SIDT
SOCIETÀ ITALIANA DOCENTI DI TRASPORTI

SIDT
XXVI SEMINARIO SCIENTIFICO
VILLASIMIUS - June 12-14, 2024

UNIVERSITÀ DEGLI STUDI
DI CAGLIARI

The sustainable future of mobility: policies, applications, behavior, innovations

PROGRAM

Wednesday, June 12, 2024

13:30 - 14:30 | Registration

14:30 - 14:45 | Welcome speeches

Stefano Carrese - President of SIDT

Francesco Mola – Rector of the University of Cagliari

Gianluca Dessì - Mayor of Villasimius

14:45 – 18:00 | Special session "SIDT PhD Award"

SIDT PhD Award
Room: Begonia + Azalea
Chairs: Angela Carboni, Roberta Di Pace, Nicola Sacco
− *Dario Ballarano*, Università degli Studi Roma Tre − *Maria Cristina Ceccotti*, Università di Napoli "Federico II" − *Simona De Bartolomeo*, Politecnico di Bari − Francesco De *Fabiis*, Politecnico di Milano − *Rosita De Vincentis*, Università degli Studi Roma Tre − *Alessio Tesone*, Università di Napoli "Federico II"

18:00 - 19:00 | General assembly of SIDT members (Room: Begonia + Azalea)

19:00 – 19:30 | Plenary session (Room: Begonia + Azalea): Antonio Musso - CEO of Grendi Group presents "*Grendi Group: A story of innovation.*"

19:30 – 20:30 | Welcome Party

Thanks to:

08:30 - 09:00 | Registration

09:00 – 10:00 | Parallel sessions

Sustainability in transport (1)	
Room: Begonia	
Chair: Bruno Dalla Chiara	
09:00 – 09:15	Cooperation and electrification in road freight transport to reduce emissions and increase profits *Claudia Caballini, Erika Olivari, Simona Sacone, Mahnam Saeednia*
09:15 – 09:30	Matching demand and supply in motorised mobility: a data-driven proposal for an urban-differentiated driving cycle *Simona Gurri, Flavio Cappelli, Bruno Dalla Chiara, Francesco Paolo Deflorio*
09:30 – 09:45	Predicting Vehicle Fuel Consumption and CO2 Emissions through a Hybrid Deep Learning Approach: Analysis of Driver Behavior *Sami Shaffiee Haghshenas, Vittorio Astarita, Sina Shaffiee Haghshenas, Giuseppe Guido*
09:45 – 10:00	Sustainable water management to generate savings for bus operators: facts, figures, practice, and future policy implications *Matthew Robinson, Maria Vittoria Corazza*

Demand analysis and modeling (1)	
Room: Gardenia	
Chair: Ernesto Cipriani	
09:00 – 09:15	From Trip Purpose to Space-Time Flexibility: Advancing Dynamic Origin-Destination Matrices Estimation Models Through Crowd-Sourced Data Insights *Marisdea Castiglione, Guido Cantelmo, Ernesto Cipriani, and Marialisa Nigro*
09:15 – 09:30	Investigating the impact of accessibility on internal migration flows: preliminary results for Italy *Antonio Basile, Mariano Gallo*
09:30 – 09:45	Applying the Trust Contraction Algorithm for the Solution of Stochastic User Equilibrium *Guido Gentile, Mohamed Eldafrawi, Lory Bresciani*
09:45 – 10:00	Exploring the potentiality of Demand Responsive Transport for better healthcare trips: evidence from Sicily *Antonio Russo, Tiziana Campisi and Giovanni Tesoriere*

Thanks to:

10:00 – 11:00 | Parallel sessions

Investigating safety in transport systems (1)	
Room: Begonia	
Chair: Vittorio Astarita	
10:00 – 10:15	Predicting the Level of Road Crash Severity: A Comparative Analysis of Logit Model and Machine Learning Models *Sina Shaffiee Haghshenas, Giuseppe Guido, Sami Shaffiee Haghshenas, Vittorio Astarita*
10:15 – 10:30	Investigating e-scooter safety: accident data analysis and perceptions of safety by users and non-users *Gabriele D'Orso, Leonardo Minaudo, Marco Migliore*
10:30 – 10:45	State of the art in risk reduction in transportation systems: A bibliometric analysis on the use of artificial Intelligence, internet of things and mobile devices for emergency management *Vittorio Astarita, Giuseppe Guido, Sina Shaffiee Haghshenas, Sami Shaffiee Haghshenas and Giulia Martino*
10:45 – 11:00	Joint analysis of traffic and accidents on the road network of Rome *Ken Koshy Varghese, Lory Michelle Bresciani Miristice, Ramin Bohlouli, Guido Gentile, Mohamed Eldafrawi*

Maritime transport and logistics	
Room: Gardenia	
Chair: Massimo Di Gangi	
10:00 – 10:15	Port Planning and development in urban contexts: analyzing and quantifying different-stakeholders vision and conflicting interests *Stefano de Luca, Chiara Fiori*
10:15 – 10:30	Containers port performance using automatic identification system data *Orlando Marco Belcore, Massimo Di Gangi, Antonio Polimeni*
10:30 – 10:45	Scheduling truck drivers for real transportation requests to/from ports *Francesco Contu, Massimo Di Francesco, Enrico Gorgone, Mattia Mamusa, Simone Zanda*

11:00 - 11:30 | Coffee break

11:30 - 12:30 | Parallel sessions

Demand analysis and modeling (2)	
Room: Gardenia	
Chair: Andrea Papola	
11:30 – 11:45	In-Depth Investigation and Modelling on Sharing Mobility *Andrea Gemma, Stefano Carrese, Ernesto Cipriani, Livia Mannini*
11:45 – 12:00	Construction of discrete choice models to assess the success of the implementation of a new bikesharing service *Nicoletta Granara, Italo Meloni, Francesco Piras*

Thanks to:

12:00 – 12:15	A quantitative approach for a joint study area zoning and o-d flows updating: methodological formulation and performance analysis *Vittorio Marzano, Andrea Papola, Fulvio Simonelli, Fiore Tinessa*
12:15 – 12:30	Modeling spatial and social interdependency effects on commuting mode choice *Daniele Giubergia, Angela Haddad, Francesco Piras, Chandra Bhat, Italo Meloni*

Poster session: Innovation, sustainability and safety in transport
Room: Begonia + Azalea
Chair: Antonio Comi
Studies on optimization of bifunctional electrodes for unitised regenerative fuel cells *Nicola Briguglio, Fabiola Pantò, Giuseppe Monforte, Antonino S. Aricò*
The role of hydrogen in zero-emission mobility for long distances: a method for positioning refill stations in a highway network *Salvatore Micari, Antonio Cartisano, Nicola Briguglio, Giuseppe Napoli*
Assessment of the factors affecting the location of electric vehicle charging stations *Aleksandra Colovic, Mario Marinelli, Michele Ottomanelli*
Assessing Decarbonization Policies for Freight Transport in the Adriatic-Ionian Region *Francesco Guglielmi, Francesco De Fabiis, Pierluigi Coppola*
Evaluation of drivers' stress during traffic lane maneuvers on a high-capacity road *Gianfranco Fancello, Simone Podda, Daniel Mark Vitiello, and Patrizia Serra*
Experimental Model of Driver Behaviour for a Dynamic On-board Safe Speed Advisory System *Filippo Carrese, Chiara Colombaroni, Gaetano Fusco, Natalia Isaenko, Zahra Lahijanian*
Modeling High-speed Rail (HSR) service integration and timetable optimization *Pietro Mariano, Fulvio Silvestri and Pierluigi Coppola*
Real-time Bridge Overload Risk Management using Machine Learning *Roberto Ventura, Giulio Maternini, Benedetto Barabino*
Application of reverse logistics models for the optimization of the circular economy in road construction *Francesca Maltinti, Chiara Garau, Massimo Di Francesco, Mauro Coni*
The opportunities of vehicle retrofitting in the freight urban distribution with zero-emission commercial hydrogen vehicles. A case study *Giuseppe Napoli, Salvatore Micari, Oleisa Hriekova, Antonio Comi*

12:30 - 13:30 | Parallel sessions

Sustainability in transport (2)	
Room: Gardenia	
Chair: Umberto Crisalli	
12:30 – 12:45	How can sustainable mobility interventions be assessed into the framework of urban projects? An experimental analysis *Francesco Piras, Italo Meloni, Nicola Miscali, Benedetta Rubattu*
12:45 – 13:00	The environmental sustainability of transport chains *Daniel Mark Vitiello, Gianfranco Fancello, Patrizia Serra*

Thanks to:

13:00 – 13:15	Analysis of the willingness to shift to electric vehicles: critical factors and perspectives *Antonio Comi, Umberto Crisalli, Olesia Hriekova, Alessandro Palmoni*
13:15 – 13:30	Traffic control measures for the improvement of the private road transport environmental impact *Andrea Gemma, Tina Onorato and Ernesto Cipriani*

Poster session: Mobility and traffic
Room: Begonia + Azalea
Chair: Eleonora Sottile
Factors Impacting Shared Micro-Mobility in Rome: Spatio-Temporal Analysis via Data Mining with GBFS *Giovanni Tuveri, Eleonora Sottile, Raffaele Loi*
An equity indicator for vehicle relocation in shared micromobility systems *Simona De Bartolomeo, Leonardo Caggiani, Michele Ottomanelli*
Analyzing the individual factors determining the usage duration of an active GPS tracker app with the Exponentiated Discrete Weibull Distribution Model *Massimiliano Bez, Eleonora Sottile, Tariq Naveed*
Virtual reality for assessing cycling propensity in hypothetical physical infrastructure project scenarios *Eleonora Sottile, Lorenzo Matta, Andrea Manunza, Emanuel Muroni*
A general framework for the assessment of trade-offs among multiple design objectives in price-based congestion management schemes *Ennio Cascetta, Marcello Montanino*
Evaluating merge strategies for efficient traffic management at on-ramps *Mario Marinelli, Nadia Giuffrida, Salvatore Viscio, Mario Binetti, Roberta Di Pace, Franco Filippi, Stefano de Luca*
A Hybrid Traffic Flow Model for Large-Scale Applications in the Federated Networks Context *Tesone A., Imran W., Storani F., Di Pace R., Pariota L., de Luca S., Bifulco G. N.*
Enhancing Policy Evaluation of Road Network Interventions - A Framework for Modeling Uncertainty in Traffic Flow Data *Riccardo Ceccato, Gregorio Gecchele, Armando Caprini, Riccardo Rossi, Massimiliano Gastaldi*
Logistics facilities location choice modelling: effects of zoning regulation and constraints *Valentina Rizzello, Francesco Paolo Nanni Costa, Luca Mantecchini, Caterina Malandri*
A rapid diagnosis system for the analysis and control of traffic areas *Chiara Colombaroni, Gaetano Fusco, Mohadeseh Pasha, Natalia Isaenko*
Activity-based demand models estimated using innovative smart-app tools *Marco Trolese, Pierluigi Coppola*
Analysis, characterization and modeling of drivers charging preferences in an urban public network *Francesca Bruno, Stefano de Luca, Maria Pia Valentini, Valentina Conti, Natascia Andrenacci*
A Comparative Analysis of Econometric and Machine Learning Models for Predicting Fare Evasion Frequency: A Case Study in Cagliari, Italy *Roberto Ventura, Giulio Maternini, Alessandro Olivo, Massimo di Francesco, Benedetto Barabino*
Integrated micro and macro simulation of multimodal hubs *Luigi Castagna, Fulvio Silvestri, Pierluigi Coppola*

13:30 – 15:00 | Light lunch

15:00 – 16:30 | Parallel sessions

Local Public Transport	
Room: Begonia	
Chair: Francesco Russo	
15:00 – 15:15	Normal or new normal? Impacts of COVID-19 pandemic on the users' public transport perceived quality *Ilaria Henke, Armando Cartenì, Laura Eboli, Antonella Falanga, Gabriella Mazzulla*
15:15 – 15:30	Contract models for public transport services: An application to the case of the Province of Foggia *Marilisa Botte, Francesca Iannicelli, Luca D'Acierno*
15:30 – 15:45	A new methodology for the definition of the LAS for the urban public transport *Stefano Carrese, Andrea Gemma, Marco Petrelli*
15:45 – 16:00	Demand-responsive Services for People and Freight: An Analysis of the Best Practices *Samuele Ennas, Mauro Coni, Francesco Contu, Massimo Di Francesco, Chiara Garau, Enrico Gorgone, Francesca Maltinti*
16:00 – 16:15	Design, implementation and monitoring of a Demand Responsive Transport service for student night leisure transfers: The case study of University of Trieste *Caterina Caramuta, Alessia Grosso, Giovanni Longo, Chiara Ricchetti, Lucia Rotaris*
16:15 – 16:30	Evaluation of tourist accessibility through multimodal cycling-public transport in the metropolitan area *Fulvio Morgese, Simona De Bartolomeo, Mario Binetti, Leonardo Caggiani*

Traffic data and modeling	
Room: Gardenia	
Chair: Roberta Di Pace	
15:00 – 15:15	Data-driven investigation of traffic spatial correlation through functional data analysis *Fulvio Simonelli, Fabio Centofanti, Antonio Lepore, Luigi Pariota, Vittorio Marzano, and Biagio Palumbo*
15:15 – 15:30	Large-Scale Microscopic Traffic Demand Generation Modelling: A Literature Review and Application of Potential Approaches *Ngoc An Nguyen, Joerg Schweizer, Federico Rupi*
15:30 – 15:45	Variance-Based Sensitivity Analysis for a Dynamic Traffic Model Calibration *Natalia Isaenko, Filippo Carrese, Chiara Colombaroni, Gaetano Fusco, Zahra Lahijanian*
15:45 – 16:00	Multi-source methodology for traffic analysis zones definition based on combined floating car and remote sensing data *Marisdea Castiglione, Federico Gallo, Martina Pastorino, Gabriele Moser, Marialisa Nigro, and Nicola Sacco*
16:00 – 16:15	Exploiting floating car data for adjusting the charging demand of electric vehicles in cities *Lorenzo Sica, Francesco Deflorio, Angela Carboni*

Thanks to:

| 16:15 – 16:30 | Quantifying the Impact of Traffic Sensor Settings on Short Period Traffic Count Data Quality |
| | *Gregorio Gecchele, Riccardo Ceccato, Armando Caprini, Riccardo Rossi, Massimiliano Gastaldi* |

16:30 – 17:00 | **Coffee break**

17:00 – 17:30 | **Plenary lecture** (Room: Begonia + Azalea): Prof. Elisabetta Cherchi (Newcastle University) - "*Modeling behavior in travel choices: what future research developments*"

17:30 – 18:30 | **Plenary session** (Room: Begonia + Azalea): Prof. Ennio Cascetta presents his book "*La rivoluzione della mobilità sostenibile parte dalle autostrade – sicure, digitali, decarbonizzate*"

Round table with Ennio Cascetta, Bruno Dalla Chiara, Gabriella Mazzulla, Italo Meloni, Stefano Carrese

20:30 | **Gala dinner**

Friday, June 14, 2024

08:30 - 09:15 | **Registration**

09:15 - 10:00 | **Parallel sessions**

MAAS	
Room: Begonia	
Chair: Italo Meloni	
09:15 – 09:30	Mobility as a Service: insights from three pilot studies across different Italian settings
	Italo Meloni, Giuseppe Musolino, Francesco Piras, Corrado Rindone, Francesco Russo, Eleonora Sottile, Antonino Vitetta
09:30 – 09:45	Mobility-as-a-Service (MaaS) for university communities: evidences from two Italian case studies
	Fulvio Silvestri, Ilaria Delponte, Valentina Costa, Luca Pastorelli and Pierluigi Coppola
09:45 – 10:00	Exploring factors influencing the adoption of Mobility-as-a-Service (MaaS) in Sardinia
	Francesco Piras, Ricardo Daziano, Gianfranco Fancello, Eleonora Sottile

Technical-economic evaluations for transport systems	
Room: Gardenia	
Chair: Federico Rupi	
09:15 – 09:30	Towards the electrification of private and corporate vehicles: technical-economic break-even between recharging and refuelling *Valterio Grilletti, Bruno Dalla Chiara, Ezio Spessa, Michela Pellicelli*
09:30 – 09:45	From skepticism to support: exploring the evolution of user acceptability and willingness-to-pay for Autonomous Vehicles (AVs) bus services *Armando Cartenì, Mariarosaria Picone*
09:45 – 10:00	Macroscopic economic feasibility analysis of PRT networks based on capacity limited demand estimations *Joerg Schweizer, Giacomo Bernieri, Federico Rupi*

10:00 – 11:00 | Parallel sessions

Innovation in transport	
Room: Begonia	
Chair: Mariano Gallo	
10:00 – 10:15	Analysis of the impact of CAVs platoon breakdown in mixed traffic flow *Xuelian Wu, Maria Nadia Postorino and Luca Mantecchini*
10:15 – 10:30	Enhancing CCAM services Deployment: Augmented Co-Simulation Framework *Andrea Marchetta, Angelo Coppola, Gennaro Nicola Bifulco*
10:30 – 10:45	Devising a PKI solution for CCAM deployment on highways *Andrea Marchetta, Angelo Coppola, Dario Ferrillo, Claudio Miccio, Gennaro Nicola Bifulco*
10:45 – 11:00	Optimal location of refuelling stations for hydrogen-powered freight vehicles *Mariano Gallo*

Investigating safety and human factors in transport systems	
Room: Gardenia	
Chair: Riccardo Rossi	
10:00 – 10:15	Exploring Driving Fatigue in European professional taxi, bus and truck drivers *Usami Davide Shingo*
10:15 – 10:30	Calibration of stress, fatigue and productivity measures for port crane operators *Daniel Mark Vitiello, Mattia Porta, Patrizia Serra, Gianfranco Fancello*
10:30 – 10:45	Being safe in both simulated and real-world environments? A full immersion Virtual Reality training method for young pedestrians *Andrea Baldassa, Federico Orsini, Massimiliano Gastaldi, Riccardo Rossi*
10:45 – 11:00	Incorporating human factors in car-following models: a model credibility assessment framework *Vincenzo Punzo, Davide Iannelli, Andrea Saltelli, Marcello Montanino*

11:00 - 11:30 | Coffee break

Thanks to:

11:30 - 12:30 | Parallel sessions

Freight transport	
Room: Begonia	
Chair: Angela Di Febbraro	
11:30 – 11:45	Managing freight transport in multi-modal networks considering the Physical Internet framework *Federico Gallo, Alireza Shahedi, Mahnam Saeednia, Angela Di Febbraro, and Nicola Sacco*
11:45 – 12:00	How much freight is really transported on our roads? A data-driven estimate of freight road transport demand in Italy *Vittorio Marzano, Fulvio Simonelli, Francesco Grasso, Daniela Tocchi, Ennio Cascetta*
12:00 – 12:15	A new freight transport incentive to achieve modal shift targets: methodology and application to Italy *Fulvio Simonelli, Claudio Sterle, Adriano Masone, Daniela Tocchi, Fiore Tinessa, Andrea Mancuso, Andrea Papola, Vittorio Marzano*
12:15 – 12:30	The role of the global chokepoints in reshaping the supply chain: controversial implications of the Red Sea crisis on the Port of Trieste *Giuseppe Borruso, Caterina Caramuta, Andrea Gallo, Alessia Grosso, Giovanni Longo*

Traffic modeling and management	
Room: Gardenia	
Chair: Gaetano Fusco	
11:30 – 11:45	Dynamic Variable Speed Limit Control on Motorway Networks *Saeed Mansouryar, Chiara Colombaroni, Gaetano Fusco, Natalia Isaenko, Kaveh Shojaei*
11:45 – 12:00	Calibration of Hybrid Traffic Flow Model: methods analysis and comparison *Facundo Storani, Roberta Di Pace, Shi-Teng Zheng, Rui Jiang*
12:00 – 12:15	Real-time feedback systems for Manage-How-You-Drive insurance schemes: analysis on effectiveness and retention *Federico Orsini, Giulia De Ceta, Francesca Freuli, Leandro L. Di Stasi, Mariaelena Tagliabue, Massimiliano Gastaldi, Riccardo Rossi*
12:15 – 12:30	On minimizing the impact on traffic of maintenance work zones in a highway network *Mohammad Abbasi, Muhammad Tabish Bilal, Alice Consilvio, Davide Giglio, Paula Lopez Arevalo*

12:30 - 13:15 | Parallel sessions

Rail transport	
Room: Begonia	
Chair: Luca D'Acierno	
12:30 – 12:45	Resilience indicators in the case of railway transportation systems: An application to the case of Line 1 of the Naples metro system *Luca De Matteis, Marilisa Botte, Rosario Stefanelli, Luca D'Acierno*

Thanks to:

12:45 – 13:00	Innovations in on-board and wayside condition monitoring systems to support railway business *Riccardo Licciardello, Cristiana Piccioni, Cristiano Marinacci, Sina S. Arabani, Miad Farokhsiar, Stefano Ricci, Anna Maria Gisario, Nicola Roveri*
13:00 – 13:15	Next-generation freight intermodal trains: an effective way to increase rail share and sustainability of inland transportation *Claudia Caballini, Simona Gurrì, Erika Olivari, Bruno Dalla Chiara*

Last Mile Logistics	
Room: Gardenia	
Chair: Marino Lupi	
12:30 – 12:45	A new last mile freight transport system based on platoons of automated vehicles and dynamic management of split up locations *Marino Lupi, Daniele Conte, Alessandro Farina*
12:45 – 13:00	Assessment of possible last-mile logistics configurations using drones in the mountain context: A case study in the North-Eastern Italy *Caterina Caramuta, Alessia Grosso, Giovanni Longo*
13:00 – 13:15	Exploring Heuristic Algorithms to Solve the Traveling Salesman Problem for Real-world Applications *Nicola Ippolito, Guido Gentile, Lory Michelle Bresciani Miristice*

13:30 – 15:00 | Light lunch

Thanks to:

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