

# RSS 2022 Conference Final Programme

## RSS 2022

8th Road Safety & Simulation International Conference

### Road Safety and Digitalization

[www.nrso.ntua.gr/rss2022](http://www.nrso.ntua.gr/rss2022)

 **08-10 June, 2022**

 **Zappeion Megaron, Athens, Greece**

Co-organised by:

Under the auspices:



National Technical  
University of Athens



Hellenic Institute of  
Transportation Engineers



HELLENIC REPUBLIC  
MINISTRY OF INFRASTRUCTURE AND TRANSPORT



CITY OF  
ATHENS



**Kostas Karamanlis**

Minister of Infrastructure and Transport

*"Road Safety is a high priority of our Government and of the Prime Minister. At the Ministry of Infrastructure and Transport, we developed a new strategy for the decade and with serious and steady efforts we make Greek roads safer for all. Based on scientific evidence, we implement the most efficient road safety measures transforming Greece towards the zero vision fatalities by 2050."*



**Kostas Bakoyannis**

Mayor of Athens

*"We welcome in Athens all road safety scientists from around the world and we support the discussions on technological and innovative road safety solutions. In City of Athens we are implementing an integrated sustainable urban mobility plan with road safety as key component, regaining public space for safe traffic of all road users and specially the pedestrians and cyclists."*



**Fabrizio D'Amico**

Professor, University Roma Tre

*"The 8th Edition of the Road Safety and Simulation Conference demonstrates a continuous success of road safety scientists contributing since 2007, innovative ideas highly useful to the society. RSS is a unique platform for exchange of scientific knowledge, by experts from all continents, paving the way towards safer roads in the new digital and automation era."*



**George Yannis**

Professor, NTU Athens

*"At the RSS 2022 in Athens we are shaping the future of road safety with emerging technologies, big data and connected & automated traffic, micro-simulation and driving simulation, naturalistic driving and human factors, including vulnerable road users and safety modeling and infrastructure management. Road safety science is the key to vision zero fatalities."*



**Panagiotis Papantoniou**

Chairman Hellenic Institute of Transportation Engineers

*"Greek Transportation Engineers have always been frontrunners in supporting road safety development in Greece and globally. With high expertise and dedication we manage appropriate data, we carry out state-of-the-art analyses, we prioritise effective road safety solutions and we support and monitor efficient implementation of customized measures with high impact to society."*

## Conference Programme Outline

Time		Event	Tuesday 7 June 2022	Wednesday 8 June 2022			Thursday 9 June 2022			Friday 10 June 2022		
08:00	09:00	Registration	Registration	Registration			Registration			Registration		
09:00	11:00	Sessions	Workshops	Session 1	Session 2	Session 3	Session 10	Session 11	Session 12	Session 19	Session 20	Session 21
11:00	11:30	Coffee Break		Coffee Break			Coffee Break			Coffee Break		
11:30	13:00	Plenary		Opening - Keynote 1			Keynote 2 - Panel Discussion			Keynote 3 - Awards		
13:00	14:00	Lunch		Lunch			Lunch			Lunch		
14:00	16:00	Sessions		Session 4	Session 5	Session 6	Session 13	Session 14	Session 15	Session 22	Session 23	Session 24
16:00	16:15	Coffee Break		Coffee Break			Coffee Break					
16:15	18:15	Sessions		Session 7	Session 8	Session 9	Session 16	Session 17	Session 18			
18:30 / 20:00		Social Event		Welcome Reception			Conference Gala Dinner					

## Conference Topics

<b>Room 4</b> <ul style="list-style-type: none"> <li>• <b>Big Data</b> (<a href="#">Session 1</a> - <a href="#">Session 4</a> - <a href="#">Session 7</a>)</li> <li>• <b>Connected and Automated vehicles</b> (<a href="#">Session 10</a> - <a href="#">Session 13</a> - <a href="#">Session 16</a>)</li> <li>• <b>Microsimulation</b> (<a href="#">Session 19</a> - <a href="#">Session 22</a>)</li> </ul>	<b>Room 5</b> <ul style="list-style-type: none"> <li>• <b>Driving Simulation</b> (<a href="#">Session 2</a> - <a href="#">Session 5</a>)</li> <li>• <b>Naturalistic Driving</b> (<a href="#">Session 8</a> - <a href="#">Session 11</a>)</li> <li>• <b>Vulnerable road users' safety</b> (<a href="#">Session 14</a> - <a href="#">Session 17</a>)</li> <li>• <b>Human Factors</b> (<a href="#">Session 20</a> - <a href="#">Session 23</a>)</li> </ul>	<b>Room 6</b> <ul style="list-style-type: none"> <li>• <b>Safety Modelling</b> (<a href="#">Session 3</a> - <a href="#">Session 6</a> - <a href="#">Session 9</a> - <a href="#">Session 12</a>)</li> <li>• <b>Roadway Infrastructure</b> (<a href="#">Session 15</a> - <a href="#">Session 18</a>)</li> <li>• <b>Emerging Technologies</b> (<a href="#">Session 21</a> - <a href="#">Session 24</a>)</li> </ul>
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## Conference Detailed Programme

Workshops Day / Tuesday, 7 June 2022		
08:00- 09:00	Registrations	
09:00 - 13:00	Workshops	
	Zappeion Megaron	i-Dreams Workshop: Safety Tolerance zone calculation and interventions for driver – vehicle – environment interactions under challenging conditions (Room 3)
11:00-11:20	Coffee Break	
	Zappeion Megaron	i-Dreams Workshop (Continued)
12:30 - 13:30	Lunch	
13:00 - 15:00	Workshops	
	Zappeion Megaron	Levitate Workshop: Societal Level Impacts of Connected and Automated Vehicles (Room 3)
14:45 - 15:00	Coffee Break	
15:00 - 18:00	Workshops	
	Zappeion Megaron	Aimsun Microsimulation Training Course: Aimsun Next Pedestrian Simulator for Modeling Mobility (Room 3)

## Day 1 / Wednesday, 8 June 2022

08:00- 09:00 Registrations

09:00 - 11:00 Sessions

Room 4	<b>Session 1: Big Data (1/3)</b> A.Laureshyn	239	Exploring the Impact of Truck Traffic on Road Segment-based Severe Crash Proportion using Extensive Weigh-in-Motion Data	Chuan Xu, Kaan Ozbay, Hongling Liu, Kun Xie and Di Yang
		226	Towards ML-based real-time traffic simulation	Ferran Torrent, Javier Frade and Jordi Casas
		126	A Survival Analysis with Random Parameter Approach for Assessing Temporal Instability in Treatment Effect	Di Yang, Kaan Ozbay, Kun Xie and Hong Yang
		215	The effect of speed limits on accident frequency on the German Autobahn - A causal machine learning approach	Maike Metz-Peeters
		4	Using Complementary Intersection and Segment Analyses to Identify Crash Hot Spots	Grant Schultz, Camille Lunt, Timo Pew and Richard Warr
	<b>Session 2: Driving Simulation (1/2)</b> F.D'Amico	3	A Driving Simulator Study to Evaluate the Effects of Different Types of Median Separation on Driving Performance on 2+1 Roads	Alessandro Calvi, Salvatore Damiano Cafiso, Carmelo D'Agostino, Mariusz Kieć and Gianmarco Petrucci
		18	Analyzing Speed Choice Near Pedestrian Crossing Treatments	Jorge Ugan, Mohamed Abdel-Aty and Qing Cai
		135	Relationships between oncoming traffic intensity, subjective predictions about oncoming traffic, and intentions to overtake	Sarah Schlichtherle and Rainer Höger
		165	Correlation between clinical tests and driving simulator performance of commercial drivers in the United States.	Shelley Bhattacharya, Hannes Devos, Corinna Lemke, Chase Branstetter and Abiodun Akinwuntan
		59	Enhancing Driver Monitoring Systems using Peripheral Cardiac Signals	Lourenço A. Rodrigues, André Lourenço, Pedro Costa, Carlos Carreiras and Ana Fred
	<b>Session 3: Safety Modelling (1/4)</b> A.Tarko	33	Improving Safety Performance Function Model Fit Using Exploratory Regression Techniques	Eric Green, Reg Souleyrette, Riana Tanzen and Arnold Stromberg
		224	Issues in Developing and Applying Crash-Conflict Models	Thanushan Rajeswaran, Bhagwant Persaud and Alireza Jafari Anarkooli
		83	Road Network Inconsistency based Models for Macro-level Safety Evaluation	Shilpa Nair and B. K. Bhavathrathan
		238	Incorporating Crash Severity to Improve Highway Safety Project Prioritization	Riana Tanzen, Reginald Souleyrette, Teng Wang and William Staats
		196	The impact of traffic flow distribution over arms at junctions on crash risk	Evita Papazikou, Athanasios Theofilatos, Apostolos Ziakopoulos, Ashleigh Filtness, Claire Quigley and Eleonora Papadimitriou

11:00 - 11:30 Coffee Break

## Day 1 / Wednesday, 8 June 2022

11:30 - 13:00 Plenary

Room 4

**Opening:** Kostas Karamanlis (Minister of Infrastructure and Transport), Kostas Bakoyannis (Mayor of Athens), Vasileios Kostoulas (Traffic Police Director)  
**NTU Athens:** Prof. Andreas Boudouvis (Rector of NTU Athens), Prof. Nikos Lagaros (Dean at the School of Civil Engineering)  
**Conference Chairs:** Prof. George Yannis (NTU Athens), Prof. Fabrizio D'Amico (URoma Tre), Asst. Prof. Panagiotis Papantoniou (HITE)  
**Keynote:** Global Challenges in Road Safety, David Ward, Global NCAP, Executive President of the Towards Zero Foundation

13:00 - 14:00 Lunch

14:00 - 16:00 Sessions

Room 4

Session 4: Big Data (2/3) E.Vlahogianni	185	Exploring Transferability of Real-time Crash Prediction Models using Transfer Learning under Imbalanced Data Setting	Cheuk Ki Man, Akis Theofilatos and Mohammed Quddus
	24	Analysis of Hurricane Evacuation Data by Vehicle Classification	Katerina Koliou, Evangelos Kaisar and Scott Parr
	51	Methodology for the Evaluation of Safety Interventions	Eva Michelaraki, Christos Katrakazas, Ashleigh Filtness, Rachel Talbot, Graham Hancox, Chiara Gruden, Ariane Cuenen, Kris Brijs, Tom Brijs and George Yannis
	20	Causal Analysis and Classification of Traffic Crash Injury Severity Using Machine Learning Algorithms	Meghna Chakraborty, Timothy J. Gates and Jhelum Chakravorty
	244	Crash Data Analysis & Prediction in Zimbabwe: An Application of ARIMA Models	Cliford Gobo and Thabani Nyoni

Room 5

Session 5: Driving Simulation (2/2) D.Hurwitz	102	Validation of an Eye-Tracking System for Use in Driving Simulator Research	Fabrizio D'Amico, Alessandro Calvi, Chiara Ferrante and Luca Bianchini Ciampoli
	233	The effectiveness of an intelligent speed assistance system with real-time speeding interventions for truck drivers: a Belgian simulator study	Bart De Vos, Ariane Cuenen, Veerle Ross, Hélène Dirix, Kris Brijs and Tom Brijs
	90	Analyzing driver eye movements to investigate the impact of distraction on driving behaviour	Roja Ezzati Amini, Christelle Al Haddad, Debapreet Batabyal, Alyssa Ryan, Isidora Gkena, Bart De Vos, Ariane Cuenen, Tom Brijs and Constantinos Antoniou
	242	Analyzing ADHD and NonADHD Driver Differences in City vs. Rural Simulated Driving Environments	Melissa Paciulli, Song Gao, Michael Knodler, Tracy Zafian and Donald Fisher
	63	Mental Workload Influence of Drivers Reaction Time on Unexpected Events: A Driving Simulation Study	Anna Poulidou, Fotini Kehagia, Evangelos Bekiaris, Magdalini Pitsiava-Latinopoulou and Georgios Poullos
	160	Exploring the Relationship Between Early Drinking Patterns and Vehicle Control Measures in Driving Simulation Among Sober Young Adults	Barbara Banz, Jia Wu, Michael Crowley, Deepa Camenga and Federico Vaca

Room 6

Session 6: Safety Modelling (2/4) B.Persaud	180	Estimating the Conflict-Crash Relationship	Andrew Tarko
	240	Safety Performance Functions for Two-Lane Urban Arterial Segments	Bekir Bartin, Kaan Ozbay and Chuan Xu
	220	A real-time crash risk estimation framework for signalized intersections	Yasir Ali, Md. Mazharul Haque and Simon Washington
	178	Overtaking Trajectory Assessment Utilizing Data from Driving Simulator	Vassilios Matragos, Stergios Mavromatis, Konstantinos Apostoleris, Alexandros Alvertis and Giorgos Chatzieleftheriou
	211	Evaluating Individual Heterogeneity in the Probability of Crash Involvement	Mariane Bobermin and Sara Ferreira
	234	Economic and social costs of traffic crashes in Saudi Arabia	Saif Alarifi, Khalid Alkahtani and Miasem Bajowaiber

16:00-16:15 Coffee Break

## Day 1 / Wednesday, 8 June 2022

16:15-18:15 Sessions						
	Room 4	Session 7: Big Data (3/3) K.Ozbay	216	The usefulness of Artificial Intelligence in safety assessment of different transportation modes	Dimitrios Tselentis, Eleonora Papadimitriou and Pieter van Gelder	
			81	Modeling the concept of a Safety Tolerance Zone: State-of-the-art and proposed alternatives	Eva Michelaraki, Christos Katrakazas, Amir Pooyan Afghari, Eleonora Papadimitriou, Christelle Al Haddad, Kui Yang, Constantinos Antoniou, Tom Brijs and George Yannis	
			217	An extrapolation method on European accident data based on weighting and data harmonization	Albine Chanove, Maria Pohle, Martin Urban and Jorge Lorente Mallada	
			183	Towards Risk-based Safety Management: A Pilot Study for Rural Freeways	Raul Pineda-Mendez, Qiming Guo and Andrew Tarko	
			39	Exploring critical driving parameters affecting speeding using data from smartphones	Dimosthenis Marios Tzoutzoulis, Armira Kontaxi, Apostolos Ziakopoulos and George Yannis	
	Room 5	Session 8: Naturalistic Driving (1/2) A.Ryan	171	Changes in Intersection Scanning Behavior Due to Intersection Collision Warning Systems	Shauna Hallmark, Neal Hawkins, Raju Thapa and Skylar Knickerbocker	
			188	Design of an on-road driving experiment on assessing driving behaviour of older drivers	Dimosthenis Pavlou, Petros Fortsakis and George Yannis	
			42	Modelling risky driving behaviours of professional drivers under the operation of Advanced Driver Assistance Systems	Ioanna Spyropoulou, Georgios Laskaris, Dimitris Sermis and Fanis Papadimitriou	
			54	Identifying crucial factors of the impact of COVID-19 on driving behaviour using feature analysis on naturalistic driving data	Marios Sekadakis, Christos Katrakazas, Eva Michelaraki, Apostolos Ziakopoulos and George Yannis	
			169	Speed pedelecs for commuting - a field trial	Nina Senitschnig, Philipp Blass, Veronika Zuser, Christoph Breuer, Eveline Braun and Aggelos Soteropoulos	
			167	Correlation of declared and revealed driver behaviour using smartphone sensors	Konstantina Kokkali, Apostolos Ziakopoulos, Armira Kontaxi and George Yannis	
	Room 6	Session 9: Safety Modelling (3/4) V.Psarianos	254	Identification of evasive action in traffic interactions and conflicts	Carl Johnsson and Aliaksei Laureshyn	
			19	Estimating the Safety Effects of Raising Speed Limits on Rural Freeways in Ohio	Deogratias Eustace, Oluwaseun Olufowobi, Peter Hovey and Philip Appiah-Kubi	
			43	Exploratory Assessment of Road Traffic Crashes on the Intercity Expressway in India	Laxman Singh Bisht, Geetam Tiwari, Kalaga Ramachandra Rao and K. N. Jha	
			30	Identification of safety-critical events on rural roads using a driving simulator	Akrivi Varela, Christos Katrakazas and George Yannis	
			177	Hazard Assessment of Intersections on Rural Undivided Highways	Vassilios Matragos, Konstantinos Apostoleris, Fotis Mertzanis, Panagiotis Pasias and Stergios Mavromatis	
18:30 Welcome Reception at Zappeion Megaron						

Day 2 / Thursday, 9 June 2022					
08:00- 09:00		Registrations			
09:00 - 11:00		Sessions			
	Room 4	Session 10: Connected and Automated vehicles (1/3) V.Sisiopiku	87	A Quantitative Method to Determine What Collisions Are Reasonably Foreseeable and Preventable	Erwin de Gelder and Olaf Op den Camp
			98	Analysis of an advanced driver-assistance system to improve safety of cyclists overtaking by driver characteristics	Filomena Mauriello, Tom Brijs, Alfonso Montella, Francesco Galante, Kris Brijs and Veerle Ross
			155	Determining Region of Influence of Ego-Vehicle on Roadways for Vehicle Decision Making	Wushuang Bai, Srivenkata Satya Prasad Maddipatla, Evan Pelletier, Liming Gao and Sean Brennan
			245	Environmental Impacts of Connected and Automated Vehicles Considering Traffic Flow and Road Characteristics	Saad Roustom, Adam Weiss and Yasser Hassan
			243	Internet of Things and Road Safety: Challenges and Opportunities for Africa	Cliford Gobo and Thabani Nyoni
	Room 5	Session 11: Naturalistic Driving (2/2) A.Calvi	222	Risk factors, monitoring techniques, and intervention strategies: experiences and lessons from different transport sectors	Amir Pooyan Afghari, Eleonora Papadimitriou, Sally Maynard, Rachel Talbot, Ashleigh Filtness and Geert Wets
			22	Discovering the influence of feedback on driver behavior through a multiphase experiment based on a smartphone application	Armira Kontaxi, Apostolos Ziakopoulos and George Yannis
			74	Association of Crash Potential of Powered Two Wheelers (PTW) with the State of Traffic Stream	Suvin P. Venthuruthiyil, Shivasai Samalla and Mallikarjuna Chunchu
			77	Investigating the impacts of COVID-19 pandemic on Eco-driving behavior	Eleni Mantouka, Panagiotis Fafoutellis, Eleni Vlahogianni and Petros Fortsakis
			247	Braking Behavior Profiling of Professional Car Drivers using Instrumented Vehicle Data	Jahnvi Yarlagadda and Digvijay S. Pawar Pawar
			14	Which driving performance parameters affect speeding. A naturalistic driving experiment	Panagiotis Papantoniou, Christina Gonidi, Armira Kontaxi and George Yannis
	Room 6	Session 12: Safety Modelling (4/4) M.Tešić	34	A state-of-the-art Review on Crash Occurrence Analysis and Hazardous Location Identification	Paola Tiberi, Antonino Tripodi, Anastasios Dragomanovits, Katerina Deliali and George Yannis
			110	Modelling Probability of Critical Crossing Conflicts at Unsignalized Intersections under Mixed Traffic Conditions	Aninda Bijoy Paul, Ninad Gore, Shriniwas Arkatkar and Gaurang Joshi
			116	The Causal Effect of Citywide Speed Limit Reduction on Crash Risk	Guocong Zhai, Kun Xie and Di Yang
			186	How environmental charging policies affect urban road safety?	Virginia Petraki, Panagiotis Papantoniou and George Yannis
			176	Retroreflection Performance of Urban Road Signs	Vassilios Matragos, Stergios Mavromatis, Georgia Kaperoni and Odysseas Mavrodimos
11:00 - 11:30		Coffee Break			

## Day 2 / Thursday, 9 June 2022

11:30 - 13:00 Plenary

Room 4	<p><b>Keynote:</b> Novel Approaches in Safety R&amp;D: Co-Simulation, AI, Big Data &amp; Computer Vision Applications, Prof. <b>Mohamed Abdel Aty</b>, Leader of the Future Safety Initiative, University of Central Florida, US</p> <p><b>Panel Discussion:</b> Road Safety at the Digital Era, Prof. <b>Pete Thomas</b> (ULoughborough), Prof. <b>Andrew Tarko</b> (UPurdue), Asst. Prof. <b>Eleonora Papadimitriou</b> (TU Delft), Assoc. Prof. <b>Alessandro Calvi</b> (URoma Tre), Prof. <b>Nikiforos Stamatiadis</b> (UKentucky)</p>
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13:00 - 14:00 Lunch

14:00 - 16:00 Sessions

Room 4	<b>Session 13: Connected and Automated vehicles (2/3)</b> T.Brijs	65	A Statistics and Reaction Time based Framework for Impact Prediction of Automated Vehicles on Road Safety of Vulnerable Road Users	Andreas Hula, Rins de Zwart, Celina Mons, Wendy Weijermars, Hitesh Boghani and Pete Thomas
		141	Boxes-based Representation and Data Sharing of Road Surface Friction for CAVs	Liming Gao, Craig Beal, Wushuang Bai, Satya Prasad Maddipati, Cindy Chen, Kshitij Jerath, Hossein Haeri, Lorina Sinanaj and Sean Brennan
		253	The impact of a dedicated lane for connected and automated vehicles on the behavior of drivers of manual vehicles	Solmaz Razmi Rad, Haneen Farah, Henk Taale, Bart Van Arem and Serge Hoogendoorn
		10	Short Term Future Proofing Strategies for Local Agencies to Prepare for Connected and Automated Vehicles	Shauna Hallmark, Jonathan Wood, David Veneziano and Theresa Literal
		168	Methodological framework of creating the Levitate Policy Support Tool for Connected and Automated Transport Systems	Apostolos Ziakopoulos, Julia Roussou, Amna Chaudhry, Hitesh Boghani, Hu Bin, Martin Zach, Maria Oikonomou, Knut Veisten, Knut Johannes Liland Hartveit, Eleni Vlahogianni, Pete Thomas and George
Room 5	<b>Session 14: Vulnerable road users' safety (1/2)</b> E.Papadimitriou	230	Using Microsimulation to Investigate the Optimal Deployment of Leading Pedestrian Intervals at Signalized Intersections	Maryam Hasanpour and Bhagwant Persaud
		44	Evaluation of Bicyclist Physiological Response and Visual Attention in Commercial Vehicle Loading Zones	Hisham Jashami, Ivan Sinkus, Douglas Cobb, Yujun Liu and David Hurwitz
		85	Predicting Bicyclist Maneuvers using Explicit and Implicit Communication	Georgios Grigoropoulos, Patrick Malcolm, Andreas Keler, Fritz Busch and Klaus Bogenberger
		175	Analysis of Walking Speeds and Success Rates on Mid-Block Crossings using Virtual Reality Simulation	Alberto Figueroa-Medina, Didier Valdés-Díaz, Benjamin Colucci-Ríos, Natacha Cardona and Andrés Chamorro
		219	Assessing the Impact of Three Intersection Treatments on Bicyclist Safety Using a Bicycling Simulator	Logan Scott-Deeter, David Hurwitz, Brendan Russo, Edward Smaglik and Sirisha Kothuri
		221	Pedestrian's choice at mid phase of green countdown display at signalized intersections	Mohamed Juzaafi, Vasantha Wickramasinghe, Hana Iny and Sunanda Dissanayake
Room 6	<b>Session 15: Roadway Infrastructure (1/2)</b> S.Mavromatis	49	A Guide of Effective Countermeasures for Low Volume Road Fatalities in the Southeast USA	Nikiforos Stamatiadis, Jennifer Weast and Eric Green
		236	An Empirical Assessment on the Effect of Geometry and Non-Geometry Factors in Work zone Crashes with Unobserved Heterogeneity	Mouyid Islam
		79	Safety Evaluation of Urban Roundabouts in India: A Safety Performance Function based Approach	Vinayaraj V S and Perumal Vedagiri
		106	The role of traffic speed in road safety - the case of two-lane rural highways	Konstantinos Apostoleris, Stella Sarma, Basil Psarianos and Stergios Mavromatis
		179	Vehicle Data Collection for Predicting Driving Behavior on Interchanges	Panagiotis Pasias, Vassilios Matragos, Konstantinos Apostoleris, Fotis Mertzanis and Stergios Mavromatis
		26	Road Safety Audit Implementation – an international inquiry	Anastasios Dragomanovits, Ourania Basta, Dimosthenis Pavlou and George Yannis

16:00-16:15 Coffee Break

## Day 2 / Thursday, 9 June 2022

16:15-18:15 Sessions					
20:00	Room 4	Session 16: Connected and Automated vehicles (3/3) A.Chaudhry	197	Users' Perceptions and Attitudes toward Autonomous Vehicle Technologies after Simulation Exposure – A Study across the Lifespan	Virginia Sisiopiku, Wencui Yang, Justin Mason, Brandy McKinney, Seung Woo Hwangbo and Sherrilene Classen
			213	Pedestrians' Understanding of a Fully Autonomous Vehicle's Intent to Stop: Utilizing Video-based Crossing Scenarios (New)	Michal Hochman Gur, Yisrael Parmet and Tal Oron Gilad
			119	Calibrating driver's decision to cross or not during the yellow phase; a microsimulation study	Emmanouil Lilis, Anastasia Nikolaidou, Efthymis Papadopoulos, Ioannis Politis and Panagiotis Papaioannou
			86	Gap Acceptance Behavior at Priority Intersections in Mixed - Human Driven and Automated - Vehicle Traffic	Nagarjun Reddy, Serge Hoogendoorn and Haneen Farah
			250	Research on urgency classification of emergency supplies based on combined method	Jianguo Zhao and Yu Xiao
	Room 5	Session 17: Vulnerable road users' safety (2/2) C.Plati	64	The Demands of Road Environments as Perceived by Vulnerable Road Users	Sophia Vardaki, Anne Dickerson, Ion Beratis, George Yannis and Sokratis Papageorgiou
			246	Investigating Pedestrian Safety-Related Behavior in Developing Countries; Egypt as a Case	Abduallah Bayomi, Mohamed Shawky, Mohamed Okail and Ahmed Osama
			73	Examination of vulnerable road users conflict severity in shared space using a mixed logit model with heterogeneity	Xinyu Liang, Peijie Wu and Xianghai Meng
			46	Evaluation of factors influencing the usage of child car seat for nursery school travel	Ioanna Armouti, Roja Ezzati Amini and Constantinos Antoniou
			210	Analysis of the amniotic fluid impact on the fetus during traffic accidents	Iwona Jatowczyc and Maciej Zawislak
	Room 6	Session 18: Roadway Infrastructure (2/2) N.Stamatiadis	16	A Behavioral Approach to Improving Pedestrian Infrastructure at Intersections	Amy Wyman and David Hurwitz
			25	A state-of-the-art review on Crash Prediction Modelling	Anastasios Dragomanovits, Ourania Basta, Katerina Deliali and George Yannis
			112	Evaluation of Bridge Guardrails for Potential Safety Improvement on Low-Volume Rural Roads in Kansas Using Roadside Safety Analysis Program (RSAP)	Eric Fitzsimmons and Peng Wang
			134	Effects of building a bypass highway on road safety: A case study of a rural road in Serbia	Emir Smailovic, Dalibor Pešić, Boris Antić, Krsto Lipovac and Marija Dotto
			156	How is Traffic Safety Affected by Changes in Traffic Speeds Following Speed Limit Increases?	Nischal Gupta, Megat-Usamah Megat-Johari, Nusayba Megat-Johari, Hisham Jashami and Peter Savolainen
			28	Investigation of Accident Modelling Data in Greece	George Yannis, Dimitrios Nikolaou and Anastasios Dragomanovits

Day 3 / Friday, 10 June 2022							
08:00- 09:00 Registrations							
09:00 - 11:00 Sessions							
	Room 4	Session 19: Micro - simulation (1/2) A.Kondyli	91	An integrated simulation framework to validate a traffic conflict prediction algorithm	Nicolette Formosa, Mohammed Quddus, Alkis Papadoulis and Andrew Timmis		
			99	Safety impact of dedicated lanes for connected and autonomous vehicles – a traffic microsimulation study	Hua Sha, Mohit Kumar Singh, Amna Chaudhry, Rajae Haouari, Mohammed Quddus, Wendy Weijermars, Pete Thomas, Evita Papazikou and Andrew Morris		
			105	Simulation of the Effects of Different Speeds on Road Safety and Car Journey Times in Austria	Veronika Zuser, Marlene Mellauner, Aggelos Soteropoulos, Nina Senitschnig, Alexander Pommer, Ernst Tomasch, Julian Kammerlander, Margarethe Staudner, Benjamin Kigilcim and Marielis Fischer		
			161	Examining Road Safety Impacts of Green Light Optimal Speed Advisory (GLOSA) System	Amna Chaudhry, Rajae Haouari, Athina Tympakianaki, Leyre Nogues, Evita Papazikou, Hua Sha, Mohit Singh, Mohammed Quddus, Wendy Weijermars, Pete Thomas and Andrew Morris		
			228	Assessing the impacts of traffic calming at network level. A multimodal agent-based simulation	Efthychia Zargiannaki, Panagiotis G. Tzouras, Eleni Antoniou, Christos Karolemeas and Konstantinos Kepaptsoglou		
	Room 5	Session 20: Human Factors (1/2) E. Paschalidis	227	The Effects Of Music Background On Hazard Perception Among Young Adult Drivers	Warren Brodsky and Avinoam Borowsky		
			55	Head-turning and Visual Search Behaviors at Intersections with Permissive Signal Phasing: An Eye-Tracker Experiment	Yi-Shih Chung		
			115	Exploring the development of an open data platform for road safety KPIs	Milan Tešić, Katerina Folla and George Yannis		
			129	The role of values in road safety culture: Are motorcycle riders’ higher accident risk a result of their appreciation of freedom ?	Tor-Olav Nævestad, Alexandra Laiou and George Yannis		
			7	Driver performance at horizontal curves: Bridging critical research gaps to increase safety	Alyssa Ryan, Emily Hennessy, Chengbo Ai, Cole Fitzpatrick, Michael Knodler and Wooseong Kwon		
			101	Investigation of traffic and safety behavior of pedestrians while talking on mobile phone	Dimitra Typa, Dimitrios Nikolaou and George Yannis		
	Room 6	Session 21: Emerging Technologies (1/2) I.Spyropoulou	214	Shockwave Detection and Visualization for Rear-End Collision Avoidance	Hironori Suzuki and Takumi Arai		
			195	Identifying E-Scooter Hazard Hotspots	Michael Hardinghaus, Simon Nieland, Rebekka Oostendorp and Jan Weschke		
			199	Driver Foot Behavior with Regenerative Braking	Christopher Rundus, Daniel McGehee and Chris Schwarz		
			231	How Does Training Influence Use and Understanding of Advanced Vehicle Technologies: A Simulator Evaluation of Driver Behaviour & Mental Models	Anuj Pradhan, Apoorva Hungund, Ganesh Pai and Jaji Pamarthi		
			174	Defining Vehicle Passing Trajectories utilizing GNSS Data	Sergios Mavromatis, Vassilios Matragos, Nikolaos-Panagiotis Trantas and Vangelis Zacharis		
			172	User safety attitudes towards Urban Air Mobility	Annitsa Koumoutsidi, Ioanna Pagoni and Amalia Polydoropoulou		
	11:00 - 11:30 Coffee Break						

## Day 3 / Friday, 10 June 2022

11:30 - 13:00 Plenary						
	Room 4	<b>Keynote:</b> - Simulation in Road Safety, Prof. <b>Tom Brijs</b> , Hasselt University & DriveSim Solutions, Belgium <b>Keynote:</b> - Public Transport and Road Safety, <b>Ioannis Golias</b> , Chairman of the Board of Directors of the Athens Urban Transport Organization, Head of the Traffic Engineering Laboratory, NTU Athens <b>RSS2022 Awards Ceremony</b>				
13:00 - 14:00 Lunch						
14:00 - 16:00 Sessions						
	Room 4	<b>Session 22: Micro - simulation (2/2)</b> P.Papantoniou	96	Estimation and safety validation of a roundabout gap-acceptance model in a simulated environment	Evangelos Paschalidis, Albert Solernou, Mohamed Hasan, Gustav Markkula, He Wang and Richard Romano	
			17	Pedestrian behaviour and safety at roundabouts: a comparative study between real and microsimulation outcomes	Chiara Gruden, Irena Ištoka Otković and Matjaž Šraml	
			218	Simulation of individual injury risks with an agent-based transport model	Qin Zhang, Carlos Llorca, Mehmet Baran Ulak, Rolf Moeckel and James Woodcock	
			158	Calibrating Stochastic Traffic Simulation Models for Safety and Operational Measurements Based on Drone Data and Traffic Conflict Distributions	Di Sha, Jingqin Gao, Di Yang, Fan Zuo and Kaan Ozbay	
			103	Assessing Different Freeway Interchange Design Impacts on Traffic Emissions and Fuel Consumptions through Microsimulation	Fayezeh Samandi, Deogratias Eustace, Samwel Zephaniah and Philip Appiah-Kubi	
	Room 5	<b>Session 23: Human Factors(2/2)</b> A.Ziakopoulos	69	Drivers behavior in interchange ramps depending on their age, vehicle type and vehicle age	Antonios Trakakis, Konstantinos Apostoleris and Basil Psarianos	
			149	Examination of Factors Associated with Fault Status and Injury Severity in Intersection-Related Rear-End Crashes: Application of Binary and Bivariate Ordered Probit Models	Brendan Russo, Fan Yu and Edward Smaglik	
			52	Real-Time Monitoring of Driver Distraction: State-of-the-art and future insights	Eva Michelaraki, Christos Katrakazas, Susanne Kaiser, Tom Brijs and George Yannis	
			189	Assessing driving performance of older drivers – A literature review	Dimosthenis Pavlou and George Yannis	
			94	Investigation of critical factors for identifying safety events in urban areas	Fotini Bardi, Christos Katrakazas and George Yannis	
	Room 6	<b>Session 24: Emerging Technologies (2/2)</b> A.Afghari	229	Influence of V-ISA technology on driver behavior along curves with sight limitations	Abrar Hazoor, Alberto Terrafino, Leandro Di Stasi and Marco Bassani	
			136	Modelling Roundabout Capacity using Artificial Neural Networks	Apostolos Anagnostopoulos, Fotini Kehagia and Georgios Aretoulis	
			2	Development of the Effective Voice Warning for Drivers at Open Section	Kouji Yamamoto, Hideki Takahashi, Takashi Yamamoto and Hideki Yazawa	
			113	A review of risk factors associated with elderly, truck and office worker drivers for automated driving applications	Marios Sekadakis, Christos Katrakazas, Erika Santuccio, Peter Mörtl and George Yannis	
			198	Analyzing the Africa Road Safety Action Plan through the SaferAfrica Crowdsourcing tool	Brayan Gonzalez-Hernandez, Davide Shingo Usami and Luca Persia	

## Keynote Speakers



**Prof. Mohamed Abdel Aty**

Trustee Chair, Pegasus Professor and Department Chair

Leader of the Future Safety Initiative

University of Central Florida, US

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\*Novel Approaches in Safety R&D: Co-Simulation, AI, Big Data & Computer  
Vision Applications\*



**David Ward**

Executive President of the Towards Zero Foundation

Global NCAP

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\*Global Challenges in Road Safety\*



**Prof. Tom Brijs**

Hasselt University, Belgium

DriveSimSolutions, CEO

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\*Simulation in Road Safety\*



**Claire Depré**

Head of Road Safety Unit, DG MOVE

European Commission

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\*Road Safety Policy in Europe and beyond \*



**Ioannis Golias**

Chairman of the Board of Directors of the Athens Urban

Transport Organization

Head of the Traffic Engineering Laboratory, NTU Athens

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\*Public Transport and Road Safety\*

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