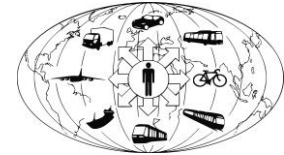




Department of Transport Systems,
Traffic Engineering and Logistics



PROGRAMME OF
17TH SCIENTIFIC AND TECHNICAL CONFERENCE
TRANSPORT SYSTEMS
THEORY & PRACTICE
(TSTP2021)

ON-LINE, 20-21.09.2021

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DAY I OPENING

10:00 – 10:20 *Opening of the TSTP2021 Conference*

- Welcome message
- About the Silesian University of Technology and Priority Research Areas
- About the TSTP Conference
- About the activities of the Transport Committee of the Polish Academy of Sciences

SESSION 1.1

PRACTICAL APPROACH TO MODELLING AND IMPLEMENTATION OF MODERN TRANSPORT SOLUTIONS

Chairman:

Grzegorz Sierpiński – Silesian University of Technology, Katowice, Poland

10:20 – 11:00 - *presentations*

11:00 – 11:20 - *discussion*

10:20 **Marios Ntaflos**
Bentley Systems, London, United Kingdom
BENTLEY MOBILITY SOLUTIONS

10:40 **Piotr Pustoszkina**
Alstom, Katowice, Poland
**ALSTOM'S COMMERCIAL HYDROGEN TRAIN SOLUTIONS IN THE
CONTEXT OF NEW CHALLENGES FOR INTEGRATED TRANSPORT
SYSTEMS**

DAY I
SESSION 1.2
TRAFFIC FLOWS – DATA COLLECTION AND ANALYSIS

Chairman:

Sebastian Naumann – Institute of Automation and Communication, Magdeburg, Germany

11:20 – 12:20 **- presentations**

12:20 – 12:40 **- discussion**

- 11:20** **Facundo Storani , Roberta Di Pace, Stefano de Luca, Silvio Memoli**
University of Salerno, Fisciano, Italy
Port Authority of Naples, Naples, Italy
**CALIBRATION AND VALIDATION OF A MACROSCOPIC TRAFFIC FLOW
MODEL BASED ON PLATOON DISPERSION AND QUEUE PROPAGATION**
- 11:30** **Adrian Barchański**
Silesian University of Technology, Katowice, Poland
**IMPACT OF DRIVERS' WAITING TIME ON THE GAP ACCEPTANCE
AT MEDIAN, UNCONTROLLED T-INTERSECTIONS**
- 11:40** **Francesco Acuto, Tullio Giuffrè, Anna Granà**
University of Palermo, Italy
University of Enna Kore, Enna, Italy
**ENVIRONMENTAL PERFORMANCE ASSESSMENT OF URBAN
ROUNDBABOUTS**
- 11:50** **Boris Davydov, Vladimir Chebotarev, Kseniya Kablukova**
Far Eastern State Transport University, Khabarovsk, Russia
*Computing Center of the Far Eastern Branch of the Russian Academy of Sciences,
Khabarovsk, Russia*
**EVOLUTION OF PROBABILISTIC CHARACTERISTICS IN THE TRAIN
TRAFFIC PROCESS**
- 12:00** **Mateusz Rydlewski**
Wroclaw University of Science and Technology, Wrocław, Poland
**TRAM AND BUS STOPS IN CITIES – AN OVERVIEW OF ASSESSMENT
METHODS**
- 12:10** **Zbigniew Czapla**
Silesian University of Technology, Katowice, Poland
**VIDEO-BASED BACKGROUND/FOREGROUND ESTIMATION
FOR VEHICLE DETECTION**

DAY I
SESSION 1.3

PROBLEMS OF DEVELOPMENT OF TRANSPORT SYSTEMS

Chairman:

Elżbieta Macioszek – Silesian University of Technology, Katowice, Poland

12:40 – 13:40

- presentations

13:40 – 14:00

- discussion

12:40 **Olga V. Efimova, Elena Z. Makeeva, Irina G. Matveeva, Vitaliy M. Morgunov, Ekaterina N. Mironova**

Russian University of Transport (MIIT), Moscow, Russia

DEVELOPMENT OF TECHNOLOGY FOR THE FORMATION OF INNOVATIVE LOGISTICS PRODUCTS - COMPONENTS OF THE TRANSPORT HOLDING ECOSYSTEM

12:50 **Vladimir Nekhoroshkov, Sergey Vakulenko, Peter Kurenkov, Evgeniy Nekhoroshkov, Grigoriy Deruzhinskiy, Alexander Ignatenko, Alyona Aroshidze, Alexey Astafiev, Irina Seryapova, Irina Solskaya**

Siberian Transport University, Novosibirsk, Russia

Russian University of Transport (RUT–MIIT), Moscow, Russia

Admiral F. F. Ushakov State Maritime University, Novorossiysk, Russia

Samara State University of Railway Transport, Samara, Russia

Irkutsk State Transport University, Irkutsk, Russia

ASSESSMENT OF EXTERNAL ECONOMIC COOPERATION IN THE ASPECT OF TRANSPORT DEVELOPMENT OF THE GREATER TUMEN INITIATIVE

13:00 **Leszek Mindur, Maciej Mindur**

International University of Logistics and Transport in Wrocław, Wrocław, Poland

Lublin University of Technology, Lublin, Poland

ASSESSMENT OF THE TRANSPORT INTENSITY OF THE EUROPEAN ECONOMY IN THE YEARS 2000–2018

13:10 **Sergey Vakulenko, Peter Kurenkov, Grigoriy Deruzhinskiy, Alexander Ignatenko, Vladimir Nekhoroshkov, Alyona Aroshidze, Nikita Moisievlch, Irina Seryapova**

Russian University of Transport (RUT–MIIT), Moscow, Russia

Admiral F. F. Ushakov State Maritime University, Novorossiysk, Russia

Siberian Transport University, Novosibirsk, Russia

Administration of the Kuibyshev Railway, Samara, Russia

Samara State University of Railway Transport, Samara, Russia

INFORMATION INTERACTION IN SEAPORTS AND PORT STATIONS

13:20 **Marcin Rutkowski**

University of Economics in Katowice, Katowice, Poland

THE AREAS OF IMPACT OF THE CIRCULAR ECONOMY IN PASSENGER AIR TRANSPORT

13:30 **Vladimir Nekhoroshkov, Sergey Vakulenko, Peter Kurenkov, Evgeniy Nekhoroshkov, Grigoriy Deruzhinskiy, Alexander Ignatenko, Alyona Aroshidze, Alexey Astafiev, Irina Seryapova, Irina Solskaya**

Siberian Transport University, Novosibirsk, Russia

Russian University of Transport (RUT–MIIT), Moscow, Russia

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Admiral F. F. Ushakov State Maritime University, Novorossiysk, Russia

Samara State University of Railway Transport, Samara, Russia

Irkutsk State Transport University, Irkutsk, Russia

OPTIMIZATION OF INTERNATIONAL MULTIMODAL CONTAINER TRANSPORTATION

DAY II
SESSION 2.1
TRANSPORT SAFETY

Chairman:

Agnieszka Tubis – Wrocław University of Science and Technology, Wrocław, Poland

10:00 – 10:50 - *presentations*

10:50 – 11:10 - *discussion*

10:00 **Sebastian Naumann, Joachim Schade**

Institut f. Automation und Kommunikation e.V., Magdeburg, Germany

**PREEMPTING FIRE ENGINES AT TRAFFIC SIGNALS IN BRUNSWICK,
GERMANY, USING ITS-G5**

10:10 **Stefano de Luca, Lucas Joel Cisternas, Chiara Fiori, Roberta Di Pace**

University of Salerno, Fisciano, Italy

**IMPLEMENTATION OF A METHODOLOGY FOR THE FATIGUE
ANALYSIS IN QUAY CRANE OPERATORS THROUGH A MULTI-AGENT –
DISCRETE EVENT SIMULATION: THE SALERNO CONTAINER
TERMINAL CASE STUDY**

10:20 **Małgorzata Król, Aleksander Król**

Silesian University of Technology, Gliwice, Poland

Silesian University of Technology, Katowice, Poland

**THE THREATS RELATED TO PARKING ELECTRIC VEHICLE IN
UNDERGROUND CAR PARKS**

10:30 **Ahmed Jaber, János Juhász**

Budapest University of Technology and Economics, Budapest, Hungary

**MEASURING AND FORECASTING OF PASSENGERS MODAL SPLIT
THROUGH ROAD ACCIDENTS STATISTICAL DATA**

10:40 **Bartosz Stołtny, Grzegorz Peruń**

Silesian University of Technology, Katowice, Poland

**AN ATTEMPT TO DETERMINE THE IMPACT OF THE TEACHING LOAD
ON THE PSYCHOPHYSICAL CONDITION AND SAFETY OF AIR
OPERATIONS AMONG YOUNG AVIATION ADEPTS**

DAY II
SESSION 2.2

DECISION SUPPORT METHODS AND TOOLS FOR TRANSPORT SYSTEMS

Chairman:

Aleksander Król – Silesian University of Technology, Katowice, Poland

11:10 – 12:00 - *presentations*

12:00 – 12:20 - *discussion*

11:10 **Sergey Vakulenko, Peter Kurenkov, Grigoriy Deruzhinskiy, Alexander Ignatenko, Vladimir Nekhoroshkov, Alyona Aroshidze, Nikita Moisevich, Irina Seryapova**
Russian University of Transport (RUT–MIIT), Moscow, Russia
Admiral F. F. Ushakov State Maritime University, Novorossiysk, Russia
Siberian Transport University, Novosibirsk, Russia
Administration of the Kuibyshev Railway, Samara, Russia
Samara State University of Railway Transport, Samara, Russia
MEASURES TO INCREASE THE EXTRA-TRANSPORT EFFECTIVENESS

11:20 **Emilia T. Skupień**
Wroclaw University of Science and Technology, Wroclaw, Poland
INLAND NAVIGATION POINT INFRASTRUCTURE AS A SOURCE OF TRANSPORT PLANNING DECISIONS

11:30 **Leonid A. Baranov, Valentina G. Sidorenko, Anthon I. Safronov, Kyaw Min Aung**
Russian University of Transport, Moscow, Russian Federation
National Research University “Higher School of Economics”, Moscow, Russian Federation
APPLICATION OF GENETIC ALGORITHMS FOR THE PLANNING OF URBAN RAIL TRANSPORTATION SYSTEM

11:40 **Anastasiia Kunashko, Feng Xie, Sebastian Naumann, Yin Gao, Jun Li**
Institute of Automation and Communication, Magdeburg, Germany
Quanzhou Institute of Equipment Manufacturing, CAS, Quanzhou, China
APPLICATION AND COMPARISON OF MACHINE LEARNING ALGORITHMS IN TRAFFIC SIGNALS PREDICTION

11:50 **Natalia Tereshina, Victor Podsorin, Nataliya Tereshina, Pavel Metelkin, Larisa Chernyshova**
Russian University of Transport, Moscow, Russia
COMPREHENSIVE ESTIMATE OF LIFE CYCLE COSTS OF NEW TECHNICAL SYSTEMS, USING RELIABILITY VERIFICATION ALGORITHM

DAY II
SESSION 2.3
BEHAVIOR OF TRAVELERS – SELECTED PROBLEMS

Chairman:

Anna Granà – University of Palermo, Palermo, Italy

12:20 – 13:10

- presentations

13:10 – 13:30

- discussion

12:20 **Jamil Hamadneh, Domokos Esztergár-Kiss**

Budapest University of Technology and Economics, Budapest, Hungary

**MODELING MULTITASKING ONBOARD OF PRIVATELY-USED
AUTONOMOUS VEHICLE AND PUBLIC TRANSPORT**

12:30 **Andrzej Hanusik**

University of Economics in Katowice, Katowice, Poland

**INFORMATION AND USAGE ASYMMETRY OF SHARED MOBILITY
SERVICES AMONG DIFFERENT GENERATIONS**

12:40 **Roberta Di Pace, Francesca Bruno, Gennaro N. Bifulco, Stefano de Luca**

University of Salerno, Fisciano, Italy

University of Naples 'Federico II', Napoli, Italy

**MODELLING TRAVELLERS' BEHAVIOUR IN A ROUTE CHOICE
EXPERIMENT WITH INFORMATION UNDER UNCERTAINTY:
CALIBRATION, VALIDATION, AND FURTHER REFINEMENTS**

12:50 **Agnieszka A. Tubis**

Wroclaw University of Science and Technology, Wroclaw, Poland

**THE IMPACT OF COVID-19 ON PUBLIC TRANSPORT IN POLISH CITIES
ON THE EXAMPLE OF WROCLAW**

13:00 **Agata Kurek, Elżbieta Macioszek**

Silesian University of Technology, Katowice, Poland

**DAILY VARIABILITY OF THE USE OF PARKING SPACES IN THE PAID
PARKING ZONE COVERED BY DYNAMIC PARKING INFORMATION
BEFORE AND DURING THE COVID-19 PANDEMIC**

DAY II
SESSION 2.4

ELECTROMOBILITY AND PUBLIC TRANSPORT – CURRENT PROBLEMS AND ISSUES

Chairman:

Roberta Di Pace – University of Salerno, Fisciano, Italy

13:30 – 14:10 *- presentations*

14:10 – 14:30 *- discussion*

13:30 **Renata Krajewska, Ewa Ferensztajn-Galardos, Zbigniew Łukasik**
Kazimierz Pulaski University of Technology and Humanities in Radom, Radom, Poland
**DEVELOPMENT OF ECOLOGICAL PUBLIC TRANSPORT IN POLAND
ON THE EXAMPLE OF SELECTED CITIES**

13:40 **Marcin Jacek Klos, Stanisław Krawiec**
Silesian University of Technology, Katowice, Poland
**GEO-INFORMATION INPUT DATA FOR THE PLANNING PROCESS
OF CONVENTIONAL FLEET CONVERSION TOWARDS A 100% ELECTRIC
BUS FLEET**

13:50 **Hubert Rzędowski, Ewelina Sendek-Matysiak**
Kielce University of Technology, Kielce, Poland
**EVALUATION OF BEV AND FCHEV ELECTRIC VEHICLES
IN THE CREATION OF A SUSTAINABLE TRANSPORT SYSTEM**

14:00 **Aleksander Król, Małgorzata Król**
Silesian University of Technology, Katowice, Poland
Silesian University of Technology, Gliwice, Poland
**A NUMERICAL CASE STUDY ON THE THERMAL RUNAWAY
OF A LITHIUM-ION EV BATTERY MODULE**

14.30 – 15.00 *Closing of the TSTP2021 Conference*

18th Scientific and Technical Conference
"Transport Systems Theory & Practice" (TSTP2022)

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Details soon!

