

Tommaso Mannelli Mazzoli

Curriculum Vitae

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Personal Data

born in Florence (Italy), 1993-09-22

Italian Citizenship

Education

Since 2021 **Ph.D. Student in Computer Science**, *TU Wien*, Vienna (Austria)

Advisor: Nysret Musliu

2019 – 2020 **Master of Science in Mathematical Engineering**, *Universidad Complutense Madrid*, Madrid (Spain), Double degree

Advisor: Angel Felipe Ortega

2018 – 2020 **Master of Science in Applied Mathematics**, *University of study*, Florence (Italy)

Advisor: Stefania Bellavia

Thesis topic: The Quadratic Assignment Problem, Metaheuristic approaches

Area of Concentration: Combinatorial Optimisation

2013 – 2017 **Bachelor of Science in Mathematics**, *University of study*, Florence (Italy)

Advisor: Andrea Colesanti

Thesis topic: "Integration in finite terms: The Liouville's Theorem"

Area of Concentration: Differential Algebra

Research Interests

Metaheuristic methods

Hybridization of Metaheuristics with Exact Methods

Evolutionary Computation

Crew Scheduling Problems (in particular, Bus Driver Scheduling Problem)

Work Experience

Sep – Dec 2023 **Visiting Scholar**, *Universidad Autonoma Barcelona*, Bellaterra, Spain

Mar – June 2023 **Visiting Scholar**, *University of Melbourne*, Melbourne, Australia

Since 2021 **Project Assistant**, *Institute for Logic and Computation*, TU Wien, Vienna, Austria
Funded by FWF project W1260-N35, Vienna Graduate School of Combinatorial Optimization

2017 – 2021 **Ambulance rescuer**, *Humanitas Firenze Nord*, Florence (Italy)

2014 – 2019 **Academic senator**, *University of study*, Florence (Italy)

2011 – 2022 **Maths and Physics's private tutor**

Residence in Foreign Countries

Madrid, Spain

September 2019-February 2020

Melbourne, Australia

March 2023-June 2023

Barcelona, Spain

September 2023-December 2023

Publication(s)

- 1 **On Solving the 2-optimality Consensus Finding Problem Using Exact Solvers**, Tommaso Mannelli Mazzoli, Christian Blum, Pedro Pablo Pinacho Davidson, Fulvio Gesmundo, Felix Winter, in preparation, ETA March 2025
- 2 **Instance Space Analysis for the Bus Driver Scheduling**, Tommaso Mannelli Mazzoli, Lucas Kletzander, Nysret Musliu, Kate Smith-Miles, International Conference on the Practice and Theory of Automated Timetabling (PATAT), 2024
https://patatconference2024.dtu.dk/-/media/websites/patatconference2024/patat/patat_2024_proceedings.pdf
- 3 **Investigating Large Neighbourhood Search for Bus Driver Scheduling**, Tommaso Mannelli Mazzoli, Lucas Kletzander, Nysret Musliu, Pascal Van Hentenrick, International Conference on Automated Planning and Scheduling (ICAPS), 2024
<https://doi.org/10.1609/icaps.v34i1.31495>
- 4 **Metaheuristic Algorithms for the Bus Driver Scheduling Problem with Complex Break Constraints**, Lucas Kletzander, Tommaso Mannelli Mazzoli, Nysret Musliu, Genetic and Evolutionary Computation Conference (GECCO), 2022
<https://doi.org/10.1145/3512290.3528876>

Preprints

- 5 **Integrating Column Generation and Large Neighborhood Search for Bus Driver Scheduling with Complex Break Constraints**, Tommaso Mannelli Mazzoli, Lucas Kletzander, Nysret Musliu, Pascal Van Hentenrick, <https://arxiv.org/abs/2505.02485>

Seminars

- Ago 2024 (Upcoming) **PATAT 2024**, *Instance Space Analysis for the Bus Driver Scheduling Problem*
- June 2024 **MIC 2024**, *Investigating Large Neighbourhood Search for Bus Driver Scheduling*
- May 2024 **VGSCO Retreat**, *From stars in the sky to instances in the space*
- Jan 2024 **VGSCO Colloquia**, *Optimisation and Consensus*
- Oct 2023 **UAB Seminar**, *Solving the bus driver scheduling problem*
- Apr 2023 **Optima Seminar**, *Solving the bus driver scheduling problem*
- Jan 2022 **VGSCO Colloquia**, *Metaheuristic Algorithms for Bus Driver Scheduling Problem with Complex Break Constraints*
- Jun 2022 **DBAI Meeting**, *Metaheuristic Algorithms for Bus Driver Scheduling Problem with Complex Break Constraints*
- Jun 2022 **VGSCO Retreat**, *Tabu Search for Bus Driver Scheduling Problem with hard Break Constraints*
- Jul 2022 **GECCO 2022**, *Metaheuristic Algorithms for Bus Driver Scheduling Problem with Complex Break Constraints*

Nov 2022 **VGSCO Open Problems Sessions**, *Metaheuristic Algorithms for Bus Driver Scheduling Problem with Complex Break Constraints*

Merits and Awards

- 2022 GECCO Student Travel Grant Award (450 \$)
- Matricula de Honór for Advanced Optimization Techniques, UCM, Madrid
- Erasmus scholarship at Universidad Complutense, Madrid, Spain (Ago 2019-Feb 2020)

Other activities

Reviewing ITOR International Transactions in Operational Research, Discover Mechanical Engineering

2022 SIGEVO Summer School (<https://gecco-2022.sigevo.org/Summer-School>)

Knowledge

OS GNU Linux, Windows, Android

Languages Python, Matlab, Fortran, Julia, R

Software Gams, MiniZinc, SAS, SPSS

Tuner Irace, Smac

Service

2022 **Volunteer**, *GECCO 2022*, Boston, US

2012 **Internship**, *National Archaeological Museum*, piazza Santissima annunziata, Italy

2012 **Internship**, *Polo Scientifico*, Physics and Astronomy department, Sesto Fiorentino, Italy

Outreach

2016 **Gara matematica (Mathematics Contest)**, *Dipartimento di Matematica Ulisse Dini*, Florence

Collaboration in proctoring and grading in an annual contest for high school students.

Languages

Italian Mother Language

English Professional working proficiency

Spanish Professional working proficiency

German Basic

Interests and Hobbies

Science and Technology

Chess

Salsa (Cubana/New York)

Bachata (Dominican, Sensual)

Others **Italian driving licence B, AED operator**

Last Update: 13 May 2025