

# Jean Pauphilet

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## Academic Appointments

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**London Business School**  
*Assistant Professor*

London, United Kingdom  
Aug 2020–

## Research Interests

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<b>Methods</b>	Discrete optimization, machine learning, robust optimization, statistics
<b>Applications</b>	Healthcare, hospital operations, sustainable operations, social impact

## Education

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**Massachusetts Institute of Technology**  
*PhD. in Operations Research, Analytics track* (advisor: Dimitris Bertsimas)  
2020 INFORMS Dantzig Dissertation Award, Finalist

Cambridge, MA  
Sep 2016–May 2020

**École Polytechnique – Corps des Mines**  
*Diplôme d'ingénieur (MSc. equivalent)*

Paris, France  
Sep 2012–Aug 2015

## Publications

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### ALGORITHMS FOR DISCRETE AND ROBUST OPTIMIZATION

24. **A Stochastic Benders Decomposition Scheme for Large-Scale Stochastic Network Design**  
with D. Bertsimas, R. Cory-Wright, P. Petridis  
**INFORMS Journal on Computing**, 2024
23. **Minkowski Centers via Robust Optimization: Computation and Applications**  
with D. den Hertog, M.Y. Soali  
**Operations Research**, 2023
22. **A New Perspective on Low-Rank Optimization**  
with D. Bertsimas, R. Cory-Wright  
**Mathematical Programming**, 2023
21. **Robust Convex Optimization: A New Perspective That Unifies And Extends**  
with D. Bertsimas, D. den Hertog, J. Zhen  
**Mathematical Programming**, 2022
20. **Mixed-Projection Conic Optimization: A New Paradigm for Modeling Rank Constraints**  
with D. Bertsimas, R. Cory-Wright  
**Operations Research**, 2021
  - 2020 INFORMS George E. Nicholson Student Paper Competition, Winner

19. **Probabilistic Guarantees in Robust Optimization**  
with D. Bertsimas, D. den Hertog  
**SIAM Journal on Optimization**, 2021
18. **A Unified Approach to Mixed-Integer Optimization: Nonlinear Formulations and Scalable Algorithms**  
with D. Bertsimas, R. Cory-Wright  
**SIAM Journal on Optimization**, 2021
  - 2020 Mixed Integer Programming Workshop Student Poster Competition, Finalist
  - 2019 INFORMS Computing Society Student Paper Award, Winner

#### OPTIMIZATION FOR MACHINE LEARNING AND STATISTICS

17. **Adaptive Optimization for Prediction with Missing Data**  
with D. Bertsimas and A. Delarue  
**Machine Learning**, 2025
16. **Simple Imputation Rules for Prediction with Missing Data: Theoretical Guarantees vs. Empirical Performance**  
with D. Bertsimas and A. Delarue  
**Transactions on Machine Learning Research**, 2024
  - 2021 INFORMS Data Mining Section Best Paper, Finalist
15. **Robust and Heterogeneous Odds Ratio: Estimating Price Sensitivity for Unbought Items**  
**Manufacturing & Service Operations Management**, 2022
14. **Solving Large-Scale Sparse PCA to Certifiable (Near) Optimality**  
with D. Bertsimas, R. Cory-Wright  
**Journal of Machine Learning Research**, 2022
13. **Sparse Classification: A Scalable Discrete Optimization Perspective**  
with D. Bertsimas, B. Van Parys  
**Machine Learning**, 2021
12. **Sparse Regression: Scalable Algorithms and Empirical Performance**  
with D. Bertsimas, B. Van Parys  
**Statistical Science**, 2020
11. **Certifiably Optimal Sparse Inverse Covariance Estimation**  
with D. Bertsimas, J. Lamperski  
**Mathematical Programming**, 2020

#### ANALYTICS FOR HEALTHCARE OPERATIONS

10. **Hartford HealthCare Improves Hospital Operations with Patient Outcome Predictions**  
with D. Bertsimas, L. Na, K. Villalobos Carballo, and Hartford HealthCare  
**INFORMS Journal on Applied Analytics**, 2025
  - (L. Na and K. Villalobos Carballo) 2023 INFORMS Doing Good with Good OR Student Competition, Finalist
9. **Optimization Automates Nurse Scheduling at Hartford Hospital Emergency Department**  
with D. Bertsimas, L. Na, and Hartford HealthCare  
**INFORMS Journal on Applied Analytics**, 2024
8. **The Best Decisions Are Not the Best Advice: Making Adherence-Aware Recommendations**  
with J. Grand-Clément  
**Management Science**, 2024

## 7. Hospital-wide Inpatient Flow Optimization

with D. Bertsimas

**Management Science**, 2023

- 2022 POMS College of Healthcare Operations Management Best Paper Award, Winner
- 2021 Canadian Healthcare Optimization Workshop Best Paper Competition, Winner
- 2020 INFORMS Doing Good with Good OR Student Competition, Honorable Mention

## 6. Robust Combination Testing: Methods and Application to COVID-19 Detection

with S. Jain, J. Jónasson, K. Ramdas

**Management Science**, 2023

## 5. Predicting inpatient flow at a major hospital using interpretable analytics

with D. Bertsimas, J. Stevens, M. Tandon

**Manufacturing & Service Operations Management**, 2021

## 4. From Predictions to Prescriptions: A Data-Driven Response to COVID-19

with D. Bertsimas et al.

**Health Care Management Science**, 2021

- 2020 INFORMS Pierskalla Award, Winner

## ANALYTICS FOR SUSTAINABLE OPERATIONS

## 3. Optimizing the Path Towards Plastic-Free Oceans

with D. den Hertog, B. Song, and The Ocean Cleanup

**Operations Research**, 2024

- 2025 MSOM Responsible Research Award, Runner-up
- 2025 Best OM Paper in Operations Research, Finalist
- 2025 INFORMS Innovative Applications in Analytics Award, Third Place
- (B. Song) 2025 M&SOM Best Student Paper Award, Winner
- (B. Song) 2024 INFORMS Doing Good with Good OR Student Competition, Honorable Mention
- (B. Song) 2024 POMS College of Sustainable Operations Student Paper Competition, Winner
- (B. Song) 2023 INFORMS Transportation Society and Logistics Best Student Paper Competition, Honorable Mention

## 2. Direct Optimization across Computer Generated Reaction Networks Balances Materials Use and Feasibility of Synthesis Plans for Molecule Libraries

with H. Gao, T. Struble, C. Coley, and K. F. Jensen

**Journal of Chemical Information and Modeling**, 2021

## 1. A Tractable Numerical Strategy for Robust MILP and Application to Energy Management

with L. El Ghaoui, D. Fails and D. Kiner

**IEEE 55th Conference on Decision and Control**, 2016

## Work Under Review

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## ALGORITHMS FOR DISCRETE AND ROBUST OPTIMIZATION

- **Disjunctive Branch-And-Bound for Certifiably Optimal Low-Rank Matrix Completion**  
with D. Bertsimas, R. Cory-Wright, and S. Lo
- **Improved Approximation Algorithms for Low-Rank Problems Using Semidefinite Optimization**  
with R. Cory-Wright
- **The Surprising Performance of Random Partial Benders Decomposition**  
with Y. Wu
  - (Y. Wu) 2025 INFORMS Computing Society Student Prize, Honorable Mention

## OPTIMIZATION FOR MACHINE LEARNING AND STATISTICS

- **Sparse PCA with Multiple Components**

with R. Cory-Wright

- 2024 INFORMS Data Mining and Decision Analytics Workshop Theoretical Paper Competition, Winner

## ANALYTICS FOR HEALTHCARE OPERATIONS

- **Occupancy Prediction with Patient Data: Evaluating Time-Series, Patient-Level Aggregation, and Deep Set Models**

with S-H. Kim and W. Overman

## ANALYTICS FOR SUSTAINABLE OPERATIONS

- **Operationalizing Experimental Design: Data Collection for Remote Ocean Monitoring**

with B. Song

## Honors and Awards

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### *Research awards:*

- **MSOM Responsible Research Award**, Runner-Up, 2025
- **Best OM Paper in Operations Research**, Finalist, 2025
- **INFORMS Innovative Applications in Analytics Award**, Third Prize, 2025
- **INFORMS Data Mining and Decision Analytics Theoretical Paper Competition**, Winner, 2024
- **LBS Junior Faculty Research Award**, 2023
- **POMS College of Healthcare Operations Management Best Paper Award**, Winner, 2022
- **INFORMS Data Mining Section Best Paper**, Finalist, 2021.
- **Canadian Healthcare Optimization Workshop Best Paper Competition**, Winner, 2021
- **INFORMS M&SOM Data-Driven Challenge**, Winner, 2020
- **INFORMS Pierskalla Award**, Winner, 2020
- **INFORMS George E. Nicholson Student Paper Competition**, Winner, 2020
- **INFORMS George B. Dantzig Dissertation Award**, Honorable Mention, 2020
- **INFORMS Doing Good with Good OR Student Competition**, Honorable Mention, 2020
- **INFORMS Computing Society Student Paper Award**, Winner, 2019

### *Research awards by student co-authors:*

- Yupeng Wu: **INFORMS Computing Society Student Prize**, Honorable Mention, 2025
- Baizhi Song: **M&SOM Best Student Paper Award**, Winner, 2025
- Baizhi Song: **INFORMS Doing Good with Good OR Student Competition**, Honorable Mention, 2024
- Baizhi Song: **POMS College of Sustainable Operations Student Paper Competition**, Winner, 2024
- Baizhi Song: **INFORMS Transportation Science and Logistics Best Student Paper Competition**, Honorable Mention, 2023
- Liangyuan Na and Kimberley Villalobos Carballo: **INFORMS Doing Good with Good OR Student Competition**, Finalist, 2023

*Teaching & Service awards:*

- **Poets & Quants 40 Under 40 Best MBA Professors, 2025**
- **Operations Research Meritorious Service Award, 2024**
- **INFORMS Journal on Computing Meritorious Reviewer Award, 2024**

## Student Advising

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*Doctoral students:*

1. Baizhi Song, London Business School, 2021–
2. Yupeng Wu, London Business School, 2023–

*Master students:* Mohammed Yahya Soali (2021 → Columbia IEOR Ph.D.), Killian Dengreville (2022 → Corps des Mines), Christian Kotait (2022), Arthur Divanovic (2023), Pierre Aguié (2024).

## Teaching Experience

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**TC03: Business Analytics** (MBA level) Summer 2021, 2022, 2023, 2024, 2025  
*Lecturer*

**CM16: Business Analytics** (MSc level) Fall 2024  
*Lecturer*

**P194: MSO PhD Seminar Advanced Optimization** (PhD level) Summer 2023, 2025  
*Lecturer* Topic: Duality theory, Optimization algorithms, Discrete optimization

**P241: Emerging Topics in MSO** (PhD level) Fall 2022  
*Lecturer* Topic: Optimization under data uncertainty

**Kaufman Teaching Certificate** Summer 2019  
*Participant*

**15.094: Robust Modeling, Optimization and Computation** (MSc/PhD level) Spring 2019  
*Teaching Assistant* Instructors: Dimitris Bertsimas, Dick den Hertog

**15.S41: Software Tools for Business Analytics** (BSc level) Winter 2019  
**15.S60: Computing in Optimization and Statistics** (MSc/PhD level)  
*Instructor*

**15.060: Data, Models, Decision** (MBA level) Fall 2017  
*Teaching Assistant.* Instructor: Juan-Pablo Vielma

**15.572: Analytics Lab** (MBA/MBAn level) Fall 2017  
*Team mentor*

## Invited Talks

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**Research seminars:** EPFL – Management of Technology & Entrepreneurship Institute (2025), Aarhus University – Department of Economics and Business Economics (2024), MIT – Operations Research Center (2024), University of Maryland Robert H. Smith School of Business – Decision, Operations & Information Technologies (2024), Yale School of Management – Operations (2024), University of Wisconsin-Madison – Department of Industrial & Systems Engineering (2024), UCLA Anderson School of Management – Decisions, Operations, and Technology Management (2023), HEC – Information Systems and Operations Management (2023), Bayes Business School – Operations Management (2023), Imperial College Business School – Operations & Analytics (2022), Purdue University Krannert School of Management – Supply Chain and Operations Management (2022),

GeorgiaTech – Industrial and Systems Engineering (2022), University of Toronto Rotman – Young Scholar Seminar (2022), Bilkent University – Department of Industrial Engineering (2021), European Technology & Operations Management Webinar (2021), Carnegie Mellon University Tepper School of Business – Operations Research (2020), INSEAD – Decision Sciences (2020), HEC Montréal – Decision Science (2020), University of Toronto Rotman – Operations Management and Statistics (2020), Columbia University – Operations Research and Industrial Engineering (2020), Cornell University – Information Engineering and Operations Research (2020), USC Marshall School of Business – Data Science and Operations (2020), IESE – Production, Technology and Operations Management (2019), Tilburg University School of Economics and Management – Econometrics and Operations Research (2019), London Business School – Management Science and Operations (2019), McGill Desautels Faculty of Management – Operations Management (2019), EPFL – Management of Technology & Entrepreneurship Institute (2019).

**Single-track workshops:** TTIC Workshop – “Data Driven Decision Processes: From Theory to Practice” (2024), European Technology and Operations Management Day – University of Cambridge (2024), Workshop in Innovation and Learning – INSEAD (2023), Summer Workshop on Innovations in Management Science (2023), IMSI Workshop – “Predictive Analytics, Business Modeling and Optimization in Healthcare OM” (2023), TUM Heilbronn Workshop – “Data-Driven Resource Management” (2023), Dagstuhl Seminar – “Optimization at the Second Level” (2022).

**Conferences:** International Conference on Stochastic Programming (2025), INFORMS Annual Meeting (2024, 2023, 2022, 2021, 2020, 2019, 2018, 2017), MSOM Annual Conference (2022, 2021), POMS Annual Conference (2022, 2019), INFORMS Healthcare Conference (2021, 2019), Canadian Healthcare Optimization Workshop (2021), SIAM Conference on Optimization (2021), International Symposium on Mathematical Programming (2018).

## Academic and University Service

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### *Academic:*

- Co-initiator and co-organizer of London Operations Research Day (2024 at LBS, 95 registered participants; 2025 at Oxford, 120 registered participants).
- Area Chair for the 2025 MSOM Conference (Sustainability track, 160+ submissions) and for the 2025 annual conference on Equity and Access in Algorithms, Mechanisms, and Optimization (EAAMO)
- Journal reviewer for *Management Science*, *Operations Research*, *Manufacturing & Service Operations Management*, *Mathematical Programming*, *Mathematics of Operations Research*, *INFORMS Journal on Computing*, *SIAM Journal on Optimization*, *INFORMS Journal on Optimization*, *European Journal of Operational Research*, *Production and Operations Management*, *Journal of the American Statistical Association*, *Communications Medicine*, *Transactions in Operations Research*.
- Conference reviewer for M&SOM Healthcare SIG Conference (2024, 2023, 2022), M&SOM Service Management SIG Conference (2022), Conference on Integer Programming and Combinatorial Optimization (2023), IEEE Conference on Decision and Control (2023).
- Grant reviewer for the European Research Council (Postdoctoral Fellowships: 2024), the Chilean National Agency for Research and Development, the Israel Science Foundation (Personal Research Grants: 2025).
- Judge for the INFORMS G. Nicholson Best Student Paper Award (2025), INFORMS Public Sector OR Best Paper Award (2025), M&SOM Data-Driven Challenge (2025), M&SOM Student Paper Competition (2025, 2024), INFORMS Data Mining Best Paper Award (2023).

London Business School:

- PhD coordinator (2025–)
- Co-organizer MSO Seminar Series (2022–)
- Grader for Ph.D. 2nd-year paper: Alireza AmaniHamedani (2022), Yuhang Du (2023), Wani Zhang (2024)
- Committee member for Ph.D. transfer examination: Alireza AmaniHamedani (2023), Yuhang Du (2024)
- Confidential Advisor (2023–)

Industry Experience

<b>Freelance Consultant</b> <i>Consultant and instructor in Analytics</i>	London, UK 2018–
<b>Predilex</b> <i>Scientific Advisor</i>	Paris, France Sep 2018–Mar 2020
<b>Ventech</b> <i>Venture Capital Analyst</i>	Paris, France Oct 2015–Sep 2016
<b>University of California, Berkeley</b> <b>Électricité de France</b> <i>Visiting Student Researcher, advised by Laurent El Ghaoui</i>	Berkeley, CA Châtoux, France Mar 2015–Aug 2015
<b>VINCI Energies group</b> <i>Assistant Project Manager</i>	Weil-am-Rhein, Germany Jul 2014–Aug 2014

Skills

<b>Languages</b>	French (native), English (fluent), German (advanced)
<b>Programming</b>	Julia, Python, R, Matlab, Caml, SQL, MongoDB