Κινητικότητα του Μέλλοντος και Ανθεκτικές Μεταφορές: Ο δρόμος προς την Καινοτομία



10th INTERNATIONAL CONGRESS on TRANSPORTATION RESEARCH

Future Mobility and Resilient Transport: Transition to innovation



Final Congress Program

Under the auspices of the Ministry of Infrastructure and Transport



Under the auspices of the Region of South Aegean







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About the organizers

Hellenic Institute of Transport (HIT)



The Hellenic Institute of Transport (HIT) was established in 2000 and is one of the five institutes of the Centre for Research and Technology Hellas (CERTH), which is under the supervision of the General Secretariat for Research and Innovation (GSRI) of the Ministry of Development and Investment. Since its establishment, HIT has evolved towards becoming the leading research institution in transport in Greece. It is also a highly accredited, internationally recognized, and acclaimed research organization that is considered to be a source of innovation and entrepreneurship in the field of transport in Europe and is identified as a Center of Excellence. HIT provides specialized research and technical services and cooperates with local private and public bodies, as well as a large number of other institutions in Europe and all over the world. HIT's Primary objectives are:

- Promoting and conducting advanced research in the transportation field.
- Providing high-level services in the transportation sector.
- Supporting transport innovation.
- Supporting the decision-making process at government level.
- Provision of education and training of scientists and professionals in transport.
- Disseminating and exploiting research results.
- Cooperating with national, local, private, and public bodies and with many European and international institutes and research centers.

Hellenic Institute of Transportation Engineers (HITE)

The Hellenic Institute of Transportation Engineers was founded in 1976 in Athens, Greece. It currently includes over 600 members, all of them holding a postgraduate degree in transportation and carrying a long experience in the subject matter. The main objectives of HITE are:

 The promotion and propagation of scientific and technological knowledge in the field of transport by organizing seminars, conferences and roundtables, participating in international conferences and maintaining a library and archives of relevant editions and journals.



- The support of scientific and technological research in the domain of transport at national level by collaborating with public and private organisations.
- The co-operation with competent or relevant to the Institute, scientific foundations of national and international level for exchanging information, organising joint scientific meetings etc.
- The recognition on the part of decision makers, public authorities, the private sector, the educational sector and the society at large, of the necessity for scientific approach and solutions to various transport related problems.
- The establishment and dissemination of technical standards for the study, realisation and management of projects related to passenger and cargo transportation.
- The advisory role to public authorities and corporations as scientific expert supporting decision making.





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Welcome letters



Dear all,

It is my great pleasure to welcome you to the 10th International Congress on Transportation Research (ICTR2021).

This year the conference focuses on "Future Mobility and Resilient Transport and the Transition towards innovation". Aiming at accelerating positive change towards more environmentally friendly and sustainable transport systems, the conference is highlighting innovative approaches, new developments and trends that are arisen from research in almost all aspects of transport and mobility systems of today and of the next decade.

In view of the digital and green agenda of Europe for transport and mobility and in the context of the new challenges raised due to Covid-19, research and business innovation community of the ICTR2021 will discuss pragmatic solutions and the way of successfully transition towards future mobility in the smart cities.

Throughout the years, the ICTR conference managed to be established as one of the most important conferences in the transport sector, attracting a large number of participants from research and academia throughout Greece, Europe and internationally.

This year

- More than 150 papers will be presented at the conference
- One full pre-conference day dedicated to thematic workshops is organized, on:
 - autonomous mobility applications,
 - ➤ living labs creation and operation for managing city challenges in city logistics and supporting emerging passengers' mobility solutions adoption,
 - new decision-making tools for mobility planning,
 - > electro mobility and innovative sustainable mobility solutions for citizens and tourists.
- The three days of the conference program set up an excellent basis for productive dialog of domain experts and guarantees important conference results that will assist the recovery, efficient transition to change and the resilience of transport sector.
- Special Issues of recognised journals welcome selected papers of the conference.

ICTR2021 is hosted on the beautiful island of Rhodes and benefits from the enthusiastic support of the citizens, the local stakeholders and the active mobility industry. It is organized in hybrid mode enabling the participation either with physical presence or through remote connection.

Join the conference and be part of all the latest developments in transport and mobility.

Dr. Georgia Ayfantopoulou Research Director/Deputy Director CERTH/HIT President of ICTR 2021 Organizing Committee



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Dear friends,

I am pleased to welcome you to the 10th ICTR congress (ICTR2021) that is going to take place in the wonderful city of Rhodes.

As in previous years, ICTR provides an excellent forum for exchanging information and discussion on a wide variety of Transportation Research topics, representing the latest developments and future trends in Transportation Research section. ICTR21 will be a unique conference for all colleagues involved in the field of Transportation Research, covering several topics as: Big data analytics and Artificial Intelligence, Climate neutral and energy efficient transport and infrastructure, Innovative and interconnected mobility services, Intelligent transport systems, On-demand freight transport and logistics, Resilient transport systems and infrastructure, Simulation environments and new modeling tools, Sustainable

urban mobility, Transport planning and policy, Transport safety, Transportation and mobility in the COVID-19 era etc.

With more than 400 experts, representing many countries from all over the world, participating in such a conference, we can once again expect to achieve excellent results.

As president of the scientific committee of ICTR2021, I know that the success of the conference depends ultimately on the many people who have worked with us in planning and organizing both the technical program and supporting social arrangements.

I personally thank:

- Scientific Committee for their thorough and timely reviewing of the papers.
- Organizing Committee members who have all worked extremely hard for the details of important aspects of the conference programs and social activities.
- Our sponsors who have helped us to keep down the costs of ICTR2021 for all participants.

I am looking forward to meeting you in Rhodes during ICTR2021 and to sharing a most pleasant, interesting, and fruitful conference.

Prof. Nikolaos Eliou

Department of Civil Engineering of University of Thessaly

President of ICTR 2021 Scientific Committee





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ICTR2021 Papers to be considered for Publication at Special Issues of Prestigious International Journals

Selected papers from ICTR 2021 will be invited to be submitted to special issues organised by **four prestigious international journals**. The following special issues are foreseen:



Sustainability

Special Issue "Future Mobility and Resilient Transport: Transition to Innovation"

(Impact factor: 3.251)

View the Call for paper here (Submission deadline: 31 Dec 2021)



Journal of Advanced

Transportation

Journal of Advanced Transportation

Special Issue "Sustainable Mobility in Alternative Transport Systems" (Impact

factor: 2.419)

View the Call for paper here (Submission deadline: 17 Dec 2021)



Case Studies on Transport Policy

Special Issue "Sustainable Transportation" (CiteScore: 2.9)



Future Transportation

<u>Special Issue 'Future Mobility and Resilient Transport'</u> (Submission deadline: 31 Dec 2021)

Papers for the above Special Issues will be selected via a ranking process conducted by a Scientific Team comprising members of the Scientific and Organizing Committees. The authors will be informed soon about the process and the submission guidelines.



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Day 1: Wednesday (01/09/2021	09:00-17:30 EEST					
Pre-conference Special Sessions/Workshops supported by dedicated projects (full program at www.ictr.gr)							
Place: Region of South Aegean, Dioikitirio Square, Rhodes	09:30-12:00	Workshop VIII - Sustainable Mobility for citizens and tourists (DIAGORAS OP South Aegean, NEMO OP South Aegean, SUSTOURISMO Interreg Adrion) Session Organizer: Dr. Georgia Ayfantopoulou, Hellenic Institute of Transport/ Centre for Research and Technology Hellas (CERTH)					
	09:00-13:30	Workshop I - Challenges & Lessons Learned in CCAM (SHOW Horizon2020) Room: Muses I Session Organizer: Dr. Evangelos Bekiaris, Director, Hellenic Institute of Transport (HIT)/ Centre for Research and Technology Hellas (CERTH)					
Place: Mediterrenean Hotel, Kos str. 35-37, Rhodes	14:00-15:30	Workshop II - Living Labs: enabling and accelerating innovation for on-demand city logistics. (City Logistics working group POLIS network) Room: Muses I Session Organizer: Giacomo Lozzi, Senior Project Manager - Coordinator Urban Freight -POLIS					
	12:00-14:30	Workshop III - Enhancing transport innovation capacity of regions, Final Dissemination Event (INNOTRANS Interreg Europe) Room: Muses II Session Organizer: Eleni Anoyrkati, MBA, PhD / Business Development and Operations Manager of CUE					
	14:30-17:30	Workshop IV - Supporting sustainable mobility participatory planning (e-smartec Interreg Europe) Room: Muses II Session Organizer: Dr. Maria Morfoulaki					
	09:00-11:00	Workshop V - Modelling Emerging Transport Solutions for Urban Mobility (MOMENTUM Horizon2020) Room: Bridges Session Organizer: Dr. Josep Maria Salanova Grau, Hellenic Institute of Transport/ Centre for Research and Technology Hellas (CERTH)					
	11:30-13:30	Workshop VI - HARMONY: Disruptive Technologies in Transport in 2021: From the pandemic to the new mobility era (HARMONY Horizon2020) Room: Bridges Session Organizer: Prof. Amalia Polydoropoulou, Department of Shipping, Trade and Transport, Transportation and Decision-making lab, University of the Aegean					
	14:30-16:30	Workshop VII - Innovations in Sustainable Urban Mobility Plans for low-carbon urban transport (INNOVASUMP Interreg Europe) Room: Bridges Session Organizer: Prof. Panos Papaioannou, Aristotle University of Thessaloniki					

18:30 – 19:30 Conference welcome cocktail Open space of Mediterranean Hotel, Kos str.35-37







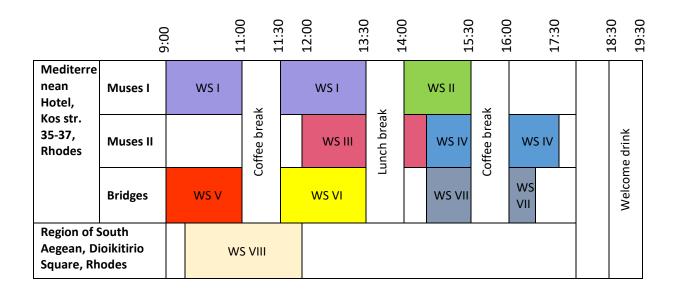


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Day 2: Thursday 02/09/2021

09:00-11:00 EEST

Conference Opening Ceremony

Room: Muses

09:00-09:15 / Conference objectives and welcome from the organizers

- Georgia Ayfantopoulou, President of Organizing Committee

09:15-09:30 / Science and Research development for transport and mobility supporting the transition towards smart sustainable mobility and logistics

- Evangelos Bekiaris, Director CERTH/HIT
- Panagiotis Papantoniou, President HITE

09:30-10:00 / Keynote speech

- Mohamed Mezghani, Secretary General UITP

10:00-10:30 / The role that the conference plays on transport and mobility policy for the country, the region, and the cities

- Intervention by the Minister of Ministry of Infrastructure and Transport, Kostas A. Karamanlis
- Intervention by the General Secretary of Spatial Planning and Urban Environment, Efthymios Bakoyiannis
- Intervention by the Governor of Region of the South Aegean, George Hatzimarkos
- Intervention by the Mayor of Rhodes, Antonios Kampourakis

10:30-11:00 Honorary Awards

ICTR2021 will honor:

- Mr. Spyros Vougias
- Mr. Vassilis Evmolpidis

11:00-11:30 Coffee break

11:30-13:30

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Room: Muses I

Session Chairman: E. Mitsakis Rapporteur: E. Sakellariou

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Room: Muses II

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Room: Bridges

Session Chairman: G. Ayfantopoulou

Rapporteur: A. Nikiforiadis

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Session Chairman: G. Botzoris

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Room: Muses II

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Room: Bridges

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Rapporteur: F. Orfanou

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Room: Epsilon

Session Chairman: K. Kepaptsoglou

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Room: Muses I

Session Chairman: D. Dimitriou Rapporteur: A. Pnevmatikou

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- **110** Comparative Analysis of Network Criticality and Network Centrality Indicators Chrysostomos Mylonas, Konstantinos Kepaptsoglou and Evangelos Mitsakis





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Official Dinner

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Rapporteur: N. Kotoula

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Session Chairman: C. Pyrgidis Rapporteur: E. Mintsis

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Room: Muses I

Session Chairman: M. Boile Rapporteur: I. Politis

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Room: Muses I

Session Chairman: M. Gemou Rapporteur: P. Tzouras





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Closing Ceremony Room: Muses

Session Chairman: G. Ayfantopoulou

Rapporteur: P. Papantoniou

- 1. Matthew Karlaftis Award Best PhD student paper
- 2. Dimitrios Tsampoulas Award Best Graduate or Master Degree student paper
- 3. Young Researcher Best Publication on Road Safety Award



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	MUSES I	MUSES II	BRIDGES	EPSILON		
9:00-11:00	Conference Opening Cere	mony	-	-		
11:00-11:30	Coffee Break					
11:30-13:30	Session I(A): Intelligent	Session I(B): Sustainable urban	Session I(C): Simulation	Session I(D): Poster Session		
	transport systems	mobility,	environments and	Poster Session		
		implementation, and new synergies	new modelling			
13:30-14:30	Lunch Break					
14:30-16:30	Session II(A): Intelligent transport systems	Session II (B): Sustainable urban mobility, implementation, and new synergies	Session II(C): Big Data Analytics and Artificial Intelligence	Session II(D): Poster Session		
16:30 – 18:00	Session III(A): Resilient transport systems and infrastructure	Session III (B): Sustainable urban mobility, implementation, and new synergies	Session III(C): Big Data Analytics and Artificial Intelligence	Session III(D): Poster Session		

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	MUSES I	MUSES II	BRIDGES	EPSILON			
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	Planning & Policy	Transport Safety	Freight transport				
			and logistics				
10:15-12:00	Session V(A): Transport	Session V (B):	Session V(C):				
	Planning & Policy	Transport Safety	Climate neutral				
			and energy				
			efficient transport				
			and infrastructure				
12:00-12:30	Coffee break						
12:30 -14:30	Session VI(A): Transport	Session VI (B):	Session VI(C):				
	Planning & Policy	Transport Safety	Transportation and				
			mobility in the				
			COVID-19 era				
14:30-15:30	Lunch Break						
15:30-17:30	Session VII(A): Innovative	Session VII(B): User-					
	and interconnected	centered design of					
	mobility services	transport systems					
17:30 -18:00	Closing Ceremony						



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10ο χλμ. Ρόδου - Λίνδου, 85100, Ρόδος | Τηλ.: 22410 86777













Hellenic Institute of Transportation Engineers (HITE)

Panormou Street 61 GR - 11524 Athens, Greece, Tel: (+30) 210 3640604, Fax (+30) 210 3609220, www.ses.gr - info@ses.gr

Hellenic Institute of Transport (HIT)

6th Km Charilaou - Thermi Rd. PO Box 361 - 57001 Thermi, Thessaloniki - Greece Tel: (+30) 2310498263, Fax (+30) 2310498269, www.hit.certh.gr - hit@certh.gr