Lead-Time-Constrained Middle-Mile Consolidation Network Design with Fixed Origins and Destinations," *Transportation Research Part B: Methodological*, August 2023.

J5. **Romain Ben Taleb**, Aurélie Montarnal, Matthieu Lauras, Mathieu Dahan, Romain Miclo, "A Value-Oriented Metamodel for Small and Medium Enterprises' Decision Making," *International Journal of Industrial and Systems Engineering*, May 2023.

J4. **Onkar Kulkarni**, Mathieu Dahan, Benoit Montreuil, "Resilient Hyperconnected Parcel Delivery Network Design Under Disruption Risks," *International Journal of Production Economics,* April 2022.

J3. Mathieu Dahan, Lina Sela, Saurabh Amin, "Network Inspection for Detecting Strategic Attacks," *Operations Research,* January 2022.

J2. Mathieu Dahan, Saurabh Amin, Patrick Jaillet, "Probability Distributions on Partially Ordered Sets and Network Interdiction Games," *Mathematics of Operations Research,* December 2021.

J1. Andrew C. Lee, Mathieu Dahan, Andrew J. Weinert, Saurabh Amin, "Leveraging sUAS for Infrastructure Network Exploration and Failure Isolation," *Journal of Intelligent & Robotic Systems,* April 2018.

A.2. Conference Presentations with Proceedings (Refereed)

C15. **Romain Ben Taleb**†, Matthieu Lauras, Mathieu Dahan, Aurélie Montarnal, Romain Miclo, "An Asset-Based Causal Loop Model to Improve Corporate Value," *9th International Conference on Decision Support System Technology (ICDSST)*, June 2023.

C14. **Simon Kwon**[†], Benoit Montreuil, Mathieu Dahan, Walid Klibi, "Hyperconnected Logistic Service Networks: Bidding-Based Design Framework," *9th International Physical Internet Conference (IPIC)*, Athens, Greece, May 2023.

C13. **Jingze Li**[†], **Xiaoyue Liu**, Mathieu Dahan, Benoit Montreuil, "Stochastic Service Network Design with Different Relay Patterns for Hyperconnected Relay Transportation," *9th International Physical Internet Conference (IPIC)*, Athens, Greece, May 2023.

C12. **Onkar Kulkarni**[†], Mathieu Dahan, Benoit Montreuil, "Resilience Assessment of Hyperconnected Parcel Logistic Networks Under Worst-Case Disruptions," *9th International Physical Internet Conference (IPIC)*, Athens, Greece, May 2023.

C11. **Lacy Greening**[†], **Jisoo Park**, Mathieu Dahan, Alan Erera, Benoit Montreuil, "Middle-Mile Consolidation Network Design: Maximizing Profit Through Flexible Lead Times," *IISE Annual Conference & Expo 2023*, New Orleans, LA, May 2023.

C10. **J. Haden Boone**[†], Mathieu Dahan, "Infrastructure Inspection with Imperfect Detection Technology," *2023 American Control Conference (ACC)*, San Diego, CA, May 2023.

C9. **Bastián Bahamondes**[†], Mathieu Dahan, "Network Inspection from Locations with Imperfect Detection Capabilities," *2022 American Control Conference (ACC)*, Atlanta, GA, June 2022.

C8. **Bobak McCann**[†], Mathieu Dahan, "Network Inspection Using Heterogeneous Sensors for Detecting Strategic Attacks," *55th Hawaii International Conference on System Sciences (HICSS)*, Virtual, January 2022.
   – *Best Paper Award, Finalist*

C7. **Onkar Kulkarni**[†], **Yaarit M. Cohen**, Mathieu Dahan, Benoit Montreuil, "Resilient Hyperconnected Logistics Hub Network Design," *8th International Physical Internet Conference (IPIC)*, Virtual, June 2021.

C6. **Manon Grest**[†], **M. Metin Inan**, **Yaarit M. Cohen**, Ali V. Barenji, Mathieu Dahan, Matthieu Lauras, Benoit Montreuil, "Design of a Simulation-Based Experiment for Assessing the Relevance of the Physical Internet Concept for Humanitarian Supply Chains," *8th International Physical Internet Conference (IPIC)*, Virtual, June 2021.

C5. **Romain Ben Taleb**[†], Mathieu Dahan, Aurélie Montarnal, Matthieu Lauras, Romain Miclo, "Toward an Innovative Risk- and Opportunity-Oriented System for SMEs' Decision-Makers," *14th International Conference on Industrial Engineering and Quality (CIGI QUALITA)*, Virtual, May 2021.

C4. Jezdimir Milošević[†], Mathieu Dahan, Saurabh Amin, Henrik Sandberg, "A Network Monitoring Game with Heterogeneous Component Criticality Levels," *58th IEEE Conference on Decision and Control (CDC)*, Nice, France, December 2019.

C3. Andrew C. Lee[†], Mathieu Dahan, Saurabh Amin, "Integration of sUAS-Enabled Sensing for Leak Identification with Oil and Gas Pipeline Maintenance Crews," *2017 International Conference on Unmanned Aircraft Systems (ICUAS)*, Miami, FL, June 2017.

C2. Mathieu Dahan[†], Lina Sela Perelman, Saurabh Amin, "Network Sensing for Security Against Link Disruption Attacks," *54th Allerton Conference on Communication, Control and Computing*, Urbana, IL, October 2016.

C1. Mathieu Dahan[†], Saurabh Amin, "Network Flow Routing Under Strategic Link Disruptions," *53rd Allerton Conference on Communication, Control and Computing*, Urbana, IL, October 2015.

A.3. Conference Presentations with Refereed Extended Abstracts

EA13. **Onkar Kulkarni**, Mathieu Dahan[†], Benoit Montreuil, "Hyperconnected Relay-Hub Network Design for Consolidation Planning Under Demand Variability," *2nd INFORMS Transportation Science and Logistics (TSL) Society Conference*, Chicago, Illinois, July 2023.

EA12. **Lacy Greening**[†], **Jisoo Park**, Mathieu Dahan, Alan Erera, Benoit Montreuil, "Middle-Mile Consolidation Network Design: Maximizing Profit through Flexible Lead Times," *2nd INFORMS Transportation Science and Logistics (TSL) Society Conference*, Chicago, Illinois, July 2023.

EA11. **Lacy Greening**[†], **Jisoo Park**, Mathieu Dahan, Alan Erera, Benoit Montreuil, "Middle-Mile Consolidation Network Design: Maximizing Profit through Flexible Lead Times," *2023 Manufacturing and Service Operations Management (MSOM) Conference*, Montreal, Canada, June 2023.

EA10. **Jisoo Park**[†], Mathieu Dahan, Benoit Montreuil, "Data Analytics for Profit Maximization in Time-Sensitive E-Commerce Retailing," *10th INFORMS Transportation Science and Logistics (TSL) Society Workshop*, Bergen, Norway, June 2022.

EA9. **Onkar Kulkarni**[†], Mathieu Dahan, Benoit Montreuil, "Hyperconnected Logistics Hub Network Design Under Reliability and Adversarial Disruptions," *11th Triennial Symposium on Transportation Analysis (TRISTAN)*, Balaclava, Mauritius, June 2022.

EA8. **Bastián Bahamondes**, Mathieu Dahan[†], Saurabh Amin, "Multimodal Prescriptive Analytics for Rapid Post-Disaster Inspection Operations," *11th Triennial Symposium on Transportation Analysis (TRISTAN)*, Balaclava, Mauritius, June 2022.

EA7. **Simon Kwon**[†], Benoit Montreuil, Mathieu Dahan, "Bidding-Based Hyperconnected Service Network Design," *11th Triennial Symposium on Transportation Analysis (TRISTAN)*, Balaclava, Mauritius, June 2022.

EA6. **Lacy Greening**[†], Mathieu Dahan, Alan Erera, "Middle Mile Consolidation Network Design with Robust Lead Time Constraints," *11th Triennial Symposium on Transportation Analysis (TRISTAN)*, Balaclava, Mauritius, June 2022.

EA5. **Onkar Kulkarni**[†], Mathieu Dahan, Benoit Montreuil, "Large-Scale Hyperconnected Relay-Based Transportation Network Design," *8th International Workshop on Freight Transportation and Logistics (ODYSSEUS)*, Tangier, Morocco, May 2022.

EA4. **Lacy Greening**, **Jisoo Park**, Mathieu Dahan[†], Alan Erera, Benoit Montreuil, "Middle-Mile Consolidation Network Design with Flexible Lead-Time Constraints: A Profit Maximization Model," *8th International Workshop on Freight Transportation and Logistics (ODYSSEUS)*, Tangier, Morocco, May 2022.

EA3. **Jingze Li**, Benoit Montreuil, Mathieu Dahan[†], **Miguel Campos**, "Trucker-Sensitive Hyperconnected Relay-Based Transportation: An Operating System," *8th International Workshop on Freight Transportation and Logistics (ODYSSEUS)*, Tangier, Morocco, May 2022.

EA2. **Lacy Greening**[†], Mathieu Dahan, Alan Erera, "Middle Mile Consolidation Network Design Problems: A Time-Constrained Continuous Rate Model," *9th INFORMS Transportation Science and Logistics (TSL) Society Workshop*, Virtual, December 2021.

EA1. Mathieu Dahan[†], Steven B. Link, Saurabh Amin, Georgia Perakis, "Designing Network Inspection Operations Using Imperfect Diagnostic Information," *2018 Manufacturing and Service Operations Management (MSOM) Conference*, Dallas, TX, July 2018.

A.4. Submitted Journal Articles (with Date of Submission)

SJ1. **Lacy Greening**, **Jisoo Park**, Mathieu Dahan, Alan Erera, Benoit Montreuil, "Integrating Order-to-Delivery Time Sensitivity in E-Commerce Middle-Mile Consolidation Network Design," Submitted, December 2023.

A.5. Articles in Preparation

IP11. **Joseph E. McCarthy**, Mathieu Dahan, Chelsea C. White III, "Dynamic Operational Planning in Warfare: A Stochastic Game Approach to Military Campaigns," Targeted for *Naval Research Logistics*.

IP10. **Onkar Kulkarni**, Mathieu Dahan, Benoit Montreuil "Resilient Relay Logistics Network Design: A k-Shortest Path Approach," Targeted for *Transportation Science*.

IP9. **Samuel Tan**, **Matthew Ford**, **J. Haden Boone**, **Bobak McCann**, Peter Frazier, Mathieu Dahan, Huseyin Topaloglu, Yongjia Song, "Optimizing Naval Logistics in Contested Environments," Targeted for *INFORMS Journal on Applied Analytics*.

IP8. **Bastián Bahamondes**, Mathieu Dahan, "Network Inspection from Locations Undermining Detection Capabilities," Targeted for *European Journal of Operational Research*.

IP7. **Bobak McCann**, Mathieu Dahan, "Hide-and-Seek Game with Heterogeneous Resource Coordination," Targeted for *Operations Research*.

IP6. **J. Haden Boone**, Mathieu Dahan, "Hide-and-Seek Game with Imperfect Detection," Targeted for *Naval Research Logistics*.

IP5. **Romain Ben Taleb**, Mathieu Dahan, Matthieu Lauras, Romain Miclo, Aurélie Montarnal, "Asset-Based Optimization Problem," Targeted for *International Transactions in Operational Research*.

IP4. **Zhehan Zhang**, Justin Boutilier, Mathieu Dahan, Jónas Oddur Jónasson, "Data Analytics for Ambulance Dispatching in Congested Environment," Targeted for *Health Care Management Science*.

IP3. **M. Metin Inan**, Mathieu Dahan, Matthieu Lauras, Benoit Montreuil, "Inventory Relocation in Hyperconnected Humanitarian Supply Chain for Disaster Preparedness," Targeted for *Journal of Humanitarian Logistics and Supply Chain Management*.

IP2. **Hannah Wilborn Lagerman**, Mathieu Dahan, Pinar Keskinocak, J. True Merrill, "Operations Planning in COVID-19 Surveillance Testing Programs," Targeted for *Health Care Management Science*.

IP1. **Yaarit Cohen**, Mathieu Dahan, Benoit Montreuil, "Multi-Objective Optimization for Post-Disaster Kits Routing," Targeted for *Journal of Humanitarian Logistics and Supply Chain Management*.

B. Other Publications and Creative Products

B.1. Posters

P5. Mathieu Dahan[†], "Strategic Allocation of Heterogeneous Resources to Fortify Complex Networks and Detect Attacks," *DARPA Forward,* Georgia Tech, Atlanta, GA, October 2022.

P4. Mathieu Dahan[†], Lina Sela, Saurabh Amin, Georgia Perakis, "Defending Critical Infrastructure Networks Against Correlated Failures," *MIT Operations Research Center 65th Anniversary Celebration,* Cambridge, MA, November 2018.

P3. Mathieu Dahan[†], Lina Sela, Saurabh Amin, Georgia Perakis, "Strategic Network Inspection for Resilience to Correlated Failures," *Princeton Day of Optimization,* Princeton, NJ, September 2018.
   – *Best Poster Award*

P2. Mathieu Dahan[†], Lina Sela, Saurabh Amin, "Network Monitoring Under Strategic Disruptions," *MIT LIDS Smart Urban Infrastructures Workshop,* Cambridge, MA, May 2017.

P1. Mathieu Dahan[†], Saurabh Amin, "Security Games on Infrastructure Networks," *MIT Institute for Data, Systems, and Society Launch Event,* Cambridge, MA, September 2016.

B.2. Theses

T2. Mathieu Dahan, "Strategic and Analytics-Driven Inspection Operations for Critical Infrastructure Resilience," Doctoral Thesis, Civil Engineering and Computation, Massachusetts Institute of Technology, June 2019.

T1. Mathieu Dahan, "Network Security and Min-Cost Max-Flow Problem," Masters Thesis, Computation for Design and Optimization, Massachusetts Institute of Technology, February 2016.

C. Presentations

C.1. Invited Conference and Workshop Presentations

32. **Samuel Tan**[†], **Matthew Ford**, **J. Haden Boone**, **Bobak McCann**, Peter Frazier, Mathieu Dahan, Huseyin Topaloglu, Yongjia Song, "Optimizing Naval Logistics in Contested Environments," *3rd USARPAC AI/ML Summit,* Fort Shafter, HI, October 2023.

31. **Onkar Kulkarni**, Mathieu Dahan[†], Benoit Montreuil, "Designing Resilient Short-Haul Logistics Networks Using k-Shortest Paths," *2023 INFORMS Annual Meeting,* Phoenix, AZ, October 2023.

30. **Joseph McCarthy**, Mathieu Dahan[†], Chelsea White III, "Modeling a Military Campaign as a Stochastic Game Through Application of a Network Graph," *2023 INFORMS Annual Meeting,* Phoenix, AZ, October 2023.

29. **Onkar Kulkarni**[†], Mathieu Dahan, Benoit Montreuil, "Hyperconnected Relay-Based Network Design with Stochastic Demand," *2023 INFORMS Annual Meeting,* Phoenix, AZ, October 2023.

28. **J. Haden Boone**[†], Mathieu Dahan, "Infrastructure Network Security With Imperfect Detection Technology," *2023 INFORMS Annual Meeting,* Phoenix, AZ, October 2023.

27. **Bastián Bahamondes**[†], Mathieu Dahan, "Strategic Network Inspection with Location-Specific Detection Capabilities," *2023 INFORMS Annual Meeting,* Phoenix, AZ, October 2023.

26. Mathieu Dahan[†], **Onkar Kulkarni**, Benoit Montreuil, "Designing Resilient Distribution Networks Using k Shortest Paths," *23rd Conference of the International Federation of Operational Research Societies (IFORS),* Santiago, Chile, July 2023.

25. **Onkar Kulkarni**, Mathieu Dahan[†], Benoit Montreuil, "Two-Stage Stochastic Program with Mixed-Integer Recourse for Relay-Based Network Design," *23rd Conference of the International Federation of Operational Research Societies (IFORS),* Santiago, Chile, July 2023.

24. **J. Haden Boone**[†], Mathieu Dahan, "Strategic Network Inspection with Imperfect Detection Technology," *2022 INFORMS Annual Meeting,* Indianapolis, IN, October 2022.

23. **Bobak McCann**[†], Mathieu Dahan, "Strategic Allocation of Heterogeneous Resources for Network Security," *2022 INFORMS Annual Meeting,* Indianapolis, IN, October 2022.

22. **Onkar Kulkarni**[†], Mathieu Dahan, Benoit Montreuil, "Two-Stage Stochastic Program with Mixed Integer Recourse for Relay-Based Network Design," *2022 INFORMS Annual Meeting,* Indianapolis, IN, October 2022.

21. **Lacy Greening**[†], Jisoo Park, Mathieu Dahan, Alan Erera, Benoit Montreuil, "Middle Mile Consolidation Network Design: Maximizing Profit Through Flexible Lead Times," *2022 INFORMS Annual Meeting,* Indianapolis, IN, October 2022.

20. **Bastián Bahamondes**[†], Mathieu Dahan, Saurabh Amin, "Designing Network Inspection Operations: A Mean-Variance Formulation with Bayesian Learning," *2022 INFORMS Annual Meeting,* Indianapolis, IN, October 2022.

19. **Hannah Wilborn Lagerman**, Mathieu Dahan[†], Pinar Keskinocak, J. True Merrill, "Operations Planning in Covid-19 Surveillance Testing Programs," *32nd EURO Conference,* Espoo, Finland, July 2022.

18. **Lacy Greening**[†], Mathieu Dahan, Alan Erera, "The Middle Mile Consolidation Network Design Problem with Fixed Origins and Destinations: A Time-Constrained Continuous Rate Model," *2021 INFORMS Annual Meeting,* Anaheim, CA, October 2021.

17. **Yaarit M. Cohen**[†], Mathieu Dahan, Benoit Montreuil, "A Multi-Objective Optimization Problem for Post-Disaster Kits Routing," *2021 INFORMS Annual Meeting,* Anaheim, CA, October 2021.

16. **Bastián Bahamondes**[†], Mathieu Dahan, "Network Inspection from Locations with Imperfect Detection Capabilities," *2021 INFORMS Annual Meeting,* Anaheim, CA, October 2021.

15. Andrew C. Lee, Mathieu Dahan[†], Saurabh Amin, "Analytics-Driven Inspection Operations for Post-Disaster Infrastructure Damage Assessment," *2021 INFORMS Annual Meeting,* Anaheim, CA, October 2021.

14. **Arnesh Sujanani**[†], Vidya Muthukumar, Mathieu Dahan, "A Study of Projection-Free Gradient-Based Algorithms for Zero-Sum Linear Quadratic Games," *2021 INFORMS Annual Meeting,* Anaheim, CA, October 2021.

13. **Hannah Wilborn Lagerman**[†], Mathieu Dahan, Pinar Keskinocak, "Operations Planning and Risk Management in Covid-19 Surveillance Testing Programs," *2021 INFORMS Annual Meeting,* Anaheim, CA, October 2021.

12. **Onkar Kulkarni**[†], **Yaarit M. Cohen**, Mathieu Dahan, Benoit Montreuil, "Resilient Hyperconnected Intercity Parcel Delivery Network Design," *2021 INFORMS Annual Meeting,* Anaheim, CA, October 2021.

11. **Bobak McCann**[†], Mathieu Dahan, "Network Inspection Against Strategic Attacks Using Heterogeneous Detectors," *2021 INFORMS Annual Meeting,* Anaheim, CA, October 2021.

10. **Bastián Bahamondes**[†], Mathieu Dahan, "Randomized Network Inspection Against Strategic Attacks Using Faulty Detectors," *2020 INFORMS Annual Meeting,* Virtual, November 2020.

9. Mathieu Dahan[†], Andrew C. Lee, Saurabh Amin, Georgia Perakis, "Prescriptive Analytics for Post-Disaster Inspection Operations," *2020 INFORMS Annual Meeting,* Virtual, November 2020.

8. Mathieu Dahan[†], Andrew C. Lee, Saurabh Amin, Georgia Perakis, "Prescriptive Analytics for Post-Disaster Inspection Operations," *2019 INFORMS Annual Meeting,* Seattle, WA, October 2019.

7. Mathieu Dahan[†], Steven B. Link, Saurabh Amin, Georgia Perakis, "Analytics-Driven Inspection Operations for Failure Localization," *2019 INFORMS Annual Meeting,* Seattle, WA, October 2019.

6. Andrew C. Lee[†], Mathieu Dahan, Jeremy Justice, Cynthia Barnhart, Saurabh Amin, "Analytics-Driven Inspection Strategies for Post-Storm Infrastructure Damage Assessment," *2019 INFORMS Annual Meeting,* Seattle, WA, October 2019.

5. Mathieu Dahan[†], Saurabh Amin, Georgia Perakis, "Analytics-Driven Response Operations for Infrastructure Resilience," *30th Annual POMS Conference,* Washington, DC, May 2019.

4. Mathieu Dahan[†], Steven B. Link, Saurabh Amin, Georgia Perakis, "Value of Failure Prediction Models for Efficient Network Inspection Operations," *2018 INFORMS Annual Meeting,* Phoenix, AZ, November 2018.

3. Mathieu Dahan[†], Saurabh Amin, Georgia Perakis, "Stochastic Probing to Maximize the Value of Diagnostic Information," *2017 INFORMS Annual Meeting,* Houston, TX, October 2017.

2. Mathieu Dahan[†], Lina Sela, Saurabh Amin, "Randomized Network Inspection for Security Against Link Disruption Attacks," *2016 INFORMS Annual Meeting,* Nashville, TN, November 2016.

1. Lina Sela, Mathieu Dahan, Jeffrey Liu[†], and Saurabh Amin, "Out of Water: Resilience of Urban Water Structures in the Wake of Disruptions," *Beyond Tomorrow: Safeguarding Civilization Through Turbulent Times Conference,* Harvard University, Cambridge, MA, October 2015.

C.2. Conference and Workshop Presentations

18. **Simon Kwon**[†], Walid Klibi, Mathieu Dahan, Benoit Montreuil, "Using Combinatorial Auctions to Allocate Parcel Logistic Services in Hyperconnected City Logistics," *IISE Annual Conference & Expo 2024,* Montreal, Canada, May 2024.

17. **Xiaoyue Liu**[†], **Jingze Li**, Mathieu Dahan, Benoit Montreuil, "Multi-period Stochastic Planning of Logistics Hub Capacities for Relay Transportation," *IISE Annual Conference & Expo 2024,* Montreal, Canada, May 2024.

16. **M. Metin Inan**[†], Matthieu Lauras, Mathieu Dahan, Benoit Montreuil, "Assessing and Enhancing Readiness in Supply Chains: A Quantitative Approach for Disruption Prone Environments," *IISE Annual Conference & Expo 2024,* Montreal, Canada, May 2024.

15. **Onkar Kulkarni**, Mathieu Dahan[†], Benoit Montreuil, "Designing Resilient Logistics Networks Using k Shortest Paths," *33rd Annual POMS Conference,* Orlando, FL, May 2023.

14. **Onkar Kulkarni**, Mathieu Dahan[†], Benoit Montreuil, "Hyperconnected Relay-Based Logistics Network Design with Stochastic Demand," *IISE Annual Conference & Expo 2023,* New Orleans, LA, May 2023.

13. **Onkar Kulkarni**[†], Mathieu Dahan, Benoit Montreuil, "Designing Hyperconnected Resilient Networks Using k-Shortest Paths," *IISE Annual Conference & Expo 2023,* New Orleans, LA, May 2023.

12. **Romain Ben Taleb**[†], Aurélie Montarnal, Matthieu Lauras, Mathieu Dahan, Romain Miclo, "A Value-Oriented Metamodel for SMEs' Decision Making," *16th International Conference on Decision Support Systems, Technology and Applications (ICDSSTA)*, Paris, France, November 2022.

11. Mathieu Dahan[†], **Bastián Bahamondes**, **Bobak McCann**, "Strategic Coordination of Detection Resources for Monitoring Critical Infrastructure Networks Against Attacks," *2022 INFORMS Conference on Security,* Arlington, VA, August 2022.

10. Mathieu Dahan[†], Saurabh Amin, Patrick Jaillet, "Resource Coordination for Network Flow Interdiction," *2022 INFORMS Conference on Security,* Arlington, VA, August 2022.

9. Mathieu Dahan[†], **Bastián Bahamondes**, **Bobak McCann**, "Strategic Coordination of Detection Resources for Monitoring Critical Infrastructure Networks Against Attacks," *2022 INFORMS Conference on Security,* Arlington, VA, August 2022.

8. Mathieu Dahan[†], Saurabh Amin, Patrick Jaillet, "Network Interdiction Games with Heterogeneous Transportation and Interdiction Costs," *2022 INFORMS Optimization Society Conference,* Greenville, SC, March 2022.

7. **Yaarit M. Cohen**[†], **Onkar Kulkarni**, Mathieu Dahan, Benoit Montreuil, "Resilient Parcel Delivery Networks: Design and Worst-Case Analysis," *2021 IISE Annual Conference & Expo,* Virtual, May 2021.

6. **Yaarit M. Cohen**[†], **M. Metin Inan**, Mathieu Dahan, Benoit Montreuil, "Dynamic Post-Disaster Kits Routing Problem," *2021 IISE Annual Conference & Expo,* Virtual, May 2021.

5. **M. Metin Inan**[†], **Roopini Sugumaran**, Mathieu Dahan, Matthieu Lauras, Benoit Montreuil, "Dynamic Data-Driven Assessment of the Impact of Humanitarian Supply Chain Performance on Life Quality of Affected People," *2021 IISE Annual Conference & Expo,* Virtual, May 2021.

4. Mathieu Dahan[†], Saurabh Amin, Patrick Jaillet, "Strategic Interdiction of Network Flows," *2019 INFORMS Annual Meeting,* Seattle, WA, October 2019.

3. Andrew C. Lee[†], Mathieu Dahan, Saurabh Amin, Cynthia Barnhart, "Uncertainty-aware Routing of Aerial Sensors for Infrastructure Damage Inspection," *2018 INFORMS Annual Meeting,* Phoenix, AZ, November 2018.

2. Mathieu Dahan[†], Saurabh Amin, "Network Flow Routing Under Strategic Link Disruptions," *21st LIDS Student Conference 2016,* MIT, Cambridge, MA, January 2016.

1. Mathieu Dahan[†], Saurabh Amin, "A Game-Theoretic Model of Network Routing Under Strategic Link Disruptions," *2015 INFORMS Annual Meeting,* Philadelphia, PA, November 2015.

C.3. Invited Seminar Presentations

20. "Resilient Relay Logistics Network Design Using Topology-Based Optimization," Mechanical & Industrial Engineering Seminar, Northeastern University, December 2023.

19. "Resilient Relay Logistics Network Design Using Topology-Based Optimization," Transportation and Logistics Seminar, MIT, December 2023.

18. "Resilient Relay Logistics Network Design Using Topology-Based Optimization," Operations Research Seminar, Naval Postgraduate School, November 2023.

17. "Resilient Relay Logistics Network Design Using Topology-Based Optimization," Homeland Security Research Symposium, Coles College of Business, Kennesaw State University, October 2023.

16. "Integrating Order-to-Delivery Time Sensitivity in E-Commerce Middle-Mile Consolidation Network Design," Finance Economics and Econometrics Seminar, Toulouse Business School, October 2023.

15. "Resilient Relay Logistics Network Design Using Topology-Based Optimization," Industrial Engineering & Management Sciences Seminar, Northwestern University, September 2023.

14. "Resilient Relay Logistics Network Design Using Topology-Based Optimization," Operations Research and Information Engineering Colloquium, Cornell University, September 2023.

13. "Optimizing E-Commerce Profit By Integrating Order-to-Delivery Time Offers and Middle-Mile Consolidation Network Design," Information Systems and Operations Management Seminar, HEC Paris, June 2023.

12. "Resource Coordination for Network Flow Interdiction," Decision Sciences Seminar, Bocconi University, June 2023.

11. "Optimizing E-Commerce Profit By Integrating Order-to-Delivery Time Offers and Middle-Mile Consolidation Network Design," Economics and Management Seminar, University of Brescia, May 2023.

10. "Resource Coordination for Network Flow Interdiction," Operations Research Seminar, Mathematics Institute of Bordeaux, University of Bordeaux, December 2022.

9. "Prescriptive Analytics for Profit Maximization in Time-Sensitive E-Commerce Retailing," Operations Management and Operations Research Seminar, ESSEC Business School, December 2022.

8. "Prescriptive Analytics for Profit Maximization in Time-Sensitive E-Commerce Retailing," Centre of Excellence in Supply Chain Seminar, KEDGE Business School, December 2022.

7. "Prescriptive Analytics for Profit Maximization in Time-Sensitive E-Commerce Retailing," Operations and Technology Seminar, University College London, December 2022.

6. "Prescriptive Analytics for Profit Maximization in Time-Sensitive E-Commerce Retailing," Management Science and Operations Seminar, London Business School, December 2022.

5. "Prescriptive Analytics for Network Resilience," Industrial Engineering Center, IMT Mines Albi-Carmaux, July 2021.

4. "Strategic Inspection Operations for Critical Infrastructure Resilience," Homeland Security Research Symposium, Coles College of Business, Kennesaw State University, October 2019.

3. "Analytics-Driven Operations for Critical Infrastructure Resilience," College of Management of Technology, École Polytechnique Fédérale de Lausanne, February 2019.

2. "Strategic and Analytics-Driven Inspection Operations for Infrastructure Resilience," School of Industrial and Systems Engineering, Georgia Tech, December 2018.

1. "Strategic and Analytics-Driven Inspection Operations for Infrastructure Resilience," Operations Management Seminar, Sloan School of Management, MIT, October 2018.

C.4. Other Presentations

4. Mathieu Dahan[†], Matthew Gombolay, **Batuhan Altundas**, **Joshua Bishop**, **J. Haden Boone**, **Bobak McCann**, "Dreamcatcher OPS + LOG," ONR Dreamcatcher Annual Review, San Diego, CA, October 2022.

3. Mathieu Dahan[†], "COVID-19 Testing Operations and Supply Chain Management," ISyE Advisory Board Meeting, Georgia Tech, Atlanta, GA, April 2021.

2. Mathieu Dahan[†], "Prescriptive Analytics for Network Resilience," SCL Industry Advisory Board Meeting, Georgia Tech, Atlanta, GA, February 2021.

1. Mathieu Dahan[†], Saurabh Amin, "Strategic Network Inspection Using Resource-Constrained sUAS," NSF Review Meeting, Arlington, VA, January 2017.

D. Grants and Contracts

D.1. As Principal Investigator

3. *Dreamcatcher: Logistics Planning in a Contested Environment*
   Agency/Company: Office of Naval Research
   Total Dollar Amount: $828,650
   Role: PI
   Period of Contract: 11/01/2023 – 10/31/2026

2. *Service Network Design for Securing Military Logistics Operations*
   Agency/Company: Office of Naval Research
   Total Dollar Amount: $187,297
   Role: PI
   Period of Contract: 08/15/2022 – 08/14/2023

1. *Techniques for Predicting Anomalous or Erroneous Situations in the Supply Chain and Automatic Adaption Resulting From Real-Time Data Analysis*
   Agency/Company: Cisco Systems, Inc.
   Total Dollar Amount: $175,000
   Role: PI
   Collaborators: Yao Xie (Co-PI)
   Period of Contract: 05/11/2021 – 05/10/2022

D.2. As Co-Principal Investigator

3. *Order Fulfillment Sourcing and Delivery*
    Agency/Company: The Home Depot, Inc.
    Total Dollar Amount: $395,342
    Role: Co-PI
    Collaborators: Benoit Montreuil (PI), Alan Erera (Co-PI)
    Period of Contract: 08/12/2022 – 08/11/2023

2. *Smart Vehicle Distribution Logistics*
    Agency/Company: Nissan, North America, Inc.
    Total Dollar Amount: $357,055
    Role: Co-PI
    Collaborators: Benoit Montreuil (PI), Leon McGinnis (Co-PI),
                          Yao Xie (Co-PI), Shahab Derhami (Binghamton University
                          Contributor)
    Period of Contract: 08/31/2020 – 12/31/2022

1. *Bulky-Item Supply Service Network Optimization with Delivery-Time Sensitive Clients*
    Agency/Company: The Home Depot, Inc.
    Total Dollar Amount: $349,786
    Role: Co-PI
    Collaborators: Benoit Montreuil (PI), Alan Erera (Co-PI)
    Period of Contract: 03/01/2020 – 08/31/2021

D.3. As Senior Personnel or Contributor

1. *Emerging Pathogen Workflow Optimization and Inventory Control Model*
    Agency/Company: Georgia Department of Public Health
    Total Dollar Amount: $746,517.42
    Role: Senior Personnel
    Collaborators: J. True Merrill (GTRI PI)
    Period of Contract: 09/24/2021 – 09/23/2022

E. Societal and Policy Impacts

4. Member Spotlight, *INFORMS Military and Security Society Newsletter*, URL, June 2022.

3. Organizer and Instructor, *High-School Teacher Professional Development Day* (Co-Organized with Tuba Ketenci), Georgia Tech, Atlanta, GA, May 2022.

2. Instructor, *High-School Students Outreach Activity*, Innovation Academy, Alpharetta, GA, February 2022.

1. Feature, *Honored French Citizens*, Consulate General of France in Atlanta, URL, January 2022.

F. Other Professional Activities

5. Panelist, *CEE Graduate Student Alumni Panel*, MIT, Cambridge, MA, October 2023.

4. Speaker, "How to Improve the Resilience of Distribution Networks with AI," *Consulate General of France Café des Sciences*, Georgia Tech, Atlanta, GA, March 2023.

3. Group Co-Facilitator, *McKinsey Future of Logistics Conference*, Georgia Tech, Atlanta, GA, September 2022.

2. Selected Participant, *NSF ERVA Visioning Event on Engineering R&D Solutions for Unhackable Infrastructure*, MIT, Cambridge, MA, August 2022.

1. Panel Organizer and Moderator, "Public Health Logistics and Supply Chain Management in the COVID-19 Era," *12th France-Atlanta Event Series* (Co-Organized with Pinar Keskinocak), October 2021.

V. Education

A. Courses Taught

A.1. Complete Courses

Semester, Year	Course Number	Course Title	No. of Students	Evaluation ($\cdot/5$)
Fall 2023	ISyE 6333	Oper. Res. for Supply Chains I	78	4.92
Spring 2023	ISyE 4133	Advanced Optimization	63	4.84
Fall 2022	ISyE 8813	Resilient Networks	20	4.88
Fall 2022	ISyE 6333	Oper. Res. for Supply Chains I	54	4.93
Spring 2022	ISyE 4133	Advanced Optimization	61	4.83
Fall 2021	ISyE 6333	Oper. Res. for Supply Chains I	56	4.90
Spring 2021	ISyE 4133	Advanced Optimization	52	4.68
Fall 2020	ISyE 6333	Oper. Res. for Supply Chains I	48	4.78
Spring 2020	ISyE 4133	Advanced Optimization	30	–
Spring 2020	ISyE 8813	Resilient Networks	5	–

A.2. Guest Lectures

6. *Prescriptive Analytics for Service Network Design*
   - Course Title: Resilient Networks
   - Course Number: 1.208
   - University: Massachusetts Institute of Technology
   - Principal Instructor: Saurabh Amin
   - Semester, Year: Fall 2023

5. *How to Give a Memorable Research Presentation*
   - Course Title: Preparing for a Successful Academic Career
   - Course Number: ISyE 8811
   - University: Georgia Institute of Technology
   - Principal Instructors: Siva Theja Maguluri
   - Semester, Year: Fall 2023

4. *Integrating Order-to-Delivery Time Sensitivity in E-Commerce Middle-Mile Consolidation Network Design*

Course Title:	Supply Chain Optimization and Prescriptive Analytics
Course Number:	LOG 3253P
University:	Georgia Institute of Technology
Principal Instructors:	Darrell Kent and Melody Shellman
Semester, Year:	Fall 2023

3. *Prescriptive Analytics for Profit Maximization in Time-Sensitive E-Commerce Retailing*

Course Title:	Supply Chain Optimization and Prescriptive Analytics
Course Number:	LOG 3253P
University:	Georgia Institute of Technology
Principal Instructors:	Darrell Kent and Matthew Chamberlain
Semester, Year:	Fall 2022

2. *Randomized Network Interdiction Problems*

Course Title:	Design of Societal Scale Systems: Games, Incentives, Adaptation and Learning
Course Number:	EECS 290−008
University:	University of California, Berkeley
Principal Instructors:	Manxi Wu and Shankar Sastry
Semester, Year:	Spring 2022

1. *Flow Routing under Strategic Link Disruptions*
Network Interdiction

Course Title:	Resilient Infrastructure Networks
Course Number:	1.208
University:	Massachusetts Institute of Technology
Principal Instructor:	Saurabh Amin
Semester, Year:	Fall 2016

B. Individual Student Guidance

B.1. Ph.D. Students

B.1.a. In Process Ph.D. Students

8. Pichamon Anukulkarnkusol

Degree Program:	Industrial Engineering
Advising Start Date:	Fall 2023

7. Joseph E. McCarthy

Co-Advisor:	Chelsea White
Degree Program:	Machine Learning
Advising Start Date:	Spring 2023
Milestones:	Comprehensive Examination, Fall 2022
	Dissertation Research Proposal Examination, Spring 2023

6. Katja Meuche

Co-Advisor:	Benoit Montreuil
Degree Program:	Industrial Engineering
Advising Start Date:	Spring 2023

5. J. Haden Boone

Degree Program:	Operations Research

Advising Start Date: Fall 2021
Milestone: Comprehensive Examination, Fall 2022

4. Onkar Kulkarni
    Co-Advisor: Benoit Montreuil
    Degree Program: Industrial Engineering
    Advising Start Date: Spring 2021
    Tentative Thesis Title: *Resilient Hyperconnected Network Design*
    Milestone: Comprehensive Examination, Spring 2022

3. Romain Ben Taleb
    Co-Advisors: Matthieu Lauras and Aurélie Montarnal
    University: IMT Mines Albi-Carmaux
    Tentative Thesis Title: *Predictive Analytics and Simulation-Based Accounting and Control Decision Support for SMEs*
    Advising Start Date: Spring 2021

2. Bobak McCann
    Degree Program: Operations Research
    Advising Start Date: Fall 2020
    Milestone: Comprehensive Examination, Spring 2022

1. Bastián Bahamondes Pizarro
    Degree Program: Operations Research
    Advising Start Date: Fall 2019
    Tentative Thesis Title: *Network Inspection Operations for Detecting Stochastic and Adversarial Disruptions*
    Milestones: Comprehensive Examination, Fall 2020
    Dissertation Research Proposal Examination, Summer 2022

B.1.b. Additional Ph.D. Students Co-Advised on Presentations or Articles

8. Xiaoyue Liu
    Advisor: Benoit Montreuil
    Degree Program: Operations Research
    Project: *Trucker-Sensitive Hyperconnected Transportation*
    Dates: 2023-Present

7. Jingze Li
    Advisor: Benoit Montreuil
    Degree Program: Machine Learning
    Project: *Trucker-Sensitive Hyperconnected Transportation*
    Dates: 2021-Present

6. Simon Kwon
    Advisor: Benoit Montreuil
    Degree Program: Industrial Engineering
    Project: *Bidding-Based Hyperconnected Service Network Design*
    Dates: 2021-Present

5. Lacy Greening
    Advisor: Alan Erera
    Degree Program: Industrial Engineering
    Project: *Large-Scale Middle Mile Consolidation Network Design*
    Dates: 2020-Present

4. M. Metin Inan
   Advisor: Benoit Montreuil
   Degree Program: Industrial Engineering
   Project: *Hyperconnected Humanitarian Supply Chains*
   Dates: 2020-Present

3. Jisoo Park
   Advisor: Benoit Montreuil
   Degree Program: Industrial Engineering
   Project: *Data Analytics for Time-Sensitive E-Commerce Retailing*
   Dates: 2020-2022

2. Yaarit M. Cohen
   Advisors: Pinar Keskinocak, Benoit Montreuil
   Degree Program: Industrial Engineering
   Project: *Post-Disaster Logistics Operations*
   Dates: 2020-2021

1. Jezdimir Milošević
   Advisor: Henrik Sandberg
   University: KTH Royal Institute of Technology
   Degree Program: Electrical Engineering
   Project: *Strategic Monitoring of Heterogeneous Network Components*
   Dates: 2019-2020

B.2. M.S. Students

B.2.a. Graduated M.S. Students

1. Hannah Wilborn Lagerman
   Co-Advisor: Pinar Keskinocak
   Degree Program: Operations Research
   Graduation: Fall 2021
   Project: *Operations Planning in COVID-19 Surveillance Testing Programs*

B.3. Undergraduate Students

1. Pichamon Anukulkarnkusol, ISyE, 2022

B.4. Service on Thesis or Dissertation Committees

B.4.a. Internal

Student	School	Advisor(s)	Dates
Keyu Zhu	ISyE	Pascal Van Hentenryck	Proposal: 2023 Defense: 2023
Lacy Greening	ISyE	Alan Erera	Proposal: 2023
Mohannad Alkhraijah	ECE	Daniel Molzahn	Proposal: 2023

Buse E. Oruc Aglar	ISyE	Pinar Keskinocak Mohit Singh	Proposal: 2022 Defense: 2023
Hongzhao Guan	ISyE	Pascal Van Hentenryck	Proposal: 2022
Jorge Mario Lozano	CEE	Iris Tien	Proposal: 2022 Defense: 2023
Enpeng Yuan	ISyE	Pascal Van Hentenryck	Proposal: 2022 Defense: 2022
Jana Boerger	ISyE	Benoit Montreuil He Wang	Proposal: 2021 Defense: 2022
Connor T. Riley	ISyE	Pascal Van Hentenryck	Proposal: 2021 Defense: 2022
Arden Baxter	ISyE	Pinar Keskinocak Mohit Singh	Proposal: 2021 Defense: 2022
Emma S. Johnson	ISyE	Santanu Dey	Proposal: 2021 Defense: 2021
Mohamed El Tonbari	ISyE	George Nemhauser Natashia Boland	Proposal: 2020 Defense: 2021
Yaarit Cohen	ISyE	Pinar Keskinocak Benoit Montreuil	Proposal: 2020 Defense: 2022
Şeyma Güven-Koçak	ISyE	Pinar Keskinocak	Proposal: 2019 Defense: 2021
Junxuan Li	ISyE	Chelsea White Ben Wang	Proposal: 2020 Defense: 2021

B.4.b. External

Student	Degree	University, School	Advisor(s)	Dates
Zhehan Zhang	M.S.	University of Wisconsin – Madison, ISyE	Justin Boutilier	Defense: 2021

C.   Educational Innovations and Other Contributions

C.1.   Course Development

- Creation of ISyE 8813 – Resilient Networks. This graduate course covers key models and solution methods from optimization and game theory to improve the resilience of large-scale networks (transportation, energy distribution, supply chain and logistics systems) against uncertainties and disruptions. Topics include resilient network design, interdiction and security games, strategic resource allocation, disaster preparedness response and recovery.

- Curriculum development for ISyE 4133 – Advanced Optimization. Created class projects and problem sets with computational questions to provide more opportunities for students to implement the covered concepts. Lectures on sensitivity analysis and the traveling salesman problem were also created. To maximize class interactions and understanding of the concepts, teaching material has been transitioned from notes to slides, and a significant number of illustrations have been added (e.g., geometry of Dantzig Wolfe).

- Curriculum development for ISyE 6333 – Operations Research for Supply Chains I. Created class projects and problem sets for students to develop their computational skills and implement the covered concepts. Material was reorganized to devote more time to in-class practice problems.

C.2. Service on Qualifying Examination Committee

Student	School	Advisor(s)	Date
Joseph E. McCarthy	ISyE	Chelsea White	ML Exam: 2022
Hongzhao Guan	ISyE	Pascal Van Hentenryck	ML Exam: 2022
Enpeng Yuan	ISyE	Pascal Van Hentenryck	ML Exam: 2021
Jingze Li	ISyE	Benoit Montreuil	ML Exam: 2021

C.3. Capstone Projects Mentoring

Students	Degree	Sponsor	Date
Guoqing Luo	M.S. SCE	Verusen	Fall 2021
Yuntian Gao, Zihang Jiang, Yang Liu, Kexin Wu	M.S. SCE	Infor Global Solutions, Inc.	Summer 2021

VI. Service

A. Professional Contributions

A.1. Editorial Board Memberships

- *Transportation Research Part E: Logistics and Transportation Review*
    Editorial Advisory Board, 2020 – Present

A.2. Society Offices, Activities, and Membership

- *INFORMS: Institute for Operations Research and Management Science*
    - Member, 2015 – Present
    - Appointed Council Member, *Military and Security Society*, 2023 – 2024
- *IISE: Institute of Industrial and Systems Engineering*
    - Member, 2019 – Present

A.3. Organization and Chairing of Technical Sessions, Workshops and Conferences

- Conference Track Chair, *INFORMS Optimization Society Conference*, 2024

- Conference Cluster Chair, *INFORMS Annual Meeting*, 2023

- Conference Session Chair, *IISE Annual Conference & Expo*, 2023

- Conference Session Co-Organizer (with Saurabh Amin, Henrik Sandberg, and Hampei Sasahara), *CDC*, 2022

- Conference Session Chair, *ODYSSEUS Workshop*, 2022

- Conference Session Chair, *INFORMS Optimization Society Conference*, 2022

- Conference Session Chair, *INFORMS Annual Meeting*, 2020, 2021

A.4. Technical Journal or Conference Referee Activities

- Technical Journal Referee:

  - *Decision Analysis*
  - *European Journal of Operational Research*
  - *IEEE Transactions on Control of Network Systems*
  - *Information Sciences*
  - *International Transactions in Operational Research*
  - *Management Science*
  - *Mathematical Programming*
  - *Networks*
  - *Operations Research*
  - *Transportation Science*

- Conference Referee Activities:

  - Scientific Committee Member, *10th IPIC Conference*, 2024
  - Referee, *Winter Simulation Conference*, 2023
  - Referee, *IISE*, 2023
  - Referee, *IPCO*, 2023, 2024
  - Scientific Committee Member, *INFORMS TSL Society Conference*, 2023
  - Referee, *HICSS*, 2022
  - Judging Committee Member, *INFORMS Minority Issues Forum Poster Competition*, 2021
  - Referee, *POMS*, 2021
  - Referee, *IEEE Conference on Decision and Control*, 2019

A.5. Proposal Panels and Reviews

- Evaluation Committee Member, *Fonds de Recherche du Québec*, 2022

B. Institute Contributions

B.1. School Committee Service

- OR Coordinating Committee, $2020-2022$

- ISyE Seminar Series Co-Organizer, $2020-2021$

- Graduate Student Admission Committee, $2019-2024$