

# 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 Rooderkerk

## 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: M&SOM**

### Working Papers

1. Lowering the environmental impacts of fashion retail assortments: balancing profit maximization and impact minimization (with Robert Rooderkerk and Mehmet Gumus).

### Work in Progress

1. The elephant in the room: How to start addressing overproduction in fast fashion (with Mehmet Gumus)
2. “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.

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. 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.

### 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***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***Managed in-house teams of several engineers and interns.****Managed design development** with Owners, Architects, Service Engineers and Contractors.**Founder and Project Lead for LERA Tools:** Committee developing and standardizing design and optimization tools, and workflows, to be used office-wide.**Designed, analyzed, and optimized complex structural systems.** Researched on analysis methods, materials and systems modelling, international and local building codes, construction methods and available materials.**Authored and co-authored** design narratives, calculation packages, peer-review and forensics reports.**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.

**PhD Program in Management Guaranteed Funding Award (MGFA)***Desautels Faculty of Management*

2019-2023

\$30,000/year

**Honour List - Master's Thesis***Faculty of Graduate and Postdoctoral Studies, Université Laval*

2015

- 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.

**TEACHING**

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**McGill University***Lecturer*

Summer 2023

*Montréal, Qc, Canada*

Business Statistics (MGCR 271).

**McGill University***Teaching Assistant*

Sept. 2020 - Dec. 2021

*Montréal, Qc, Canada*

Operations Management (MGCR 617–MBA and MMA programs)

**Université Laval***Lecturer – Steel Design*

Jan. 2014 – May 2014

*Québec, Qc, Canada*

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

**VOLUNTEERING WORK**

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**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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**Programming**

Python, R,  $\text{\LaTeX}$ , bash, High-Performance Computing (HPC), SQL.

**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.