

PERSONAL INFORMATION

Marcello MONTANINO



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Sex Male | Date of birth | Nationality Italian

Enterprise	University	EPR
<input type="checkbox"/> Management Level	<input type="checkbox"/> Full professor	<input type="checkbox"/> Research Director and 1st level Technologist / First Researcher and 2nd level Technologist
<input type="checkbox"/> Mid-Management Level	<input type="checkbox"/> Associate Professor	<input type="checkbox"/> Level III Researcher and Technologist
<input type="checkbox"/> Employee / worker level	<input checked="" type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator	<input type="checkbox"/> Researcher and Technologist of IV, V, VI and VII level / Technical collaborator

RESEARCH IDENTIFIERS

Scopus Author ID 8709730900  
 ORCID <http://orcid.org/0000-0003-0445-3499>  
 Google Scholar <https://scholar.google.it/citations?user=nRzTJWgAAAAJ>  
 ResearchGate [https://www.researchgate.net/profile/Marcello\\_Montanino](https://www.researchgate.net/profile/Marcello_Montanino)

RESEARCH IMPACT MEASURES (source: SCOPUS)

Nb. of citations 1566  
 Self-citations 92 (5.9%)  
 h-index 19 (19 without self-citations of all authors)

WORK EXPERIENCE

2021 – present **Tenure track Assistant Professor** (RTD, L. 240/2010, section 24, paragraph 3, item b)  
 University of Naples Federico II (UNINA), Department of Civil, Environmental and Architectural Engineering (DICEA), Via Claudio 21, 80125, Naples, IT  
 ▪ Control algorithms for Autonomous Vehicles, AV driving license and type-approval, Automatic Train Operation systems (ATO over ETCS), Eco-driving and eco-routing strategies for last-mile delivery services and demand-responsive transportation systems, ride-sharing and car-pooling solutions  
 Business/Sector: *Academic, R&D on Cooperative, Connected and Automated Mobility (CCAM), Railway engineering, Urban logistics, Mobility-as-a-Service (MaaS) and Freight-as-a-Service (FaaS)*

2016 – present **Co-founder and majority shareholder of Inputspace S.r.l., a high-tech start-up company and academic spin-off of the University of Naples Federico II**  
 HQ: Piazza dei Martiri 30, 80121, Naples, IT  
 Business/Sector: *MaaS, Shared mobility services, Railway traffic management and control, ATO, ERTMS/ETCS, Eco-driving and Eco-routing, Electric mobility*

2019 – 2021 **Assistant Professor** (RTD, L. 240/2010, section 24, paragraph 3, item a) funded by the Italian Ministry of University and Research programme “PON AIM Scope 1 – Mobility of Researchers” (CUP: E61G18000540007)  
 UNINA, DICEA  
 ▪ Modelling of ACC systems and drivers’ behaviours in mixed and heterogenous traffic  
 Business/Sector: *CCAM*

- 2020 –2021 **Visiting Researcher at MobiLab Transport Research Group University of Luxembourg (prof. F. Viti)**  
 University of Luxembourg, Esch-sur-Alzette, LU  
 • Modelling of ACC systems and drivers' behaviours in mixed and heterogenous traffic, MaaS, Shared mobility services, Eco-driving and Eco-routing  
 Business/Sector: *CCAM*
- 2019 **Post-Doctoral research fellow on the Italian research project HAVE (Holistic Automotive Validation Environment) funded by the regional programme “POR CAMPANIA FESR 2014/2020” (CUP: B63D18000470007)**  
 UNINA, Advanced Metrological and Technological Services Center, Naples (IT)  
 • Uncertainty management of scenario-based testing of AEB systems in Euro NCAP  
 Business/Sector: *CCAM*
- 2018 **Expert of the European Commission on the research project “Green Driving Tool” (Contract Id: CT-EX2018D331331-101)**  
 European Commission, Joint Research Centre, Ispra, IT  
 • Dynamic re-routing algorithms for ICEVs and EVs in Green Driving Tool  
 Business/Sector: *MaaS, FaaS, Freight transportation & Logistics*
- 2016 – 2017 **Post-Doctoral research fellow on the EU research project MED-PCS (Promotion of Port Community Systems in the Mediterranean) funded by the EU Interreg MED programme (CUP: B63D18000470007)**  
 UNINA, DICEA  
 • Shortest path models in multimodal transportation networks with non-additive costs  
 Business/Sector: *Freight transportation & Logistics*
- 2015 – 2016 **Post-Doctoral research fellow on the Italian research project RESISTI (Adaptation and resilience of territorial systems to extreme or recurrent phenomena recurrent ) funded by the regional programme “POR CAMPANIA FESR 2014/2020” (CUP: E66G14000850006)**  
 UNINA, DICEA  
 • Microscopic traffic flow modelling to reproduce recurrent congestion patterns  
 Business/Sector: *Transportation engineering*
- 2015 **Post-Doctoral research fellow on the Italian research project FERSAT (Study of a railway signalling system based on the innovative use of satellite technologies and their integration with terrestrial technologies) funded by the Italian Ministry of University and Research programme “PON R&C 2007-2013” (CUP: B68F12001200005)**  
 UNINA, DICEA  
 • Development of a railway traffic simulation model  
 Business/Sector: *Railway engineering*
- 2015 **Visiting Researcher at Singapore-MIT Alliance for Research and Technology (prof. B. Zuo)**  
 Singapore-MIT Alliance for Research and Technology, Singapore, SG  
 • A simulation-based framework to validate traffic models at the individual and traffic simulation scales  
 Business/Sector: *Transportation engineering*

2015 **Visiting Researcher at Technical University of Delft (prof. S.P. Hoogendoorn)**

Technical University of Delft, Netherlands, NL

- Methodological framework for uncertainty management in traffic simulation

Business/Sector: *Transportation engineering*

2014 – 2015 **Post-Doctoral research fellow on the Italian research project INSIST (Intelligent monitoring system for the safety of urban infrastructures)** funded by the Italian Ministry of University and Research programme “PON R&I 2014/2020” (CUP: B25B09000040007)

UNINA, DICEA

- Development of Advanced Driving Assistance Systems and Automated Driving Functions and evaluation of their impacts on traffic efficiency

Business/Sector: *CCAM*

2012 **EU COST Short-Term Scientific Mission at Transportation Research Group University of Southampton (prof. R.E. Wilson)**

UNINA, DICEA

- Linking microscopic traffic flow models to reality: parameters pdfs and macroscopic traffic features

Business/Sector: *Transportation engineering, Autonomous Vehicles*

## TEACHING EXPERIENCE

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### National level

- 2023 – present **Lecturer of the MSc course “Coding for civil engineers”** (MSc programme in “Civil Engineering for Hydraulics and Transportation”) UNINA, DICEA
- 2022 – present **Lecturer of the seminar “Coding for civil engineers” in the MSc course “Architecture of Intelligent Transportation Systems”** (MSc programme in “Mechatronics Engineering”) UNITN, DII
- 2022 – present **Lecturer of the MSc course “Traffic control”** (MSc programmes in “Civil Engineering for Hydraulics and Transportation” and “Transportation Engineering and Mobility”) UNINA, DICEA
- 2021 - present **Lecturer of the PhD course “Uncertainty and sensitivity analysis of model outputs”** (PhD programme in “Civil Engineering”) UNINA, DICEA
- 2020 – present **Lecturer of the MSc course “Smart and Electric Mobility”** (MSc programme in “Environmental Engineering and Land-use Planning”) UNINA, DICEA
- 2014 – present **Co-supervisor of 6 PhD candidates and more than 20 MSc students** UNINA, DICEA
- 2011 – present **Assistant Lecturer of the MSc course “Traffic simulation and control”** (MSc programme in Environmental Engineering and Land-use Planning) UNINA, DICEA
- 2019 – 2020 **Lecturer of the MSc course “Transportation Engineering”** (MSc programme in “Urban, Landscape and Environmental Planning”) UNINA, Department of Architecture

- 2011 – 2015 **Assistant Lecturer of the MSc course “Transportation Systems Planning”** (MSc programme in Hydraulic and Transportation Systems Engineering)  
UNINA, DICEA
- 2020, 2021 **Lecturer of the course “Sustainable mobility: solutions for tour operators and freight transportation companies”** in the Professional Course for Environmental Engineering Expert  
UNINA, DICEA
- 2018, 2020 **Lecturer of the courses “ Railway systems modelling and simulation” and “Advanced Traffic Flow Models”** at the FS (Italian Railways) Mobility Academy  
UNINA, DICEA
- 2015 **Lecturer of the course “The economic evaluation of investments in the transport sector”** at the “FERSAT” training school, funded by the Italian Ministry of University and Research programme “PON R&C 2007-2013”  
UNINA, DICEA
- 2012, 2013 **Lecturer of the course “Traffic simulation modelling for emergency evacuation”** in the Professional Course “Management and mitigation of natural hazards”  
UNINA, DICEA

**International level**

- 2017 **Lecturer of the course “Advanced Simulation for Mobility Services”** at the 5<sup>th</sup> EU COST Action TU0903 “MULTITUDE” summer school  
European Commission Joint Research Centre, UNINA, Naples, IT
- 2016 **Lecturer of the course “Practicum: Hands-on Session with exercises carried out in groups”** at the 9<sup>th</sup> summer school on “Sensitivity Analysis of Model Outputs”  
European Commission Joint Research Centre, UNINA, Capri, IT
- 2015 **Lecturer of the seminar “A simulation-based framework to validate traffic models at the individual and traffic simulation scales”** at the Future Urban Mobility Seminars  
CREATE/SMART Singapore-MIT Alliance for Research and Technology, Singapore, SG
- 2015 **Lecturer of the seminar “How can global sensitivity analysis serve traffic and transportation modelling? Background and examples”** at the TRAIL Seminars  
Technical University of Delft, The Netherlands, NL
- 2012 **Assistant Lecturer at the MIT summer school on “Modeling and Simulation of Transportation Networks”**  
Massachusetts Institute of Technology, Department of Civil and Environmental Engineering, Cambridge, USA
- 2012 **Assistant Lecturer at the 2nd MULTITUDE-NEARCTIS summer school on “Assessment of ITS solutions”**  
European Commission Joint Research Centre, EU COST Action TU0903 “MULTITUDE”, NEARCTIS “Network of Excellence: Advanced Road Cooperative Traffic management in the Information Society”, Ispra, IT

## RESEACH PROJECTS

### International level

2024 – present

**Member of the Horizon Europe research project “metaCCAZE” (AI-aided decision tool for seamless multimodal network and traffic management, <https://metaccaze-project.eu>),** funded by the European Union “Horizon Europe 2021-2027” Framework Programme under the call topic HORIZON-MISS-2023-CIT-01 “Research and Innovation actions to support the implementation of the Climate-neutral and Smart Cities Mission” (total budget: 25M €, UNINA budget: 352k €)

UNINA, DICEA

- Task 4.5 “On-demand autonomous pods in Milan: design and demonstration”

Business/Sector: *Autonomous Vehicles, Cooperative, Connected and Automated Mobility*

2023 – present

**Task leader and designated representative of the Horizon Europe research project “ACUMEN” (AI-aided decision tool for seamless multimodal network and traffic management, <https://acumen-project.eu>),** funded by the European Union “Horizon Europe 2021-2027” Framework Programme under the call topic HORIZON-CL5-2022-D6-02-05 “Advanced multimodal network and traffic management for seamless door-to-door mobility of passengers and freight transport” (total budget: 5M €, UNINA budget: 282k €)

UNINA, DICEA

- Designated representative for UNINA
- T4.1 leader: “Stress test scenario generator”

Business/Sector: *Autonomous Vehicles, Cooperative, Connected and Automated Mobility*

2022 – present

**Scientific coordinator of the Horizon Europe research project “i4Driving” (Integrated 4D driver modelling under uncertainty, <https://i4driving.eu>),** funded by the European Union “Horizon Europe 2021-2027” Framework Programme under the call topic HORIZON-CL5-2022-D6-01-03 “Human behavioural model to assess the performance of CCAM solutions compared to human driven vehicles (CCAM Partnership)” (single funded proposal, total budget: 8M €, UNINA budget: 720k €)

UNINA, DICEA

- Project scientific coordinator and Steering Committee member
- WP4 leader: “Encoding the heterogeneity of human and external factors into probabilistic driver behavioural models”

Business/Sector: *Autonomous Vehicles, Cooperative, Connected and Automated Mobility*

2021 – 2023

**Principal Investigator of the EU Horizon Europe project “STRAPPO” (Shared transport for people mobility),** funded by the European Union Horizon Europe “EC JRC Direct Action” under the call topic Pilot Living Labs on Future Mobility Solutions

Inputspace S.r.l.

- Project scientific coordinator

Business/Sector: *Autonomous Vehicles, Cooperative, Connected and Automated Mobility*

2010 – 2013

**Member of the EU COST Action TU0903 “MULTITUDE” (Methods and tools for supporting the use, calibration and validation of traffic simulation models)**

UNINA, DICEA

- WG1 “Updated review of traffic simulation practice and research”, WG2 “Highway modelling”

Business/Sector: *Transportation engineering, modelling and simulation under uncertainty*

**National level**

- 2022 – 2025 **Member of the Italian research project “CN-MOST Spoke 10 – Freight Transport and Logistics”**, funded by the Italian Ministry of University and Research programme “PNRR – Dalla ricerca al business – Missione 4”  
UNINA, DICEA  
▪ WP2 “Sustainability policy and tools assessment”, WP4 “Last mile and city logistics”, WP5 “FaaS (freight as a service)”, WP8 “Decision support systems for policymaking and governance”  
Business/Sector: *Freight transport and logistics*
- 2014 – 2017 **Member of the Italian research project “FERSAT” (Study of a railway signalling system based on the innovative use of satellite technologies and their integration with terrestrial technologies)**, funded by the Italian Ministry of University and Research programme “PON R&C 2007-2013”  
UNINA, DICEA  
▪ OR5 “System Experimentation and Evaluation in a Virtual Environment”  
Business/Sector: *Railway signalling systems*
- 2014 – 2017 **Member of the Italian research project “TESYS RAIL” (Models and tools to increase the environmental sustainability of rail transportation systems)** funded by the Italian Technology Cluster programme “PON R&C 2007-2013”  
UNINA, DICEA  
▪ Task 330.12 “State on the art on railway traffic simulation models”, Task 330.13 “Eco-driving algorithms for ATO”, Task 330.14 “Validation of eco-driving algorithms”  
Business/Sector: *Railway systems, Automatic Train Operation, Eco-driving*
- 2010 – 2013 **Member of the Italian research project “SITRAM” (Innovative Railway transportation system)**, funded by the Italian Ministry of Economic Development programme “Industria 2015”  
UNINA, DICEA  
▪ T3.2 “Real-time energy optimization system”  
Business/Sector: *Railway engineering*

**PRIZES AND AWARDS****International level**

- 2021 – present **Top Cited paper on Transportation Research Part B: Methodological**  
*Montanino M., Punzo V. (2021). On string stability of a mixed and heterogeneous traffic flow: A unifying modelling framework. Transportation Research Part B, 144.*  
Awarded by Transportation Research Part B: Methodological
- 2014 **2013 SimSub Best Simulation Paper**  
*Ciuffo, B., Casas, J., Montanino, M., Perarnau, J., Punzo, V., 2013. Gaussian process metamodels for sensitivity analysis of traffic simulation models, Transportation Research Record, 2390, pp. 87-98.*  
Awarded by the Joint Simulation Subcommittee (AHB45-1) of the Transportation Research Board of the National Academies, USA
- 2013 **2012 Greenshields Prize Citation**  
*Punzo, V., Ciuffo, B., Montanino, M. (2012). Can results of car-following models calibration based on trajectory data be trusted. Transportation Research Record, 2315, pp. 11-24.*  
Awarded by the Transportation Research Board of the National Academies, USA

## EDITORIAL BOARD MEMBER

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- 2023 – present **Member of the Editorial Advisory Board of Transportation Research Part C**
- 2022 – present **Associate Editor of IEEE Transactions on Intelligent Transportation Systems**

## COMMISSION OF TRUST

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- 2021 – present **Expert Evaluator of the ANVUR** (Italian National Agency for the Evaluation of the University and Research Systems) in the 2015-2019 VQR programme (Evaluation of the Quality of Research)
- 2018 – present **Member of the Expert Group of the European Commission (DG MOVE) and Expert Evaluator in EC funding programmes**
- 2011 – present **Peer-reviewer for top-ranked Web of Science scientific journals in WoS JCR categories “Transportation” and “Transportation Science and Technology”** (Transportation Research Part B, C, and D, IEEE Transactions on ITS, TRR, Transport Policy, Journal of Transport Geography)

## AFFILIATION TO RESEARCH NETWORKS

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### International level

- 2023 – present **Member of “RE-RITE Working Group” (Reproducible Research In Transportation Engineering,**  
[https://reriteworkinggroup.github.io/RERITE\\_website/team.html](https://reriteworkinggroup.github.io/RERITE_website/team.html))
- 2013 – present **Member of “MULTITUDE friends research community”**  
(<http://www.multitude-project.eu>)
- 2011 – present **Friend Member of the TRB Committee on Traffic Flow Theory and Characteristics (AHB45)**

### National level

- 2017 – present **Member of the Italian Society of Transportation Professors (SIDT)**

## ORGANISATION OF SCIENTIFIC CONFERENCES

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### International level

- 2025 **Scientific committee member of the 9<sup>th</sup> International Conference on “Models and Technologies for Intelligent Transportation Systems” (MT-ITS 2025)**  
University of Luxembourg, Luxembourg, LUX
- 2024 **Scientific committee member of the 12<sup>th</sup> Symposium of the “European Association for Research in Transportation” (hEART)**  
Aalto University, Finland, FI
- 2023 **Organizing committee member of the Special Session on “Reproducible Transportation Research” at the 102nd Transportation Research Board Annual Meeting (TRBAM 2023)**  
Transportation Research Board, Washington D.C., USA
- 2017 **Organizing committee member of the 5<sup>th</sup> EU COST TU0903 “MULTITUDE” Summer School on “Advanced Simulation for Mobility Services”**  
UNINA

- 2017 **Organizing committee member of the 5<sup>th</sup> International Conference on “Models and Technologies for Intelligent Transportation Systems” (MT-ITS 2017)**  
UNINA
- 2016 **Organizing committee member of the 9<sup>th</sup> summer school on “Sensitivity Analysis of Model Outputs”**  
European Commission Joint Research Centre, UNINA, Capri, IT
- 2013 **Organizing committee member of the final conference of the EU COST Action TU0903 “MULTITUDE”**  
UNINA

National level

- 2022 **Session Chair at the 3<sup>rd</sup> Mediterranean PhD School (MEDSCHOOL 2022)**  
UNINA

INVITED LECTURES

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- 2020 **“A two-level probabilistic approach for validation of stochastic traffic simulations: impact of drivers’ heterogeneity models”**  
TRB Workshop on Traffic Simulation and CAV, remote

CONFERENCE LECTURES

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International level

- 2024 **30<sup>th</sup> Anniversary of Transportation Research Part C (TRC-30)**  
- *“Level-1 truck platooning optimisation: methodology and network-wide”*  
- *“Nonlinear string stability analysis of car-following models: metastability thresholds and rear-end collisions”*  
Crete, GR
- 2024 **5<sup>th</sup> Symposium on “Management of Future Motorway and Urban Traffic Systems” (MFTS 2024)**  
*“Incorporating human factors in car-following models: a model credibility assessment framework ”*  
Crete, GR
- 2024 **103<sup>rd</sup> Transportation Research Board Annual Meeting (TRBAM 2024)**  
- *“String stability analysis of car-following models in nonlinear setting: metastability and crashes”*  
- *“Incorporating human factors in car-following models: a model credibility assessment framework”*  
- *“Energy consumption model for electric vehicle routing in dial-a-ride systems: a link-based probabilistic approach accounting for uncertain driving dynamics and traffic conditions”*  
Washington, D.C., USA
- 2023 **International Symposium on “Transportation Data & Modelling” (ISTDM 2023)**  
*“Nonlinear string stability analysis of Gipps’ model and of the IDM”*  
Ispra, IT
- 2023 **102<sup>nd</sup> Transportation Research Board Annual Meeting (TRBAM 2023)**  
- *“About calibration of car-following dynamics of automated and human-driven vehicles Methodology, guidelines and codes”*

- *"Vision for a new industry-standard methodology for virtual assessment of automated driving systems"*  
Washington, D.C., USA
- 2022 **101st Transportation Research Board Annual Meeting (TRBAM 2022)**  
*"Physics-augmented models to simulate commercial adaptive cruise control systems"*  
Washington, D.C., USA
- 2021 **100th Transportation Research Board Annual Meeting (TRBAM 2021)**  
*"Conditions for L2 string stability of a heterogeneous traffic flow"*  
Remote
- 2019 **6th International Conference on "Models and Technologies for Intelligent Transportation Systems" (MT-ITS 2019)**  
*"CoNL route choice model: Numerical assessment on a real dataset of trajectories"*  
Krakow, PL
- 2016 **95th Transportation Research Board Annual Meeting (TRBAM 2016)**  
*"Drivers' heterogeneity in traffic micro-simulation"*  
Washington, D.C., USA
- 2015 **4th International Conference on "Models and Technologies for Intelligent Transportation Systems" (MT-ITS 2015)**  
*"Parameters sampling strategies in traffic micro-simulation"*  
Budapest, HU
- 2014 **Transport Research Arena (TRA 2014)**  
*"How traffic flow models calibration influence fuel consumption estimation?"*  
Paris, FR
- 2013 **13th World Conference on Transportation Research (WCTR 2013)**  
*"A behavioural indicator for cumulative accessibility to opportunities: definition and application to a real case".*  
Rio de Janeiro, BR
- 2013 **7th International Conference on Sensitivity Analysis of Model Output (SAMO 2013)**  
*"Assessing the robustness of sensitivity analysis results. Application to traffic simulation model".*  
Nice, FR
- 2013 **Final Conference of the EU COST Action TU0903 "MULTITUDE"**  
*"Making NGSIM data usable for studies on traffic flow theory: a multistep method for vehicle trajectory reconstruction"*  
Naples, IT
- 2013 **92nd Transportation Research Board Annual Meeting (TRBAM 2013)**  
- *"Goodness of fit function in the frequency domain for robust calibration of microscopic traffic flow models"*  
- *"From theory to practice: Gaussian process metamodels for the sensitivity analysis of traffic simulation models. A case study of the Aimsun mesoscopic model"*  
Washington, D.C., USA

- 2012 **15th International IEEE Conference on Intelligent Transportation Systems (ITSC 2012)**  
*“Calibration of Microscopic Traffic Flow Models Against Time-Series Data”*.  
 Anchorage, USA
- 2012 **91<sup>st</sup> Transportation Research Board Annual Meeting (TRBAM 2012)**  
 - *“May We Trust Results of Car-Following Model Calibration Based on Trajectory Data?”*  
 - *“Thirty Years of Gipps’s Car-Following Model: Applications, Developments, and New Features”*  
 - *“Analysis of Drivers’ Compliance with Speed Limits Enforced by an Automated Section Speed Enforcement System”*  
 - *“Use, Calibration, and Validation of Traffic Simulation Models in Practice: Results of Web-Based Survey”*  
 Washington, D.C., USA
- 2011 **90<sup>th</sup> Transportation Research Board Annual Meeting (TRBAM 2011)**  
*“Empirical Evidence of Speed Management Effects on Traffic Flow at Freeway Bottleneck”*  
 Washington, D.C., USA

#### QUALIFICATIONS

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- 2023 – present **Italian Professorship Qualification, 08/CEAR-03, Full Professorship (I category)**  
 Italian Ministry of University and Research, IT
- 2017 – present **Italian Professorship Qualification, 08/CEAR-03, Associate Professorship (II category)**  
 Italian Ministry of University and Research, IT
- 2011 – present **State Exam in Civil and Environmental Engineering (Section A) with score 34/40**  
 UNINA

#### ACADEMIC MANAGEMENT ACTIVITIES

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##### University level

- 2024 – present **Designated Department member in the 2020-2024 VQR programme (Evaluation of the Quality of Research)**  
 UNINA
- 2022 – present **VQR programme Working Group Member**  
 UNINA

##### Department level

- 2024 – present **Contact person and Research QA Manager**  
 UNINA, DICEA
- 2024 – present **Member of the Commission on “Three-Year Department Development and Programming Plan”**  
 UNINA, DICEA
- 2022 – present **President of the Commission on “2020-2024 VQR”**  
 UNINA, DICEA

- 2022 – present **Member of the Department Council**  
UNINA, DICEA
- 2021 – present **Member of the Student Recruitment Board**  
UNINA, DICEA
- 2019 - present **Member of the Department Board**  
UNINA, DICEA
- 2019 – present **Member of the Management Board of the MSc programmes**  
UNINA, DICEA

#### MANAGEMENT OF RESEARCH AGREEMENTS AND THIRD-MISSION PROJECTS

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- 2016 – present **Co-founder and majority shareholder of Inputspace S.r.l.**, a high-tech start-up company and academic spin-off of the University of Naples Federico II
- 2021 – 2023 **Manager of the Framework Agreement between Inputspace S.r.l. and Hitachi Rail STS S.p.a. for the Intellectual Property Rights transfer of Railbit®**  
Inputspace S.r.l., academic spin-off company of UNINA
- 2020 – 2021 **Manager of the Research Agreement between Inputspace S.r.l. and Hitachi Rail STS S.p.a. on “Innovative passenger flow monitoring and control system”**  
Inputspace S.r.l., academic spin-off company of UNINA
- 2018 – 2019 **Manager of the R&I project “AI Worklab 2.0”** funded by Luiss Enlabs LVenture Group  
Inputspace S.r.l., academic spin-off company of UNINA
- 2018, 2021 **Manager of the R&I project “Strappo”** funded by the regional programme “POR Campania FESR 2014-2020” under the call topics “Campania Start up 2020” and “Campania Start up 2017)  
Inputspace S.r.l., academic spin-off company of UNINA
- 2018 **Registration of the Intellectual Property Right of Railbit®, as inventor** (SIAE registration number: D011794, sequence number: D012721)  
IPR holder: Inputspace S.r.l.
- 2017 **Registration of the Intellectual Property Right of Strappo®, as inventor** (SIAE, registration number: D010719, sequence number: 011610)  
IPR holder: Inputspace S.r.l.
- 2017 **Registration of the Intellectual Property Right of Ninjapark®, as inventor** (SIAE, registration number: D010715, sequence number : 011606)  
IPR holder: Inputspace S.r.l.

#### EDUCATION AND TRAINING

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- 15/05/2014 **Doctor of Philosophy (PhD) in Transportation System Engineering** (EQF Level 8), with dissertation thesis “Uncertainty Management in Traffic Simulation: Methodology and Applications” ([link](#))  
UNINA

- 23/09/2010 **Master of Science (MSc) in Hydraulic and Transportation Systems Engineering** with score 110/110 and honours (Degree Class 28/S, D.M. 509/99; EQF Level 7), with thesis “Empirical Analysis of the effects on speeds and travel times of an Automated Section Speed Enforcement System (“Safety TUTOR”) installed on the motorway A56” (*in Italian*)  
UNINA
- 14/12/2008 **“Prof. Elio Giangreco Prize” to the best graduate student among all Civil and Environmental Engineering courses (BSc Degree)**, with average score of 29.57/30 and 14 lauds  
UNINA
- 24/09/2008 **Bachelor of Science (BSc) in Environmental Engineering and Land-use Planning** with score 110/110 and honours (Degree Class 8, D.M. 509/99; EQF Level 6), with thesis “Empirical Analysis of the effects on speeds and travel times of an Automated Section Speed Enforcement System (“Safety TUTOR”) installed on the motorway A56” (*in Italian*)  
UNINA
- 28/02/2008 **Scholarship Award to the best student of the BSc Course in Environmental Engineering and Land-use Planning (2<sup>nd</sup> year)**, with average score 29.33/30 and 8 lauds  
UNINA
- 15/12/2006 **Scholarship Award to the best student of the BSc Course in Environmental Engineering and Land-use Planning (1<sup>st</sup> year)**, with average score 29.22/30 and 4 lauds  
UNINA
- 03/11/2014– 07/11/2014 **Short-Course on “Dynamic Traffic Flow Modeling and Control” by prof. M. Papageorgiou**  
Technical University of Crete, Dynamic Systems and Simulation Laboratory, Chania, GR
- 03/11/2014– 07/11/2014 **MIT summer school on “Modeling and Simulation of Transportation Networks”**  
Massachusetts Institute of Technology, Department of Civil and Environmental Engineering, Cambridge, USA
- 06/06/2012 – 08/06/2012 **2<sup>nd</sup> MULTITUDE-NEARCTIS summer school on “Assessment of ITS solutions”**  
EU COST Action TU0903 “MULTITUDE”, NEARCTIS, EC JRC Ispra, IT
- 17/05/2010 – 21/05/2010 **Short Course on “Advanced Modeling and Simulation of Transportation Networks”**  
UNINA, Università di Roma “Tor Vergata”, Sorrento, IT

## PERSONAL SKILLS

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Mother tongue(s)	<b>Italian</b>
Other language(s)	<b>English</b> (Level C1 in understanding, speaking and writing): First Certificate in English (FCE), awarded on 09/02/2009 by the British International School
Job-related skills	Transportation Simulation software ( <b>AIMSUN, VISSIM, TRANSCAD, VISUM, OPENTRACK</b> )
Digital skills	Computer Science <ul style="list-style-type: none"> <li>- Programming Languages: <b>Java, C++, Python, Matlab</b></li> <li>- Server-side Development: <b>JAX-RS, PHP, Swift</b></li> </ul>

- Mobile Development: **Android, iOS (Swift)**
- Web Development: **HTML5, CSS, Javascript** (and JS-based languages)
- RDBMSs Engineering: **MySQL, Microsoft SQL, PostgreSQL, MongoDB, Neo4j, Apache Hadoop, ElasticSearch, Objectify**
- Server Architectures: **Apache Tomcat, Jetty, Jersey, NGINX**
- Version Control Systems: **SVN, GIT**
- Issue Tracking Systems: **TeamForge, GIT, Bugzilla, Acralyzer**
- Build Automation Tools: **Maven, Ant, Phing, Gradle, CocoaPods**
- Integrated Dev. Env. **Android Studio, IntelliJ, XCode, PyCharm, Eclipse**

#### Machine Learning

**TensorFlow** (Python and Java)

#### Google Cloud Platform

**App Engine, Cloud Endpoints, Cloud Datastore, Cloud Storage, BigQuery, Pub/Sub, Firebase Cloud Messaging, Firebase Database, Firebase Crashlytics**

#### Google APIs

**Maps, Static Maps, Places, Directions, Geocoding, Activity Recognition**

#### Web Map Service APIs

**Google Maps, OpenStreetMap, Mapbox, MapQuest**

#### Software di ottimizzazione

**LINDO** products (LINDO API 2.0 e successivi), **IBM ILOG CPLEX**

#### Other skills

Since the age of 14, he has been playing the electric guitar and had experience in some Neapolitan funk-rock bands. Since childhood he has practiced competitive sports. He started at the age of 5 with alpine skiing, competing in national competitions. At the age of 12, he practiced, for 2 years, Athletics achieving the title of Regional Champion of indoor 60m hurdles. At the age of 17, he has started a basketball player career, which is an important part of his life also today, playing from youth leagues to the C2 national league.

## JOURNAL PUBLICATION LIST

### Articles in top-ranked journals

1. Van Lint, H., Punzo, V., **Montanino, M.**, Rodrigues, M., Nadi Najafabadi, A. (2024). Vision for a new industry-standard methodology for virtual assessment of automated driving systems. *Transportation Research Record*, in press.
2. Testa, G., Zaccaria, G., **Montanino, M.**, Baltzopoulos, G., Bilotta, A., Iervolino, I., Punzo, V. (2023). Infrastructure-level traffic micro-simulation for probabilistic analysis of bridge loads. *Computer-Aided Civil and Infrastructure Engineering*, 38 (9).
3. He Y., **Montanino M.**, Mattas K., Punzo V., Ciuffo B. (2022). Physics-augmented models to simulate commercial adaptive cruise control (ACC) systems. *Transportation Research Part C*, 139. DOI: <https://doi.org/10.1016/j.trc.2022.103692>
4. Fiori, C., **Montanino, M.**, Nielsen, S., Seredynski, M., Viti, F. (2021). Microscopic energy consumption modelling of electric buses: model development, calibration, and validation. *Transportation Research Part D*, 98, art. no. 102978.
5. Punzo, V., Zheng, Z., **Montanino, M.** (2021). About calibration of car-following dynamics of automated and human-driven vehicles: Methodology, guidelines and codes. *Transportation Research Part C*, 128, art. no. 103165.
6. **Montanino, M.**, Monteil, J., Punzo, V. (2021). From homogeneous to heterogeneous traffic flows: Lp String stability under uncertain model parameters. *Transportation Research Part B*, 146, pp. 136-154.
7. **Montanino, M.**, Punzo, V. (2021). On string stability of a mixed and heterogeneous traffic flow: A unifying modelling framework. *Transportation Research Part B*, 144, pp. 133-154.
8. Fiori, C., Marzano, V., Punzo, V., **Montanino, M.** (2021). Energy Consumption Modeling in Presence of Uncertainty. *IEEE Transactions on Intelligent Transportation Systems*, 22(10), pp. 6330-6341.
9. Punzo, V., **Montanino, M.** (2020). A two-level probabilistic approach for validation of stochastic traffic simulations: impact of drivers' heterogeneity models. *Transportation Research Part C*, 121, art. no. 102843.

10. Punzo, V., **Montanino, M.** (2016). Speed or spacing? Cumulative variables, and convolution of model errors and time in traffic flow models validation and calibration. *Transportation Research Part B*, 91, pp. 21-33.
11. Cascetta, E., Cartenì, A., **Montanino, M.** (2016). A behavioral model of accessibility based on the number of available opportunities. *Journal of Transport Geography*, 51, pp. 45-58.
12. **Montanino, M.**, Punzo, V. (2015). Trajectory data reconstruction and simulation-based validation against macroscopic traffic patterns. *Transportation Research Part B*, 80, pp. 82-106.
13. Montella, A., Punzo, V., Chiaradonna, S., Mauriello, F., **Montanino, M.** (2015). Point-to-point speed enforcement systems: Speed limits design criteria and analysis of drivers' compliance. *Transportation Research Part C*, 53 (1), pp. 1-18.
14. da Rocha, T. V., Leclercq, L., **Montanino, M.**, Parzani, C., Punzo, V., Ciuffo, B., Villegas, D. (2015). Does traffic-related calibration of car-following models provide accurate estimations of vehicle emissions? *Transportation Research Part D*, 34, pp. 267-280.
15. Cascetta, E., Cartenì, A., Pagliara, F., **Montanino, M.** (2015). A new look at planning and designing transportation systems: A decision-making model based on cognitive rationality, stakeholder engagement and quantitative methods. *Transport Policy*, 38, pp. 27-39.
16. Punzo, V., **Montanino, M.**, Ciuffo, B. (2015). Do we really need to calibrate all the parameters? Variance-based sensitivity analysis to simplify microscopic traffic flow models, *IEEE Transactions on Intelligent Transportation Systems*, 16 (1), pp. 184-193.
17. Ciuffo, B., Punzo, V., **Montanino, M.** (2014). Global sensitivity analysis techniques to simplify the calibration of traffic simulation models. Methodology and application to the IDM car-following model. *IET Intelligent Transport Systems*, 8 (5), pp. 479-489.
18. Ciuffo, B., Casas, J., **Montanino, M.**, Perarnau, J., Punzo, V. (2014). Theory to practice: Global sensitivity analysis of the Aimsun meso model. *Traffic Engineering and Control*, 55 (1).
19. Ciuffo, B., Casas, J., **Montanino, M.**, Perarnau, J., Punzo, V. (2013). Gaussian process metamodels for sensitivity analysis of traffic simulation models, *Transportation Research Record*, 2390, pp. 87-98. (2013 SimSub Best Simulation Paper)
20. **Montanino, M.**, Punzo, V. (2013). Making NGSIM data usable for studies on traffic flow theory, *Transportation Research Record*, 2390, pp. 99-111.
21. Punzo, V., Ciuffo, B., **Montanino, M.** (2012). Can results of car-following models calibration based on trajectory data be trusted. *Transportation Research Record*, 2315, pp. 11-24. (2012 Greenshields Prize Citation)
22. Ciuffo B., Punzo V. **Montanino, M.** (2012). Thirty years of Gipps' car-following model: applications, developments and new features, *Transportation Research Record*, 2315, pp. 89-99.
23. Cascetta, E., Punzo, V., **Montanino, M.** (2011). Empirical analysis of effects of automated section speed enforcement system on traffic flow at freeway bottlenecks, *Transportation Research Record*, 2260, pp. 83-93.

Naples, 09/10/2024

Marcello MONTANINO  
[Electronically signed]