

# JEAN-SÉBASTIEN MATTE

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Desautels Faculty of Management

1001 Sherbrooke St W, Montreal, Quebec H3A 1G5

## EDUCATION

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**Ph.D. in Operations Management, McGill University** 2019-2024 (expected)  
Thesis title: *ECOWISR (Excess Consumption, Overproduction and Waste: Impact Solutions through Reduction) The Case of the Fast Fashion Industry*  
Supervisor: Mehmet Gumus

**M.Sc. in Civil Engineering, Université Laval** 2014  
Thesis title: *Behaviour of Buildings with Asymmetric Setbacks under Seismic Loading*  
Supervisor: Charles-Darwin Annan  
Executive VP (2012-2013) and President (2013-2014) of the Student Association.

**B.Eng. in Civil Engineering, Université Laval** 2012

## RESEARCH INTERESTS

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Sustainable Operations, Behavioural Economics, Choice Models, Assortment Optimization & Left-Over Inventory, Data-Driven Optimization, Big Data

**Methods:** Empirical Research, Prescriptive Analytics, Hierarchical Bayes, Mathematical Optimization, Preference Measurement Experiments

## ACADEMIC VISITS

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**Rotterdam School of Management–Erasmus University** Sept. 2022 – Apr. 2023  
*Visiting Doctoral Researcher* Rotterdam, Netherlands  
Host & Collaborator: Prof. Robert Rooderkerk

## PUBLICATIONS, PRESENTATIONS & TALKS

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### Under review

1. Green Synergy: A Three-Party Fashion Retail System Balancing Profit Maximization and Environmental Impact Minimization (formerly “Lowering the environmental impact of fashion retail assortments: Balancing profit maximization and impact minimization”) (with Robert Rooderkerk and Mehmet Gumus). **Submitted: Management Science**
2. Understanding the multidimensional effects of product variety on customer behaviour: A large-scale empirical study in online fast fashion retail (formerly “Product Variety and Consumer Behaviour in Online Fast Fashion Retailing”) (with Mehmet Gumus and Javad Nasiry). **Submitted: POMS**

### Work in Progress

1. EMPact (Environmental Merchandising Planning actions): LCIA-driven merchandising planning and strategy.
2. The Elephant in the (Dressing) Room: Overproduction in fast fashion (with Mehmet Gumus).
3. The impact of Marketing costs on the environmental transition of the fashion industry.
4. Product variety and the assortment optimization problem.

5. Which Environmental Attributes Really Matter?: Evidence from an adaptive conjoint experiment.
6. “**rume**: Random Utility Model Estimation for large data sets in R”.

#### Conference presentations

1. Green Synergy: A Three-Party Fashion Retail System Balancing Profit Maximization and Environmental Impact Minimization (formerly “Lowering the environmental impact of fashion retail assortments: Balancing profit maximization and impact minimization”)

**INFORMS 2024**, October 2024, Seattle, WA.

**Consortium For Operational Excellence in Retailing (COER)**, June 2024, Harvard Business School, Cambridge, MA.

**6th Meeting of the EURO Working Group (EWG) on Retail Operations**, September 2023, Stockholm, Sweden.

2. “Understanding the multidimensional effects of product variety on customer behaviour: A large-scale empirical study in online fast fashion retail” (formerly “Product Variety and Consumer Behaviour in Online Fast Fashion Retailing”)

**INFORMS MSOM 2023**, June 2023, Montréal, Canada.

**5th Meeting of the EURO Working Group (EWG) on Retail Operations**, October 2022, Istanbul, Turkiye.

**32nd Annual POMS Conference**, April 2022, Online.

3. “Seismic Behaviour of Multi-Storey Buildings with Asymmetric Setback”

**CSCE 2014 4th Int. Structural Speciality Conference**, May 2014, Halifax, Canada.

4. “Finite Element Analysis of Cable-Stayed Bridges under the Effect of Accidental Loss of a Stay Cable”

**CSCE 2013 General Conference**, May 2013, Montréal, Canada.

#### Invited seminar presentations

1. Green Synergy: A Three-Party Fashion Retail System Balancing Profit Maximization and Environmental Impact Minimization (formerly “Lowering the environmental impact of fashion retail assortments: Balancing profit maximization and impact minimization”)

**GERAD**, October 2024, Université de Montréal, Qc.

**H&M Machine Learning, Data Science and Pricing Groups**, March 2024, Stockholm, Sweden.

2. “Willingness-to-pay for sustainability in fashion”

**RSM Marketing Consumer Club**, March 2023, Rotterdam School of Management–Erasmus University, Rotterdam NL.

#### Talks

1. “The Engineering Challenges of World Trade Center Tower 4”

Presentation to **MIT graduate students** in architecture. January 2019, LERA, New York City, NY, USA.

## RESEARCH & ACADEMIC EXPERIENCE

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### Summer School on Retail Operations

Sept. 17-20, 2023

*Attendee*

*Stockholm Business School, Stockholm, Sweden*

Topics covered: Topics covered: From Operations to Machine Learning: The Case of Choice Modelling, Causal Inference in Operations Analytics, Case Study on Analytics in Retail Operations: The challenges of last-mile delivery.

Case Study project: “Mastering the Last-Mile Delivery through Empirics: Route or Courier?” (with Konstantin Wink, Mariana Silva Sousa, Mert Çetin)

### Centre de Recherche sur les Infrastructures en Béton (CRIB)

Sept. 2014 – Nov. 2014

*Research Professional*

*Québec, Qc, Canada*

NSERC FONCER-INFRA research program: managed research projects, provided guidance to graduate students.

Developed practice problems for the Prestressed Concrete graduate course.

### NSERC ENGAGE Research Project

Jan. 2014 – Sept. 2014

*Research Assistant*

*Québec, Qc, Canada*

*Towards an Improved Design Procedure for Incorporating Soil-Structure Interaction in Seismic Performance Evaluation.* PI: Dr. Charles-Darwin Annan

Reviewed the literature on material and component mathematical models.

Developed the mathematical analytical model.

Co-author of project report submitted to NSERC and a partnering consulting firm.

## NON-ACADEMIC WORK EXPERIENCE

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### LERA Consulting Structural Engineers

Nov. 2014 – July 2019

*Design Engineer & Project Manager*

*New York City, NY, USA*

- **Cross-functional leadership in the design and delivery of landmark projects across the globe.** Collaborated with interdisciplinary teams to deliver tailored engineering solutions using advanced data analytics and optimization to align project outcomes with client/stakeholder needs, sustainability and regulatory requirements. Efficiently managed project budgets.
- **Effective communication, coordination and development of partnerships** with owners, architects, service engineers, contractors and key stakeholders.
- **Successfully managed in-house teams of several engineers and interns.** Remotely managed teams in the Mumbai office.
- **Authored and co-authored** design narratives, calculation packages, peer-review and forensics reports.
- **Founder and Project Lead of LERA Tools:** in-house group of engineers standardizing tools and streamlining workflows.

### Supermétal Structures

May 2010 – Oct. 2011

*Project Manager Intern*

*Québec, Qc, Canada*

- Management and coordination of procurement, design, production, shipping and finances across 3 factories for projects in Canada and the US.

## AWARDS & SCHOLARSHIPS

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### Sawtooth Academic Grant

2023

*Sawtooth Software*

### Graduate Mobility Award

2022

*Graduate and Postdoctoral Studies - McGill University*

\$11,500

The Graduate Mobility Award encourages graduate students to study and conduct research abroad. A limited number of awards, funded by the Government of Quebec, are available each year on a competitive basis.

### MSRC Performance Award—Honorable Mention

2021

*Management Science Research Center (MSRC) - Desautels Faculty of Management*

\$2,000

Awarded by the MSRC to the best PhD student project proposal.

### Walter John Stenason Fellowship

2019-2020

*Desautels Faculty of Management*

\$10,000

Awarded by Graduate and Postdoctoral Studies upon the recommendation of the Desautels Faculty of Management to outstanding Canadian Ph.D. students.

### PhD Program in Management Guaranteed Funding Award (MGFA)

2019-2023

*Desautels Faculty of Management*

\$30,000/year

### Honour List - Master's Thesis

2015

*Faculty of Graduate and Postdoctoral Studies, Université Laval*

The Honour List includes graduates of a thesis master's program whose theses received a unanimous grade of "excellent".

### Funding for scientific communication

2014

*Association des étudiant(e)s de Laval inscrits aux études supérieures (AELIES), Université Laval*

\$500

Funding provided to present and attend the CSCE 2014 4th Int. Structural Speciality Conference.

### Merit Research Scholarship

2013, 2014

*Faculty of Graduate and Postdoctoral Studies, Université Laval*

\$200, \$300

Awarded to graduate students who complete the stages of their program on time.

## TEACHING

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### McGill University

Summer 2023

*Lecturer*

*Montréal, Qc, Canada*

Business Statistics (MGCR 271).

### McGill University

Sept. 2020 - Dec. 2021

*Teaching Assistant*

*Montréal, Qc, Canada*

Operations Management (MGCR 617-MBA and MMA programs)

### Université Laval

Jan. 2014 – May 2014

*Lecturer*

*Québec, Qc, Canada*

Structural Steel Design. Design and lead lectures for a class of 170 students.

**Université Laval**

*Teaching Assistant*

Sept. 2012 – Aug. 2014

*Québec, Qc, Canada*

Structural Analysis (2012), Steel Design (2012, 2013), Structural Damage Diagnosis and Repairs (2013).

## **SUPERVISION**

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**MITACS GLOBALINK Internship**

*Neha Madhulika and Vamshi Kadumuri, Université Laval*

May 2015 – Aug. 2015

*Québec, Qc, Canada*

Provided supervision and guidance to Neha and Vamshi, whose internship was aimed at extending the findings of my Master's thesis.

## **EXAMINATION COMMITTEE MEMBERSHIP**

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**Masters Examination Committee**

Constance Efio-Akolly (2021) - Département de génie civil et des eaux, Université Laval.

## **VOLUNTEERING WORK**

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**Union For Concerned Researchers in Fashion (UCRF)**

*Policies and Social Change Group*

2023 - present

Collaborate on various projects to **advocate and propose policy solutions** promoting sector degrowth and enable a just transition.

**Architect Registration Exam (ARE) Program**

*Lecturer*

2019

*New York City, NY, USA*

LERA-based initiative: Engineers **providing structural engineering lessons and tutoring to architectural professionals** in preparation for their board exam.

**Fashion Revolution USA**

*Consultant*

2018

*New York City, NY, USA*

**Advise on the development of the High School Upcycle Competition.**

Volunteer during the Fashion Revolution Week 2018

**ACE Mentor Program of America**

*Office Team Leader*

2017 - 2019

*New York City, NY, USA*

**Mentoring High School students and promote careers in STEM**, specifically in Architecture/Construction/Engineering (ACE).

**Project JUST**

*Researcher*

2016 - 2018

*New York City, NY, USA*

**Research on ethically and environmentally sustainable practices** of fashion brands, published on the website's wiki.

## SKILLS & TECHNICAL STRENGTHS

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<b>Skills:</b>	Leadership, Critical/Iterative Thinking, Efficient Management, Stakeholder Collaboration/Reconciliation, Public Speaking, Active Listening, Conflict Resolution.
<b>Technical Strength:</b>	Sustainability Reporting/Regulatory Frameworks, Science-Based Targets, Experiment Design, Machine/Deep Learning, Causal and Bayesian Inference, Linear and Robust Optimization, Dynamic Programming, Data Visualization (ggplot, shiny).
<b>Computer Languages:</b>	Python, R/R Studio, L <sup>A</sup> T <sub>E</sub> X, bash, High-Performance Computing (HPC), SQL, Excel.
<b>Packages &amp; Libraries:</b>	Numpy, Pandas, ggplot, rshiny, Sklearn, R <sup>SOME</sup> , Gurobi, Multiprocessing, TensorFlow/PyTorch, RSTAN. I also write my own packages in R and Python.
<b>Languages:</b>	French (native), English (native), Slovene (beginner), Italian (beginner).