

# Bryan GALARZA

Antwerp – Belgium

✉ bryangalarza1303@gmail.com • [in LinkedIn](#) • [ID 0000-0002-1827-5331](#)  
✉ Google Scholar • [R ResearchGate](#) • [GitHub](#) • [Personal page](#)

## Career Profile

Operations Research specialist with a strong background in developing optimization algorithms for both academic and real-world decision-making problems. My work bridges theory and practice, with a focus on metaheuristics, exact methods, and data-driven approaches to support efficient, practical solutions across domains such as transportation, logistics, and healthcare.

⚙️ **Core skills:** Combinatorial Optimization | Metaheuristics | Transportation | Algorithms | Programming  
🌐 **Nationality:** Belgian citizen (EU)

## Education

### University of Antwerp, ANT/OR

Doctor of Philosophy (Ph.D.)

Operations Research

Supervisors: Kenneth Sørensen and Pieter Vansteenwegen

Thesis: Towards the Goldilocks Zone of demand-responsive transportation services [🔗](#)

Antwerp, Belgium

Jun 2019 – May 2023

### Ghent University, Industrial Systems Engineering

Master of Science in Engineering Sciences, Cum Laude

Industrial Engineering and Operations Research (burgerlijk ingenieur)

Thesis: Multimodal coordination schemes for Intelligent Traffic Systems [🔗](#)

Ghent, Belgium

Sep 2016 – Jul 2018

### Ghent University, Engineering and Architecture

Bachelor of Science in Engineering Sciences

Chemical Engineering and Material Science (burgerlijk ingenieur)

Ghent, Belgium

Sep 2012 – Jul 2016

### Sint-Lievenscollege

High-school, general secondary education (ASO)

Science and Mathematics

Antwerp, Belgium

Sep 2005 – Jul 2011

## Experience

### Department of Engineering Management (ENM) - University of Antwerp

Postdoctoral Researcher

Antwerp, Belgium

Oct 2025 – Present

I work on the STRAUSS project, which focuses on urban logistics within the field of Operations Research. My tasks include:

- Developing algorithms and frameworks for solving urban logistics challenges.
- Supervising and supporting PhD students in their research.
- Collaborating with academic and industry partners to ensure practical impact.
- Working on research proposals and publications to advance the field of logistics.

### VLAIO - Triptomatic

Lead Operations Research Expert

(remote) Duffel, Belgium

Oct 2023 – Oct 2025

Triptomatic is a software company offering digital solutions in healthcare. I am fully responsible for the Operations Research part of a VLAIO-funded development project. My tasks include:

- Conducting research on on-demand transportation problems in healthcare and translating them into OR models.
- Designing and implementing real-time optimization algorithms for vehicle dispatching and routing.
- Integrating Operations Research algorithms into a decision-support framework with GIS-based tools.
- Performing data analysis to evaluate algorithmic performance and identify systemic improvement opportunities.
- Bridging academic research with industrial application, ensuring scientific rigor while delivering practical solutions.

### Department of Engineering Management (ENM) - University of Antwerp

Postdoctoral Volunteer Researcher

Antwerp, Belgium

May 2023 – Oct 2023

As a postdoctoral researcher, I continued to write and publish academic papers in the field of Operations Research. I also presented my research in international conferences.

## Doctoral Researcher

Jun 2019 – May 2023

My PhD research focused on designing and optimizing semi-flexible, on-demand transportation systems.

Key achievements and tasks:

- Researched and designed novel semi-flexible bus services.
- Developed novel algorithms for static and online real-time optimization of on-demand feeder services.
- Published five academic papers in peer-reviewed international journals.
- Presented at multiple international conferences and gave invited seminars.
- Participated in industry collaboration projects, acting as a consultant for companies.

## Atlas Copco

Wilrijk, Belgium

Sep 2018 – Apr 2019

### Improvement consultant

Project-based consulting work focused on optimizing packaging policies. My tasks included:

- Documented existing packaging policy for piping components.
- Proposed improvements using linear programming and metaheuristics.

## Languages

---

**English:** Proficient

**Spanish:** Proficient

**Dutch:** Proficient

**French:** Elementary

## Computer skills

---

### Programming:

- *Proficient:* C++, Python, Java, R, MATLAB
- *Basic:* SQL, MongoCxx

### Software:

- *Proficient:* L<sup>A</sup>T<sub>E</sub>X, CPLEX, Gurobi, Hexaly, CI/CD tools (Bitbucket, Github)
- *Intermediary:* Docker, Jira, FlexSim, VISSIM, Maple, AMPL

**Microsoft Office / Google workspace:** Excel / Sheets, PowerPoint / Slides, Word / Docs, Teams / Meet, Outlook / Gmail, Drive, Calendar (Proficient)

## Accomplishments

---

### Sint-Lievenscollege

Antwerp, Belgium

2011

#### Dr. Splichal Award

Award for the best high-school thesis.

### Sint-Lievenscollege

Antwerp, Belgium

2011

#### Zuster Roes Award

Award for significant improvement in various aspects of high-school education.

### University of Antwerp

Antwerp, Belgium

2020

#### Best Paper Award

Finalist (2<sup>nd</sup> place) for the *Best Paper Award* in the Doctoral Day of the Faculty of Business and Applied Economics

### EURO

Monterrey, Mexico

2022

#### ELAVIO scholarship

Winner of the EURO scholarship for attending the ELAVIO summer school.

## Publications (6)

---

### A large neighborhood search algorithm to optimize a demand-responsive feeder service

*Transportation Research Part C: Emerging Technologies*, 127 (2021)

DOI: <https://doi.org/10.1016/j.trc.2021.103102>

### A survey on demand-responsive public bus systems

*Transportation Research Part C: Emerging Technologies*, 137 (2022)

DOI: <https://doi.org/10.1016/j.trc.2022.103573>

### A column generation algorithm for the demand-responsive feeder service

*Networks*, 80(3) (2022)

DOI: <https://doi.org/10.1002/net.22095>

### **The real-time dynamic online feeder service with a maximum headway at mandatory stops**

*Transportmetrica A: Transport Science, (2023)*

DOI: <https://doi.org/10.1080/23249935.2023.2227738>

### **A demand-responsive feeder service with a maximum headway at mandatory stops**

*Networks, 83(1) (2023)*

DOI: <https://doi.org/10.1002/net.22185>

### **Towards the Goldilocks Zone of demand-responsive bus services**

*4OR, 22, PhD Thesis Abstract (2024)*

DOI: <https://doi.org/10.1007/s10288-023-00546-4>

## **Conference presentations (9)**

---

### **ORBEL 34**

*34<sup>th</sup> Annual Conference of the Belgian Operations Research Society*

**Lille, France**

**2020**

A demand responsive feeder-system service with mandatory and clustered, optional bus stops

### **ORBEL 35**

*Corona Sessions: Public Transportation*

**Virtual**

**2021**

A demand-responsive feeder service with mandatory and optional bus stop

### **EURO 2021**

*31<sup>st</sup> European Conference on Operations Research*

**Athens, Greece**

**2021**

A large neighbourhood search algorithm to optimize a demand-responsive feeder service

### **NORS 2021**

*The Norwegian Operations Research Society*

**Bergen, Norway**

**2021**

A demand-responsive feeder service with mandatory stops and frequency constraints

### **ELAVIO 2022**

*Latin Ibero-American Summer School On Operations Research*

**Monterrey, Mexico**

**2022**

A demand-responsive feeder service with a maximum headway at mandatory stops

### **MIC 2022**

*14<sup>th</sup> Metaheuristics International Conference*

**Ortigia-Syracusa, Italy**

**2022**

A demand-responsive feeder service with a maximum headway at mandatory stops

### **ORBEL 36**

*36<sup>th</sup> Annual Conference of the Belgian Operations Research Society*

**Ghent, Belgium**

**2022**

Towards better service quality with the dynamic feeder service with a maximum headway at mandatory stops

### **CLAIO 2022**

*XXI Latin Ibero-American Conference On Operations Research*

**Buenos Aires, Argentina**

**2022**

Towards better service quality with the dynamic feeder service with a maximum headway at mandatory stops

### **IFORS 2023**

*The 23rd Conference of the International Federation of Operational Research Societies*

**Santiago, Chile**

**2023**

The real-time dynamic online feeder service with a maximum headway at mandatory stops

## **Hobbies**

---

✈️: Planning and exploring diverse cultures through travel.

📷: Landscape and urban photography using a mirrorless camera.

🥾: Long-distance hiking, often in mountainous regions.

✍️: Sketching fictional characters and concept art.