

## PROGRAMME COMMITTEE

- **Prof. Amar Ramdane-Cherif**  
University of Versailles, France
- **Assoc. Prof. Manolo Dulva HINA**  
ECE Paris School of Engineering, France
- **Prof. Leon Rothkrantz**  
Delft University of Technology, Netherlands
- **Assoc. Prof. Antonio Jose Mendes**  
University of Coimbra, Portugal
- **Prof. Ville Leppanen**  
University of Turku, Finland
- **Assoc. Prof. Marco Porta**  
University of Pavia, Italy
- **Prof. Douglas Harms**  
DePauw University, USA
- **Prof. Zhanat Nurbekova**  
L. N. Gumilyov Eurasian National University, Nur Sultan, Kazakhstan
- **Prof. Mirlan Chynybaev**  
Kyrgyz State Technical University, Bishkek, Kyrgyzstan
- **Prof. Ismo Hakala, PhD**  
University of Jyväskylä, Finland
- **Prof. Artur Jutman, PhD**  
Tallinn University of Technology, Estonia
- **Prof. RNDr. Vladimír Tvarozek, PhD**  
Slovak University of Technology in Bratislava, Bratislava, Slovakia
- **Assoc. Prof. Ing. Zuzana Palkova, PhD**  
Slovak University of Agriculture in Nitra, Nitra, Slovakia
- **Andrzej Tutaj, PhD**  
AGH University of Science and Technology, Krakow, Poland
- **Prof. Valentin NEDEFF Dr. eng. Dr.h.c.**  
“Vasile Alecsandri” University of Bacău, Romania
- **Cătălin POPA, PhD**  
“Mircea cel Bătrân” Naval Academy, Constantza, Romania
- **Prof. dr Larisa Jovanović**  
Alfa University, Belgrade, Serbia
- **Prof. dr hab. Edmund LORENCOWICZ**  
University of Life Sciences in Lublin, Poland
- **Assoc. Prof. Ion MIERLUS - MAZILU, PhD**  
Technical University of Civil Engineering, Bucharest, Romania
- **Prof. Dojčil Vojvodić PhD**  
Faculty of Philosophy, University of Novi Sad, Serbia
- **Prof. Alberto Cabada**  
University of Santiago de Compostela, Faculty of Mathematics, Santiago de Compostela, Spain
- **Kamen Rikev, PhD**  
Institute of Slavic Philology, Maria Curie-Skłodowska University in Lublin, Poland
- **Prof. Ricardo Gobato, PhD**  
Secretariat of State of Paraná Education and Sport (SEED/PR), Laboratory of Biophysics and Molecular Modeling Genesis
- **Prof. Fatima Rahim Abdul Hussein, PhD**  
University of Misan, College of Basic Education, English Department, Iraq

- **Prof. Liqaa Habeb Al-Obaydi, PhD**  
English Department, College of Education for Human Science, University of Diyala, Iraq
- **Dra. Clotilde Lechuga Jiménez, PhD**  
Social Science Education, Education Science Faculty (Teatinos Campus), University of Malaga, Spain
- **Prof. Dr. Mehmet Şahin, PhD**  
Mersin University, Faculty of Education, Department of Curriculum and Instruction, Turkey
- **Prof. Igor Kevorkovich Danilov, DSc**  
Yuri Gagarin State Technical University of Saratov, Russia
- **Prof. Aleksander Valentinov Sladkowski, DSc**  
Silesian University of Technology, Poland
- **Prof. Vera Karadjova, PhD**  
“St. Kliment Ohridski” University – Bitola, Faculty of tourism and hospitality – Ohrid, Republic of North Macedonia
- **Prof. Aleksandar Trajkov, PhD**  
“St. Kliment Ohridski” University - Bitola, Faculty of tourism and hospitality – Ohrid, Republic of North Macedonia
- **Prof. Petar Pepur, PhD**  
University of Split, Croatia
- **Prof. Korhan Arun, PhD**  
Namik Kemal University, Tekirdağ, Turkey
- **Prof. Yuliya Yorgova, PhD**  
Burgas Free University, Bulgaria
- **Jelena Stankovic, PhD**  
University of Nis, Serbia
- **Prof. Dr. Diana E. Woolfolk Ruiz**  
CETYS University, Mexico
- **Prof. Gerhard Fiolka, PhD**  
University of Fribourg, Switzerland
- **Prof. Haluk Kabaalioglu, PhD**  
Yeditepe University, Turkey
- **Prof. Silva Alves, PhD,**  
University of Lisbon, Portugal
- **Hanneke van Brugge, DHC mult**  
Appeldoorn, The Netherlands
- **Prof. Elena Torina**  
Tula State Pedagogical University "L. N. Tolstoy", Tula, Russia
- **Prof. Violeta Jotova**  
Direction Pediatrics at St. Marina University Hospital - Varna, Bulgaria, Chair ESPE Postgraduate Qualification Committee
- **Prof. Tanya Timeva, MD, PhD**  
Obstetrics and Gynecology Hospital "Dr. Shterev", Sofia, Bulgaria
- **Prof. Kiril Stoychev, PhD,**  
Institute of Metal Science, Equipment and Technologies “Acad. A. Balevsci” with Haydroaerodinamics centre – BAS, Bulgaria
- **Assoc. Prof. Mark Shamtsyan, PhD**  
Technical University, Saint Petersburg, Russia
- **Assoc. Prof. Oleksii Gubenia, PhD**  
National University of Food Technologie, Kiev, Ukraine
- **Prof. Olexandr Zaichuk, DSc**  
Ukrainian State University of Chemical Technology, Dnepropetrovsk, Ukraine
- **Prof. Eugene Stefanski, DSc**  
Samara University, Russia

- **Assoc. Prof. Tatiana Strokovskaya, PhD**  
International University of Nature “Dubna”, Dubna, Russia
- **Prof. DSc. Petar Sotirow**  
Maria Curie-Sklodowska University of Lublin, Poland
- **Prof. Papken Ehasar Hovsepian**  
Sheffield Hallam University, Sheffield, UK
- **Accos. Prof. Krassimir Dochev Dochev, PhD**  
University of Portsmouth School of Engineering, UK
- **Mariana Yordanova Docheva, PhD**  
University of Portsmouth School of Engineering, UK
- **Assoc. Prof. Ivan Antonov Lukanov, PhD**  
University of Botswana, Faculty of Engineering and Technology, Gaborone, Botswana
- **Assoc. Prof. Petko Vladev Petkov, PhD**  
Research Associate Cardiff University, UK
- **Prof. Stepan Terzian DSc**  
Bulgarian Academy of Science, Bulgaria
- **Prof. Gabriel Negreanu, PhD**  
University Politehnica of Bucharest, Romania

## ORGANISING COMMITTEE

◆ **ORGANIZED BY: UNIVERSITY OF RUSE (UR) AND  
UNION OF SCIENTISTS (US) - RUSE**

◆ **ORGANISING COMMITTEE:**

• **Chairperson:**

Acad. DTSc Hristo Beloev, DHC mult.  
Rector of UR, Chairperson of US - Ruse

• **Scientific Secretary:**

Prof. Diana Antonova, DSc  
dantonova@uni-ruse.bg, 082/888 249

• **THEMATIC FIELDS:**

- **Agricultural Machinery and Technologies, Agrarian Sciences and Veterinary Medicine**
- **Maintenance and Reliability**
- **Thermal, Hydro- and Pneumatic Equipment**
- **Ecology and Conservation**
- **Industrial Design**  
Assoc. Prof. Plamen Manev, PhD  
pmanev@uni-ruse.bg, +359 82 888 485
- **Pedagogy; Psychology and Methodology of training in...;** (27.10.23, Silistra)  
Assoc. Prof. Evgenia Goranova, PhD,  
egoranova@uni-ruse.bg
- **Philology** (27.10.23, Silistra)  
Assoc. Prof. Rumiana Lebedova, PhD  
rlebedova@uni-ruse.bg
- **Technical Sciences** (27.10.23, Silistra)  
Assoc. Prof. Konstantin Koev, PhD,  
kkoev@uni-ruse.bg
- **Chemical Technologies** (03-04.11., Razgrad)
- **Biotechnologies and Food Technologies** (03-04.11., Razgrad)  
Prof. Tsvetan Dimitrov  
conf\_rz@abv.bg, +359 887 631 645
- **Mechanical Engineering and Machine-building Technologies**  
Prof. Ivelin Ivanov, PhD  
ivivanov@uni-ruse.bg, +359 82 888 472
- **Electrical Engineering, Electronics and Automation**  
Assoc. Prof. Boris Evstatiev, DSc  
bevstatiev@uni-ruse.bg, +359 82 888 371
- **Communication and Computer Systems**  
Assoc. Prof. Galina Ivanova, PhD, giivanova@uni-ruse.bg, +359 82 888 855  
Assoc. Prof. Adriana Borodzhieva, PhD, aborodzhieva@uni-ruse.bg, +359 82 888 734
- **Transport and Machine Science**  
Assoc. Prof. Simeon Iliev, PhD  
spi@uni-ruse.bg, +359 82 888 331

- **Sustainable and Intelligent Transport Systems, Technologies and Logistics**  
Prof. Velizara Pencheva, PhD  
vpencheva@uni-ruse.bg, +359 82 888 558, +359 82 888 608
- **Economics and Management**  
Pr. Assist. Prof. Miroslava Boneva, PhD, mboneva@uni-ruse.bg, +359 82 888 776  
Pr. Assist. Prof. Elizar Stanev, PhD, eastanev@uni-ruse.bg, +359 82 888 557
- **European studies and International Security**  
Prof. Vladimir Chukov, DSc,  
vchukov@uni-ruse.bg, 0889 768745
- **Mathematics, Informatics and Physics**  
Prof. Tsvetomir Vasilev, PhD  
tvasilev@uni-ruse.bg, +359 82 888 475
- **Education - Research and Innovations**  
Assoc. Prof. Emilia Velikova, PhD, evelikova@uni-ruse.bg, 0885 635 874  
Pr. Assist. Prof. Ralica Vasileva-Ivanova, PhD, rivanova@uni-ruse.bg, 0884 109 719
- **Pedagogy and Psychology**  
Assoc. Prof. Valentina Vasileva, PhD, rk-ppi@uni-ruse.bg, 0898 407 577  
Assoc. Prof. Galina Georgieva, PhD, zrk-ppi@uni-ruse.bg, 0889 951 920
- **History, Ethnology and Folklore**  
Assist. Prof. Veselka Radeva, PhD  
vradeva@uni-ruse.bg, 082888437
- **Linguistics, Literature and Art Science**  
Assoc. Prof. Velislava Doneva, PhD,  
doneva\_v@uni-ruse.bg, 0886 060 299
- **Health Promotion**  
Assoc. Prof. Stefka Mindova, PhD  
smindova@uni-ruse.bg, +359 882 895 149
- **Social Work**  
Pr. Assist. Prof. Ana Popova, PhD  
apopova@uni-ruse.bg, +359 889 874 219
- **Medical and Clinical Diagnostic Activities**  
Pr. Assist. Deniza Trancheva, MD, PhD  
dtrancheva@uni-ruse.bg, +359 82 888 410
- **Health care**  
Assoc. Prof. Tsveta Hristova, PhD  
tshristova@uni-ruse.bg, +359 878 389 793
- **Law**  
Assoc. Prof. Elitsa Kumanova, PhD  
ekumanova@uni-ruse.bg, +359 884 980 050
- **National Security**  
Assoc. Prof. Milen Ivanov, DSc  
poligon@abv.bg, +359 82 888 736
- **Quality of Higher Education**  
Prof. Ivanichka Serbezova, PhD, iserbezova@uni-ruse.bg  
Daniela Todorova, dtodorova@uni-ruse.bg, +359 82 888 378

- **REVIEWERS**

Prof. Scetla Stoilova, DSc

Prof. Ivailo Bakalov, PhD

Assoc. Prof. Petko Mashkov, PhD

Assoc. Prof. Mitko Marinov, PhD

## SUSTAINABLE AND INTELLIGENT TRANSPORT SYSTEMS, TECHNOLOGIES AND LOGISTICS

### Content

|                                                                                                                                                                                                                                 |           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 1. <b>FRI-20.21-1-SITSTL-01</b>                                                                                                                                                                                                 | <b>13</b> |
| <b>ACTIVE AND PASSIVE ROAD SAFETY, LINKING DESIGN WITH FIELD PERFORMANCE OF CLEAR ZONES IN BULGARIA</b>                                                                                                                         |           |
| <i>Metodiy Steliyanov, Daniel Lyubenov, Dzhemal Topchu</i>                                                                                                                                                                      |           |
| 2. <b>FRI-20.21-1-SITSTL-02</b>                                                                                                                                                                                                 | <b>23</b> |
| <b>INVESTIGATION OF ROAD TRANSPORTATION VIOLATIONS RELATED TO TRAFFIC SAFETY</b>                                                                                                                                                |           |
| <i>Daniel Lyubenov, Reneta Dimitrova, Dzhemal Topchu</i>                                                                                                                                                                        |           |
| 3. <b>FRI-20.21-1-SITSTL-03</b>                                                                                                                                                                                                 | <b>31</b> |
| <b>ENGINEERING APPROACH TO PREVENTION OF UNFAIR TENDER ARRANGEMENTS IN TRANSPORT INFRASTRUCTURE PROJECTS</b>                                                                                                                    |           |
| <i>Metodiy Steliyanov, Martina Georgieva, Daniel Lyubenov</i>                                                                                                                                                                   |           |
| 4. <b>FRI-20.21-1-SITSTL-04</b>                                                                                                                                                                                                 | <b>41</b> |
| <b>RESEARCH OF ROAD TRANSPORT ACCIDENTS INVOLVING CHILD PEDESTRIANS IN THE TERRITORY OF THE CITY OF RUSE</b>                                                                                                                    |           |
| <i>Kalcho Petkov</i>                                                                                                                                                                                                            |           |
| 5. <b>FRI-20.21-1-SITSTL-05</b>                                                                                                                                                                                                 | <b>46</b> |
| <b>STUDY OF THE MAIN CHARACTERISTICS OF A SECTION OF THE BICYCLE NETWORK IN THE CITY OF RUSE</b>                                                                                                                                |           |
| <i>Toncho Balbuzanov</i>                                                                                                                                                                                                        |           |
| 6. <b>FRI-20.21-1-SITSTL-06</b>                                                                                                                                                                                                 | <b>54</b> |
| <b>STUDYING THE AVERAGE SPEED OF VEHICLE TRAFFIC ON A ROUTE IN AN URBAN ENVIRONMENT</b>                                                                                                                                         |           |
| <i>Toncho Balbuzanov</i>                                                                                                                                                                                                        |           |
| 7. <b>FRI-20.21-1-SITSTL-07</b>                                                                                                                                                                                                 | <b>60</b> |
| <b>STUDY OF THE CAPACITY OPPORTUNITIES OF ROUNDABOUTS</b>                                                                                                                                                                       |           |
| <i>Kremena Mineva</i>                                                                                                                                                                                                           |           |
| 8. <b>FRI-20.21-1-SITSTL-08</b>                                                                                                                                                                                                 | <b>70</b> |
| <b>TRAFFIC LIGHT SIGNAL TIME OPTIMIZATION FOR CROSSROAD IN CITY OF BOTEVGRAD</b>                                                                                                                                                |           |
| <i>Durhan Saliev, Georgi Mladenov, Aleksandar Tsakmanov</i>                                                                                                                                                                     |           |
| 9. <b>FRI-20.21-1-SITSTL-09</b>                                                                                                                                                                                                 | <b>76</b> |
| <b>IDENTIFICATION OF THE RISKS ASSOCIATED WITH THE TRANSPORTATION OF PEOPLE AND GOODS CARRIED BY VESSELS ON THE DANUBE RIVER AND THE ASSESSMENT OF THEIR IMPACT ON THE CARGO TURNOVER OF THE BULGARIAN RIVER PORT TERMINALS</b> |           |
| <i>Kamen Ivanov</i>                                                                                                                                                                                                             |           |
| 10. <b>FRI-20.21-1-SITSTL-10</b>                                                                                                                                                                                                | <b>81</b> |
| <b>GUIDELINES APPROACHES AND MEASURES TO INCREASE ENERGY EFFICIENCY CONCERNING ROAD TRANSPORT</b>                                                                                                                               |           |
| <i>Svetoslav Babanov, Vyarka Ronkova</i>                                                                                                                                                                                        |           |
| 11. <b>FRI-20.21-1-SITSTL-11</b>                                                                                                                                                                                                | <b>87</b> |
| <b>APPLICATION OF CLOUD TECHNOLOGIES IN AUTOMOTIVE SERVICE</b>                                                                                                                                                                  |           |

**ACTIVITY**

*Viktoria Gladkova, Dimitar Grozev*

- |     |                                                                                                                                                                                                                                                                                     |     |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 12. | <b>FRI-20.21-1-SITSTL-12</b><br><b>RESEARCH OF OPERATIONAL PROCESSES IN A MEDIUM-LARGE COMPANY OPERATING IN THE CITY OF RUSE</b><br><i>Dimitar Grozev</i>                                                                                                                           | 94  |
| 13. | <b>FRI-20.21-1-SITSTL-13</b><br><b>DETERMINING THE PERFORMANCE OF AN AUTOMOBILE GAS SYSTEM ACCORDING TO THE OUTPUT PARAMETERS</b><br><i>Dimitar Grozev, Ivan Beloev</i>                                                                                                             | 100 |
| 14. | <b>FRI-20.21-1-SITSTL-14</b><br><b>DETERMINING THE CAR'S OPERABILITY ACCORDING TO OPERATING PARAMETERS OF WORK</b><br><i>Dimitar Grozev, Ivan Beloev</i>                                                                                                                            | 106 |
| 15. | <b>FRI-20.21-1-SITSTL-15</b><br><b>RETROFITTING A GASOLINE VEHICLE WITH A FUEL SYSTEM ENSURING OPERATION WITH GASEOUS FUELS</b><br><i>Iliyan Damyanov, Georgi Mladenov</i>                                                                                                          | 112 |
| 16. | <b>FRI-20.21-1-SITSTL-16</b><br><b>INTRODUCING VACUUM MOORING TO IMPROVE MARITIME SAFETY</b><br><i>Ivan Conev, Dobrin Milev</i>                                                                                                                                                     | 118 |
| 17. | <b>FRI-20.21-2-SITSTL-01</b><br><b>CONDITIONS FOR ISSUING A "CLEAN ON BOARD" BILL OF LADING; ISSUANCE OF A "CLEAN ON BOARD" BILL OF LADING AGAINST RECEIPT OF A "LETTER OF INDEMNITY" FROM THE CONSIGNOR</b><br><i>Dimitar Dimitrakiev, Christiana Atanasova, Ognyan Kostadinov</i> | 119 |
| 18. | <b>FRI-20.21-2-SITSTL-02</b><br><b>FORMATION OF THE CONTRACT FOR MARITIME TRANSPORT SERVICES; FORM OF THE CHARTER PARTY; CHARTER PARTY UNDER TEMPORARY CONDITIONS AS PER ENGLISH MARITIME LAW</b><br><i>Svetlana Dimitrakieva, Christiana Atanasova, Ognyan Kostadinov</i>          | 127 |
| 19. | <b>FRI-20.21-2-SITSTL-03</b><br><b>METHODOLOGY FOR COMPARATIVE ANALYSIS OF INTERMODAL AND MULTIMODAL TRANSPORT SERVICING OF CUSTOMER ADDRESSES FROM A PORT CONTAINER TERMINA</b><br><i>Boril Ivanov</i>                                                                             | 133 |
| 20. | <b>FRI-20.21-2-SITSTL-04</b><br><b>ANALYSIS OF THE ORGANIZATION AND MANAGEMENT OF THE WORK OF THE MUNICIPAL COMPANY "CITY TRANSPORT - VARNA" EAD</b><br><i>Pavel Stoyanov</i>                                                                                                       | 140 |
| 21. | <b>FRI-20.21-2-SITSTL-05</b><br><b>DEVELOPMENT OF THE STRATEGY FOR INTEGRATED PUBLIC TRANSPORT IN RUSE</b><br><i>Pavel Stoyanov, Dimitar Grozev</i>                                                                                                                                 | 146 |
| 22. | <b>FRI-20.21-2-SITSTL-06</b><br><b>ADVANTAGES OF THE OPERATION OF ELECTRIC VEHICLES IN MASS CITY TRANSPORT</b><br><i>Aleksandar Georgiev</i>                                                                                                                                        | 153 |



|     |                                                                                                                                                                                                                |     |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| 23. | <b>FRI-20.21-2-SITSTL-07</b><br><b>FACTORS AFFECTING THE APPLICATION OF ELECTRIC VEHICLES</b><br><i>Milena Savova-Mratsenkova</i>                                                                              | 161 |
| 24. | <b>FRI-20.21-2-SITSTL-08</b><br><b>CHALLENGES OF IMPLEMENTING ARTIFICIAL INTELIGENCE IN<br/>AUTOMOTIVE WORKSHOP</b><br><i>Mihail Milchev</i>                                                                   | 166 |
| 25. | <b>FRI-20.21-2-SITSTL-09</b><br><b>RESEARCH OF VEHICLE MAINTENANCE AUTO PARTS SUPPLY CHAIN</b><br><i>Mihail Milchev</i>                                                                                        | 175 |
| 26. | <b>FRI-20.21-2-SITSTL-10</b><br><b>PERSONAL MAILBOX, IN A SELF-SERVICE OFFICE OF A COURIER<br/>COMPANY</b><br><i>Dimitar Eskidarov</i>                                                                         | 183 |
| 27. | <b>FRI-20.21-2-SITSTL-11</b><br><b>DECARBONIZATION OF THE TRANSPORT IN THE REGION OF RUSE<br/>AND BUILDING AN INNOVATIVE CAPACITY FOR THE FUTURE</b><br><i>Velizara Pencheva, Asen Asenov</i>                  | 187 |
| 28. | <b>FRI-20.21-2-SITSTL-12</b><br><b>NEW OPPORTUNITIES FOR INNOVATIVE DEVELOPMENT OF<br/>TRANSPORT IN THE DANUBE REGION OF BULGARIA</b><br><i>Velizara Pencheva, Asen Asenov, Juliana Popova</i>                 | 197 |
| 29. | <b>FRI-20.21-2-SITSTL-13</b><br><b>INVESTIGATING THE APPLICATION OF A TOROIDAL PROPELLER IN<br/>VESSELS THROUGH FLUID DYNAMICS SIMULATION</b><br><i>Valeri Geoergiev, Mladen Kulev</i>                         | 203 |
| 30. | <b>FRI-20.21-2-SITSTL-14</b><br><b>INVESTIGATION OF PERFORMANCE INDICATORS OF A HYBRID<br/>POWERED ELECTRIC VESSEL UNDER DIFFERENT OPERATING MODES</b><br><i>Valeri Geoergiev</i>                              | 210 |
| 31. | <b>FRI-20.21-2-SITSTL-15</b><br><b>FOOTPRINT OF ROAD TRANSPORT ON THE ENVIRONMENT IN URBAN<br/>CONDITIONS AND MEASURES FOR REDUCTION OF ITS HARMFUL<br/>IMPACT</b><br><i>Svetoslav Babanov, Vyarka Ronkova</i> | 221 |