

# 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-present

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

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**

*Visiting PhD Student*

Sept. 2022 – Apr. 2023

*Rotterdam, Netherlands*

Host & Collaborator: Prof. Robert Roederkerk

## PUBLICATIONS, PRESENTATIONS & TALKS

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### Under review

1. 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**

### Working Papers

1. Lowering the environmental impacts of fashion retail assortments: balancing profit maximization and impact minimization (with Robert Roederkerk and Mehmet Gumus). **Under preparation for Management Science**

### Work in Progress

1. The elephant in the room: How to start addressing overproduction in fast fashion (with Mehmet Gumus).
2. The impact of Marketing costs on the environmental transition of the fashion industry.
3. “**rume**: Random Utility Model Estimation for Large Data Sets in R”.

## Conference presentations

1. “Lowering the environmental impact of fashion retail assortments: Balancing profit maximization and impact minimization”  
**6th Meeting of the EURO Working Group (EWG) on Retail Operations**, September 2023, Stockholm, Sweden.  
**Consortium For Operational Excellence in Retailing (COER)**, June 2024, Harvard Business School, Cambridge, MA.
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, Türkiye.  
**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. “Lowering the environmental impacts of fashion retail assortments: Balancing profit maximization and impact minimization”  
**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: 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)***Research Professional*

Sept. 2014 – Nov. 2014

*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***Research Assistant*

Jan. 2014 – Sept. 2014

*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***Design Engineer & Project Manager*

Nov. 2014 – July 2019

*New York City, NY, USA*

- **Successfully managed in-house teams of several engineers and interns.**
- **Successfully managed design development** with Owners, Architects, Service Engineers and Contractors. Understand, consult, and educate clients and stakeholders on design choices. Prepared winning proposals and efficiently managed project budgets.
- **Successfully designed, analyzed, optimized and delivered landmark projects across the globe.** Researched on analysis methods, materials and systems modelling, international and local building codes, construction methods and available materials. Determine the most efficient structural systems that reduce tonnage and costs, while maintaining structural integrity and construction efficacy.
- **Authored and co-authored** design narratives, calculation packages, peer-review and forensics reports.
- **Founder and Project Lead for LERA Tools:** in-house group of engineers standardizing tools and streamlining workflows.

**AWARDS & SCHOLARSHIPS**

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**Sawtooth Academic Grant***Sawtooth Software*

2023

**Graduate Mobility Award***Graduate and Postdoctoral Studies - McGill University*

2022

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

2021

\$2,000

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

**Walter John Stenason Fellowship***Desautels Faculty of Management*

2019-2020

\$10,000

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

<b>PhD Program in Management Guaranteed Funding Award (MGFA)</b>	2019-2023
<i>Desautels Faculty of Management</i>	<i>\$30,000/year</i>

<b>Honour List - Master's Thesis</b>	2015
<i>Faculty of Graduate and Postdoctoral Studies, Université Laval</i>	

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

<b>Funding for scientific communication</b>	2014
<i>Association des étudiant(e)s de Laval inscrits aux études supérieures (AELIES), Université Laval</i>	<i>\$500</i>

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

## TEACHING

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<b>McGill University</b>	Summer 2023
<i>Lecturer</i>	<i>Montréal, Qc, Canada</i>
Business Statistics (MGCR 271).	

<b>McGill University</b>	Sept. 2020 - Dec. 2021
<i>Teaching Assistant</i>	<i>Montréal, Qc, Canada</i>
Operations Management (MGCR 617–MBA and MMA programs)	

<b>Université Laval</b>	Jan. 2014 – May 2014
<i>Lecturer</i>	<i>Québec, Qc, Canada</i>
Structural Steel Design. Design and lead lectures for a class of 170 students.	

<b>Université Laval</b>	Sept. 2012 – Aug. 2014
<i>Teaching Assistant</i>	<i>Québec, Qc, Canada</i>
Structural Analysis (2012), Steel Design (2012, 2013), Structural Damage Diagnosis and Repairs (2013).	

## SUPERVISION

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<b>MITACS GLOBALINK Internship</b>	May 2015 – Aug. 2015
<i>Neha Madhulika and Vamshi Kadumuri, Université Laval</i>	<i>Québec, Qc, Canada</i>
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 Efiio-Akolly (2021) - Département de génie civil et des eaux, Université Laval.

## VOLUNTEERING WORK

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<b>Architect Registration Exam (ARE) Program</b>	2019
<i>Lecturer</i>	<i>New York City, NY, USA</i>
LERA-based initiative: Engineers <b>providing structural engineering lessons and tutoring to architectural professionals</b> in preparation for their board exam.	

**Fashion Revolution USA**

2018

*Consultant**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**

2017 - 2019

*Office Team Leader**New York City, NY, USA***Mentoring High School students and promote careers in STEM**, specifically in Architecture/Construction/Engineering (ACE).**Project JUST**

2016 - 2018

*Researcher**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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**Programming**Python, R, L<sup>A</sup>T<sub>E</sub>X, bash, High-Performance Computing (HPC), SQL, Matlab.**Packages & Libraries**

Numpy, Pandas, Sklearn, RSOME, Gurobi, Multiprocessing, TensorFlow/PyTorch, RSTAN.

I also write my own packages in R and Python.

**Softwares**

MS Office Suite, LimeSurvey, Sawtooth

**Languages**

French (native), English (native), Slovene (beginner), Italian (beginner)

**Other**

Avid skier and mountain biker, amateur cook, nature and sustainability enthusiast, minimalist.