



**VILNIUS  
TECH**

Faculty of Environmental  
Engineering



12<sup>th</sup> International Conference

# **ENVIRONMENTAL ENGINEERING**

April 27–28, 2023  
Vilnius, Lithuania

## **CONFERENCE PROGRAMME**

## Conference organized by:

VILNIAUS GEDIMINO  
TECHNIKOS UNIVERSITETAS



VILNIUS GEDIMINAS  
TECHNICAL UNIVERSITY

## Under the auspices of:

LIETUVOS MOKSLŲ  
AKADEMIJA



LITHUANIAN ACADEMY OF  
SCIENCES

DARNIOS PLĖTROS  
AKADEMIJA



ACADEMY OF SUSTAINABLE  
DEVELOPMENT

EUROPOS ŠILDYMO IR ORO  
KONDICIONAVIMO  
ASOCIACIJŲ FEDERACIJA



FEDERATION OF EUROPEAN  
HEATING, VENTILATION AND  
AIR CONDITIONING  
ASSOCIATIONS

TARPTAUTINĖ MATININKŲ  
ASOCIACIJA



INTERNATIONAL  
FEDERATION OF SURVEYORS

BALTIJOS KELININKŲ  
ASOCIACIJA



BALTIC ROAD ASSOCIATION

EUROPOS ERDVINIO  
PLANAVIMO STEBĖJIMO  
TINKLAS



EUROPEAN SPATIAL  
PLANNING OBSERVATION  
NETWORK

LIETUVOS VANDENS  
TIEKĖJŲ ASOCIACIJA



LITHUANIAN WATER  
SUPPLIERS ASSOCIATION

# ENVIRONMENTAL ENGINEERING CONFERENCE PROGRAMME


## Chairman of the Conference

Prof. dr. Donatas Čygas

## Chairman of Organizing Committee

Prof. Dr. Rasa Vaiškūnaitė

## MEMBERS OF CONFERENCE SCIENTIFIC COMMITTEE



Andrus Aavik	Estonia
Dago Antov	Estonia
Salvatore Antonio Biancardo	Italy
Dagnija Blumberga	Latvia
Aleš Breznikar	Slovenia
Marija Burinskienė	Lithuania
Luca D'Acerno	Italy
Gianluca Dell'Acqua	Italy
Artu Ellmann	Estonia
Andrzej Grzebielec	Poland
Raimondas Grubliauskas	Lithuania
Marek Iwanski	Poland
Tomas Januševičius	Lithuania
Piotr Jaskuła	Poland
Mait Kriipsalu	Estonia
Aliaksei Laureshyn	Sweden
Ainars Paeglītis	Latvia
Marjan Lep	Slovenia
Eimuntas Paršeliūnas	Lithuania
Giorgio Passerini	Italy
Marek Pszczoła	Poland
Peter Randerson	United Kingdom
Artur Rogoża	Lithuania
Artur Rusowicz	Poland
Juris Smirnovs	Latvia
Jūratė Sužiedelytė-Visockienė	Lithuania
Tomaz Tollazzi	Slovenia
Kiran Tota-Maharaj	United Kingdom
Rasa Ušpalytė-Vitkūnienė	Lithuania
Audrius Vaitkus	Lithuania
Viktoras Vorobjovas	Lithuania
Aušra Zigmontienė	Lithuania
Adam Zofka	Poland
Mirosław Zukowski	Poland



## PREFACE

Environmental engineering is the one of most challenging area of general engineering, because of its complexity, applicability and interdisciplinary. Environmental problems and issues are driven by different forces interested in sustainable development of society. Conference *Environmental Engineering* is devoted to the analysis of relevant environmental and water engineering issues as well as to the spread of the key road and railway researches, the presentation of the state-of-the-art geodesy and cadastre technologies, the analysis, assessment and optimization of researches on the energy supply and use systems. The main goals of the Conference are the following:

- to facilitate direct discussions and versatile cooperation between researchers from Lithuanian and foreign science and education institutions, engineers, representatives of industry and municipalities
- to bring together potential partners for successful, long-term and continuous cooperation on environmental engineering
- to discuss further directions of the applied research development and to implement state-of-the-art researches in practice.

The first international conference *Environmental Engineering* was held on 1994. At the 12<sup>th</sup> international conference *Environmental Engineering* researches from 7 countries will present their reports in the four sections.

1. Environmental Protection and Water Engineering;
2. Smart Cities, Roads and Railways;
3. Technologies of Geodesy, Cadastre and Geographic Information System;
4. Energy for Buildings.

Before the Conference, 66 conference articles considered most significant and original were selected by the International Scientific Committee and published as full-page in the electronic Conference Proceeding.

Conference Organizing Committee expresses its gratitude to the members of the International Scientific Committee for their significant support in organizing the Conference. We are also grateful to the participants of the Conference, the author's of presented papers and for all the interesting and significant information that resulted from the conference *Environmental Engineering*.

## CONFERENCE SCHEDULE

### 27 APRIL

- 12:00 – 13:00** Registration of participants at VILNIUS TECH, 2<sup>nd</sup> floor, near Aula Magna Hall.  
Address: Saulėtekio av. 11, LT-10223 Vilnius, Lithuania
- 13:00 – 13:30** Conference opening / Aula Magna Hall/
- 13:30 – 15:00** Plenary session / Aula Magna Hall /
- 15:00 – 15:30** Coffee break / 2<sup>nd</sup> floor, near Aula Magna Hall /
- 15:30 – 19:00** Free time
- 19:00 – 22:00** Welcome Dinner / In the Museum Hall of the Botanical Garden of Vilnius University / Address: Kairėnų str. 45, LT-10239 Vilnius, Lithuania

### 28 APRIL

- 9:00 – 10:15** **Work at sections:**  
Oral\* or Poster\*\* presentations  
Discussions
- 10:15 – 10:45** Coffee break / 2<sup>nd</sup> floor, near Aula Magna Hall /
- 10:45 – 12:00** **Work at sections:**  
Oral\* or Poster\*\* presentations  
Discussions
- 12:00 – 13:00** Lunch / 1<sup>st</sup> floor, Hall near the Dressing Room and Aula Magna Hall /
- 13:00 – 14:15** **Work at sections:**  
Oral\* or Poster\*\* presentations  
Discussions
- 14:15 – 14:45** Coffee break / 2<sup>nd</sup> floor, near Aula Magna Hall /
- 14:45 – 15:30** **Work at sections:**  
Oral\* or Poster\*\* presentations  
Discussions

\* – SRC 307; SRC 602; SRC 704 and in the old Senate meeting room, Saulėtekio av. 11, LT-10223 Vilnius, Lithuania

\*\* – 2<sup>nd</sup> floor, near Aula Magna Hall, Saulėtekio av. 11, LT-10223 Vilnius, Lithuania

## CONFERENCE PROGRAMME

### 27 APRIL CONFERENCE OPENING

Location: Vilnius Gediminas Technical University /  
Aula Magna Hall /  
Address: Saulėtekio av. 11, LT-10223 Vilnius, Lithuania  
13:00 – 13:15 **Prof. dr. Donatas Čygas.** *Chairman of the Conference  
Organizing Committee, Lithuania*  
CONFERENCE OPENING  
13:15 – 13:30 **Prof. dr. Romualdas Kliukas.** *Rector of Vilnius  
Gediminas Technical University, Lithuania*  
OPENING SPEECH

### PLENARY SESSION

13:30 – 14:00 **Evaldas Savickis.** *Director of JSC „Vesta Consulting“, Lithuania*  
THE PIVOTAL ROLE OF SUSTAINABILITY IN REAL ESTATE  
14:00 – 14:30 **Dr. Darius Biekša.** *Head of Hydrogen and Wind projects, JSC “Green Genius”, Lithuania*  
RENEWABLE ENERGY – ASSESSMENT OF POLITICAL VISION AND BUSINESS APPROACH  
14:30 – 15:00 **Nemunas Abukauskas.** *Adviser of the Future Mobility Policy Group, The Ministry of Transport and Communications of the Republic of Lithuania, Lithuania*  
DEVELOPMENT OF BICYCLE TRANSPORT SYSTEM IN LITHUANIA  
15:00 – 15:30 **Coffee break / 2<sup>nd</sup> floor, near Aula Magna Hall /**  
15:30 – 19:00 Free time  
19:00 – 22:00 **Welcome Dinner / In the Museum Hall of the Botanical Garden of Vilnius University / Address: Kairėnų str. 45, LT-10239 Vilnius, Lithuania**

### 28 APRIL

9:00 – 15:30 **Work at sections**  
10:15 – 10:45 **Coffee break / 2<sup>nd</sup> floor, near Aula Magna Hall /**  
12:00 – 13:00 **Lunch / 1<sup>st</sup> floor, Hall near the Dressing Room and Aula Magna Hall /**  
14:15 – 14:45 **Coffee break / 2<sup>nd</sup> floor, near Aula Magna Hall /**



## SECTION 1. ENVIRONMENTAL PROTECTION AND WATER ENGINEERING

28 APRIL

### ORAL PRESENTATIONS

#### Session 1

**Location:** VILNIUS TECH  
**Room:** SRC 704

**Chairmens of Session 1:**

**Prof. dr. Raimondas Grubliauskas.** *Vilnius Gediminas Technical University, Lithuania*

**Assoc. Prof. dr. Dainius Paliulis.** *Vilnius Gediminas Technical University, Lithuania*

9:00 – 9:15 **Viačeslav Zigmund, Jurgita Antuchevičienė, Darius Migilinskas.** *Lithuania*

MULTI-CRITERIA EVALUATION OF MASONRY  
FACADE INSTALLATION BY SAVING RESOURCES  
AND LIMITING WASTE

9:15 – 9:30 **Doris Rixrath.** *Austria*

LINKED SYSTEM ASSESSMENT TO SUPPORT  
SUSTAINABLE ENERGY SUPPLIES “LISA”

9:30 – 9:45 **Kristina Kilikevičienė, Aleksandras Chlebnikovas.** *Lithuania*

INVESTIGATION OF ACOUSTIC AGGLOMERATION  
EFFICIENCY USING DIFFERENT PROPERTIES OF  
ACOUSTIC CHAMBER

9:45 – 10:00 **Robert Ružickij, Raimondas Grubliauskas.** *Lithuania*

PREDICTION OF SOUND ABSORPTION OF WASTE  
TYRE TEXTILE FIBRE COMPOSITE MATERIAL

10:00 – 10:15 **Kamyab Mohammadi, Rasa Vaiškūnaitė.** *Lithuania*

EVALUATION OF THE BIOFILTRATION  
MATERIALS FOR H<sub>2</sub>S REMOVAL FROM BIOGAS

10:15 – 10:45 **Coffee break / 2<sup>nd</sup> floor, near Aula Magna Hall**

## Session 2

**Location:** VILNIUS TECH

**Room:** SRC 704

### Chairmens of Session 2:

**Assoc. Prof. dr. Vaidotas Vaišis.** *Vilnius Gediminas Technical University, Lithuania*

**Assoc. Prof. Dr. Vaida Šerevičienė.** *Vilnius Gediminas Technical University, Lithuania*

10:45 – 11:00

**Murat Huseyin Unsal, Vaidotas Valskys, Gytautas Ignatavičius, Roberta Valskienė.** *Lithuania*

HEAVY METALS IN LONG-TERM ACCUMULATED INDOOR DUST OF SCHOOLS AND IT'S POTENTIAL HEALTH RISKS. HEAVY METALS IN LONG-TERM ACCUMULATED INDOOR DUST OF SCHOOLS AND IT'S POTENTIAL HEALTH RISKS

11:00 – 11:15

**Aja Tumavičė, Vilma Jasiūnienė.** *Lithuania*

INSERTION LOSS OF LOW NOISE BARRIERS OF DIFFERENT HEIGHTS.

11:15 – 11:30

**Rasa Tumaševičiūtė, Gytautas Ignatavičius.** *Lithuania*

BACTERIA FROM WASTEWATER: POTENTIAL PRODUCERS OF POLYHYDROXYALKANOATES IN VILNIUS, LITHUANIA

11:30 – 11:45

**Tomas Astrauskas, Mantas Pranskevičius, Tomas Januševičius.** *Lithuania*

PRIMARY STUDY OF PLASTIC MICRO FIBRE WASTE FOR POSSIBLE RECYCLING FOR SOUND ABSORPTION APPLICATIONS IN THE FUTURE

11:45 – 12:00

**Ieva Andriulaitytė, Marina Valentukevičienė, Aušra Zigmontienė.** *Lithuania*

THEORETICAL STUDIES OF PROCESSES FOR THE ORGANIC CHLORINE COMPOUNDS CONCENTRATION REDUCTION WITH NATURAL FIBERS

12:00 – 13:00

**Lunch / 1<sup>st</sup> floor, Hall near the Dressing Room and Aula Magna Hall /**



28 APRIL

POSTER  
PRESENTATIONS

Session 3

**Location:** VILNIUS TECH  
**Room:** 2<sup>nd</sup> floor, near Aula Magna Hall  
**Poster session time:** 13:00 – 15:30  
**Coffee break:** 14:15 – 14:45 / 2<sup>nd</sup> floor, near Aula Magna Hall /

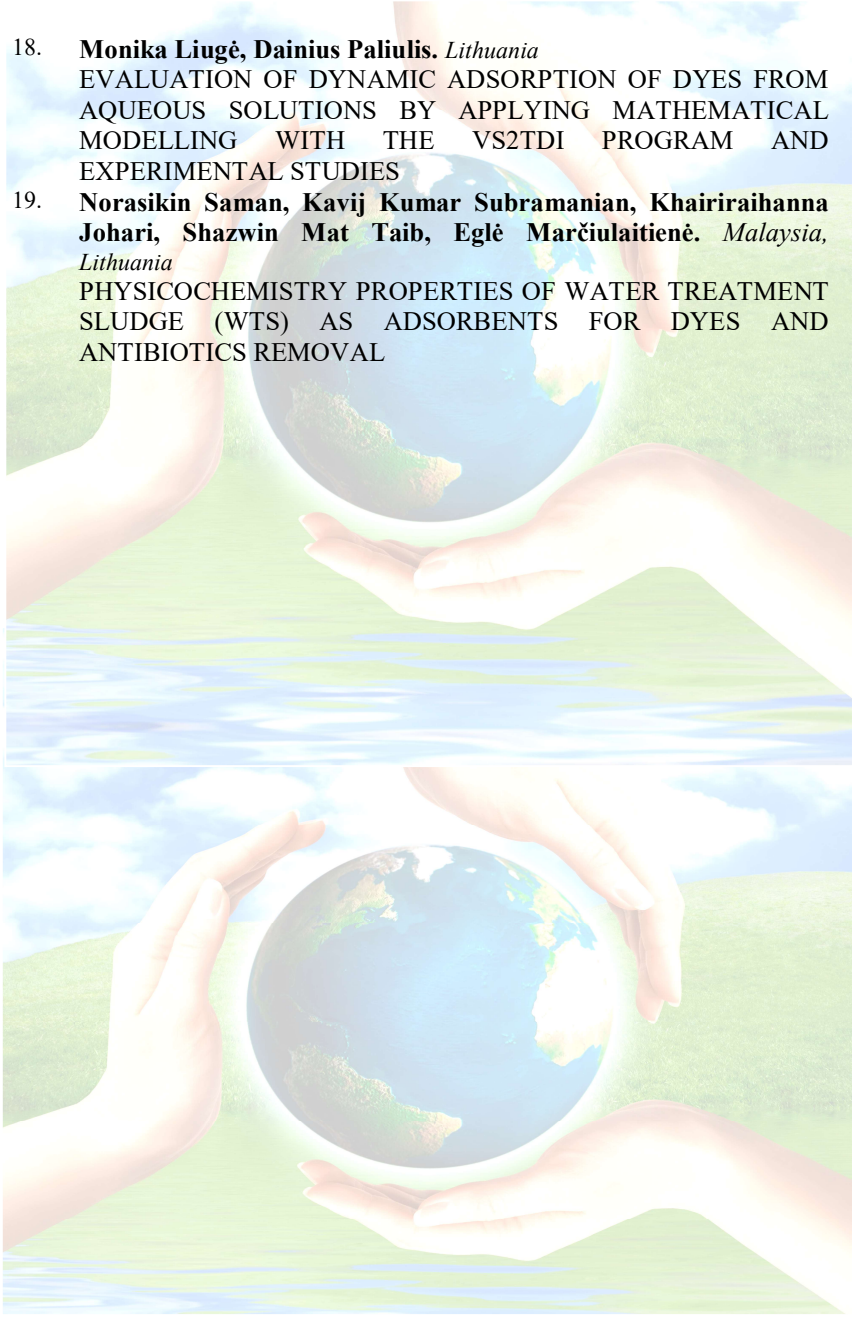
**Chairmens of Session 3:**

**Prof. dr. Saulius Vasarevičius.** *Vilnius Gediminas Technical University, Lithuania*

**Dr. Tomas Astrauskas.** *Vilnius Gediminas Technical University, Lithuania*

1. **Diana Kalibatiėnė, Oksana Survilė.** *Lithuania*  
A BIBLIOMETRIC ANALYSIS OF RIVER RESTORATION
2. **Andrius Litvinaitis, Lina Bagdžiūnaitė-Litvinaitienė, Jurgita Butkuvienė, Antanas Kontautas, Andrius Skersonas, Edgaras Ivanauskas.** *Lithuania*  
EVALUATION OF THE EFFECTIVENESS OF RENATURALIZATION TOOLS OF RENATURALIZED SECTIONS OF LITHUANIAN RIVERS
3. **Iryna Fediv, Kateryna Stepova, Julita Šarko, Aušra Mažeikienė.** *Ukraine, Lithuania*  
SUSTAINABLE TECHNOLOGY OF OF WASTEWATER TREATMENT BY ENVIRONMENTALLY FRIENDLY MODIFIED NATURAL SORBENTS FOR REMOVAL OF NITROGEN AND PHOSPHORUS
4. **Aleksandras Chlebnikovas, Jolita Bradulienė.** *Lithuania*  
MIDDLE-TERM FIELD RESEARCH ON AIR AND NOISE POLLUTION IN THE CITY DISTRICT OF BALTIC REGION
5. **Aleksandras Chlebnikovas, Artūras Kilikevičius.** *Lithuania*  
GAS FLOW EXPERIMENTAL RESEARCH IN A NEWLY DEVELOPED CENTRIFUGAL-ELECTROSTATIC PRECIPITATOR
6. **Andrej Naimušin, Tomas Januševičius.** *Lithuania*  
NUMERICAL MODELING AND EXPERIMENTAL STUDIES OF SOUND INSULATION OF PLASTIC METAMATERIAL COMPOSED OF PERFORATED LAYER AND RESONATOR

7. **Sonata Čerkauskaitė, Jonė Vencloviėnė, Margarita Beresnevaitė.** *Lithuania*  
THE IMPACT OF METEOROLOGICAL FACTORS ON THE RISK OF DETERIORATION OF PSYCHOLOGICAL HEALTH
8. **Andrius Litvinaitis, Lina Bagdžiūnaitė-Litvinaitienė.** *Lithuania*  
STUDY ON THE INFLOW OF BIOGENIC SUBSTANCES INTO LAKES
9. **Andrius Litvinaitis, Lina Bagdžiūnaitė-Litvinaitienė.** *Lithuania*  
MIGRATION OF BIOGENIC SUBSTANCES THROUGH THE AERATION ZONE AND IN THE UPPER LAYER OF GROUNDWATER ON THE BANKS OF RIVERS
10. **Olga Khrystoslavenko, Raimondas Grubliauskas.** *Lithuania*  
EXPERIMENTAL RESEARCH OF SCATTERING COEFFICIENT OF TRIANGLE QUADRATIC RESIDUE DIFFUSER MADE WITH CHARCOAL PERFORATIONS
11. **Julita Šarko, Aušra Mažeikienė.** *Lithuania*  
REMOVAL OF AMMONIUM NITROGEN FROM WASTEWATER BY TERTIARY TREATMENT
12. **Edgaras Strazdas, Tomas Januševičius.** *Lithuania*  
A REVIEW OF THE ACOUSTIC PROPERTIES OF NOISE BARRIERS MADE FROM WASTE OR PLANT-BASED MATERIALS
13. **Vaidotas Danila, Tomas Januševičius.** *Lithuania*  
APPLICATION OF NANO ZERO-VALENT IRON PARTICLES FOR PHOSPHATE REMOVAL FROM RIVER WATER
14. **Rasa Stankevičienė.** *Lithuania*  
CHANGES OF QUALITY IN AGRICULTURAL DRAINAGE WATER BETWEEN NATURE'S SEASONS
15. **Tomas Vilniškis, Tomas Januševičius.** *Lithuania*  
MODELLING OF SOUND REDUCTION OF AIR TRANSPARENT SOUND INSULATING ENCLOSURE WITH RECYCLED RUBBER COVERED WALLS
16. **Dovilė Vasiliauskienė, Regimantas Dauknys, Mantas Pranskevičius, Rimantė Jakubauskaitė, Margarita Dubovkina, Nelly Elistratova, Jaunius Urbonavičius, Alvydas Zagorskis.** *Lithuania*  
CHANGES IN MICROBIOTA COMPOSITION DURING THE ANAEROBIC DIGESTION OF THE MACROALGAE IN A THREE-STAGE BIOREACTOR
17. **Olha Khliestova, Vadim Burko, Alvydas Zagorskis.** *Ukraine, Lithuania*  
ALGAE AS THIRD-GENERATION BIOFUEL

- 
18. **Monika Liugė, Dainius Paliulis.** *Lithuania*  
EVALUATION OF DYNAMIC ADSORPTION OF DYES FROM  
AQUEOUS SOLUTIONS BY APPLYING MATHEMATICAL  
MODELLING WITH THE VS2TDI PROGRAM AND  
EXPERIMENTAL STUDIES
19. **Norasikin Saman, Kavij Kumar Subramanian, Khairiraihanna  
Johari, Shazwin Mat Taib, Eglė Marčiulaitienė.** *Malaysia,  
Lithuania*  
PHYSICOCHEMISTRY PROPERTIES OF WATER TREATMENT  
SLUDGE (WTS) AS ADSORBENTS FOR DYES AND  
ANTIBIOTICS REMOVAL



## SECTION 2. SMART CITIES, ROADS AND RAILWAYS

28 APRIL

PRESENT

ORAL  
PRESENTATIONS

**Location:** VILNIUS TECH  
**Room:** SRC 307

### Session 1

#### Chairmens of Session 1:

**Assoc. Prof. Marco Petrelli.** *Università Degli Studi Roma Tre, Italy*

**Assoc. Prof. Dr. Rasa Ušpalytė-Vitkūnienė.** *Vilnius Gediminas Technical University, Lithuania*

9:00 – 9:15

**Luca D'Acierno, Luca De Matteis, Salvatore Strano.** *Italy*  
THE DESIGN OF ADDITIONAL PUBLIC TRANSPORT SERVICES TO INCREASE THE RESILIENCE OF ROAD NETWORKS

9:15 – 9:30

**Oliver Singler, Leon Thiebes, Marco Fedior, Leonie Disse, Uwe Plank-Wiedenbeck.** *Germany*  
INTERSECTING URBAN AND TRAFFIC MODELS FOR VIRTUAL REALITY ENVIRONMENTS WITH REALISTIC TRAFFIC BEHAVIOR

9:30 – 9:45

**Marco Petrelli.** *Italy*  
PRINCIPLES OF CREATING A PUBLIC TRANSPORT NETWORK MODEL FOR REGIONS

9:45 – 10:00

**Mitja Klemenčič, Marjan Lep, Marijan Španer, Matej Moharič.** *Slovenia*  
FAST CHARGING ELECTRIC BUSES IN MARIBOR: A COMPARATIVE ANALYSIS OF SIMULATION AND REAL-WORLD RESULTS

10:00 – 10:15

**Justina Ranceva, Rasa Ušpalytė-Vitkūnienė.** *Lithuania*  
PRINCIPLES OF CREATING A PUBLIC TRANSPORT NETWORK MODEL FOR REGIONS

10:15 – 10:45

**Coffee break / 2<sup>nd</sup> floor, near Aula Magna Hall**

**Location:** VILNIUS TECH  
**Room:** SRC 307

### Session 2

**Chairmens of Session 2:**

**Dipl.-Ing. Research Associate Julius Uhlmann.** *Bauhaus-Universität Weimar, Germany*

**Prof. Dr. Marija Burinskienė.** *Vilnius Gediminas Technical University, Lithuania*

10:45 – 11:00 **Julius Uhlmann, Hans-Jacob Reinhold, Philipp Viehweger, Uwe Plank-Wiedenbeck.** *Germany*  
EFFECTS OF REAL-TIME TRAFFIC INFORMATION IN CAR NAVIGATION – RESULTS FROM A CASE STUDY IN ERFURT, GERMANY

11:00 – 11:15 **Audrius Vaitkus, Judita Škuldeckė, Ovidijus Šernas.** *Lithuania*  
MSWI BOTTOM ASH PERFORMANCE UNDER FREEZING AND THAWING

11:15 – 11:30 **Salvatore Antonio Biancardo, Sabrina Palazzo, Mattia Intignano, Gianluca Dell'Acqua.** *Italy*

BIM FOR RAILWAY INFRASTRUCTURE: THE CASE STUDY OF THE HIGH-SPEED RAIL OGLIASTRO-SAPRI  
11:30 – 11:45 **Rolf Katzenbach, Markus Scholz, Steffen Leppla, Arnoldas Norkus.** *Germany, Lithuania*

ENVIRONMENTALLY OPTIMIZED FOUNDATION OF A RAILWAY BRIDGE

11:45 – 12:00 **Miglė Zabelaitė-Skirmantė, Marija Burinskienė.** *Lithuania*  
EVALUATION OF THE METHODOLOGY FOR DETERMINING CYCLING FLOWS IN LITHUANIA

12:00 – 13:00 **Lunch / 1<sup>st</sup> floor, Hall near the Dressing Room and Aula Magna Hall /**

**Location:** VILNIUS TECH  
**Room:** SRC 307

### Session 3

**Chairmens of Session 3:**

**Dr. Salvatore Antonio Biancardo.** *Università degli Studi di Napoli Federico II, Italy*

**Prof. Dr. Audrius Vaitkus.** *Vilnius Gediminas Technical University, Lithuania*

13:00 – 13:15 **Endijs Virsis, Ainars Paeglītis.** *Latvia*  
ANALYSIS OF PHYSICAL AND MECHANICAL SOIL PROPERTIES DETERMINED USING PROBING DATA INTERPRETATIONS

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- 13:15 – 13:30 **Martynas Karbočius, Audrius Vaitkus. Lithuania**  
CASE STUDY OF THE PERFORMANCE OF SAMI AND  
GEOGRID REINFORCED ASPHALT OVERLAY AS AN  
ALTERNATIVE TO TRADITIONAL RESURFACING
- 13:30 – 13:45 **Rafal Mickevič, Audrius Vaitkus. Lithuania**  
COMPARISON OF THE PERFORMANCE OF FLEXIBLE  
AND ROLLER-COMPACTED CONCRETE PAVEMENT  
STRUCTURES
- 13:45 – 14:00 **Ovidijus Šernas, Deimantė Kilaitė, Rafal Mickevič, Audrius Vaitkus. Lithuania**  
THE EFFECT OF ADDITIVE ON TREATED SOIL  
PROPERTIES
- 14:00 – 14:15 **Judita Škulveckė, Simona Bitarytė, Karolis Liubinas. Lithuania**  
FTIR-ATR SPECTROSCOPY TO IDENTIFY AND  
QUANTIFY THE SBS IN MODIFIED BITUMEN
- 14:15 – 14:45 **Coffee break / 2<sup>nd</sup> floor, near Aula Magna Hall**

## 28 APRIL

### POSTER PRESENTATIONS

#### Session 4

**Location:** VILNIUS TECH  
**Room:** 2<sup>nd</sup> floor, near Aula Magna Hall  
**Poster session time:** 14:45 – 15:30

#### Chairmen of Session 4:

**Assoc. Prof. dr. Viktoras Vorobjovas.** Vilnius Gediminas Technical University, Lithuania

**Assoc. Prof. Dr. Lina Juknevičiūtė-Žilinskienė.** Vilnius Gediminas Technical University, Lithuania

1. **Lina Galinskaitė, Gytautas Ignatavičius. Lithuania**  
TEMPORAL PATTERNS OF ROE DEER (CAPREOLUS CAPREOLUS)  
TRAFFIC ACCIDENTS IN LITHUANIA: EFFECTS OF DAYTIME,  
SEASON AND LUNAR PHASE
2. **Anna Oleksandrivna Shevchenko, Oleksander Shevchenko, Evgeniya Ugnenko. Ukraine**  
STAGES OF RECONSTRUCTION AND RENEWAL OF UKRAINE'S  
INFRASTRUCTURE IN THE WAR AND POST-WAR PERIOD, TAKING  
INTO ACCOUNT EXPERIENCE AND SECURITY



3. **Yuliya Danchenk, Pavlo Bosak, Igor Shukel, Vasyl Popovych.** *Ukraine*  
RAILWAY INFRASTRUCTURE OF UKRAINE AS A FACTOR OF SOIL  
CHEMICAL HAZARD (ANALYTICAL OVERVIEW)
4. **Laura Gavėnienė, Laura Jateikienė, Ernestas Matusevičius, Donatas Čygas, Viktoras Vorobjovas, Kęstutis Čiuprinskas.** *Lithuania*  
METHODOLOGY OF AVERAGE SPEED ENFORCEMENT SYSTEMS  
SPOT SELECTION IN LITHUANIAN ROADS AND ITS EVALUATION
5. **Lina Bertulienė, Lina Juknevičiūtė-Žilinskienė, Viktoras Vorobjovas, Romas Girdvainis, Vilimas Gintalas.** *Lithuania*  
ASSESSMENT OF TRAFFIC SAFETY MODULE ON TWO-LANE  
COUNTRY ROADS
6. **Kateryna Krayushkina, Oleksandr Lapenko.** *Ukraine*  
USE OF SULFUR BINDER IN ASPHALT AND CEMENT CONCRETE  
MIXTURES IN THE CONSTRUCTION OF ROADS AND AIRFIELDS
7. **Vladislav Kondratovič, Donatas Čygas, Vytautas Palevičius.** *Lithuania*  
ASSESSMENT OF ROAD PARTICIPATION OF PILOT SELF-DRIVING  
VEHICLES INTENDED FOR THE CARRIAGE OF GOODS



## SECTION 3. TECHNOLOGIES OF GEODESY, CADASTRE AND GEOGRAPHIC INFORMATION SYSTEM

28 APRIL

ORAL  
PRESENTATIONS

POSTER

### Session 1

**Location:** VILNIUS TECH  
**Room:** The old Senate Meeting Room

#### Chairmens of Session 1:

**Prof. Dr. Jūratė Sužiedelytė Visockienė.** *Vilnius Gediminas Technical University, Lithuania*

**Lecturer Eglė Tumelienė.** *Vilnius Gediminas Technical University, Lithuania*

9:00 – 9:15 **Maris Kalinka, Viktorija Vaivode, Kirils Gorovojs, Lauris Goldbergs, Ieva Korna, Rolands Smirnovs, Ingars Erins.**  
*Latvia*

3D DATA LIFESECLE IN CESIS MEDIAVAL CASTLE IN LATVIA

9:15 – 9:30 **Paulina Stałowska.** *Poland*

POSSIBILITIES AND LIMITATIONS OF TERRESTRIAL LASER SCANNING FOR CRACK DETECTION IN BUILDING WALLS

9:30 – 10:15 Discussions

10:15 – 10:45 **Coffee break / 2<sup>nd</sup> floor, near Aula Magna Hall**

28 APRIL

POSTER  
PRESENTATIONS

Session 2

**Location:** VILNIUS TECH

**Room:** 2<sup>nd</sup> floor, near Aula Magna Hall

**Poster session time:** 10:45 – 12:00

**Lunch:** 12:00 – 13:00 / 1<sup>st</sup> floor, Hall near the Dressing Room and Aula Magna Hall /

**Chairmens of Session 2:**

**Prof. Dr. Jūratė Sužiedelytė Visockienė.** *Vilnius Gediminas Technical University, Lithuania*

**Lecturer Eglė Tumelienė.** *Vilnius Gediminas Technical University, Lithuania*

1. **Jūratė Sužiedelytė Visockienė, Eglė Tumelienė, Virginija Gurskienė, Vida Malienė.** *Lithuania, United Kingdom*  
ABANDONED AGRICULTURAL LAND FOR RENEWABLE ENERGY USE: COMPARATIVE ANALYSIS OF LITHUANIA AND LATVIA
2. **Guste Metrikaityte.** *Lithuania*  
USE OF GIS TO PROVIDE STATISTICAL DATA ON GHG GASES
3. **Sergii Panchenko, Yevgeniia Ugnenko, Valentina Yurchenko, Elena Uzhviieva, Yevhen Korostelov, Nataliia Sorochuk.** *Ukraine*  
INNOVATIVE METHODS OF USING LASER SCANNING AND GEOINFORMATION SYSTEMS FOR THE DESIGN OF COMMUNICATION ROUTES
4. **Olga Petrakovska, Mariia Mykhalova.** *Ukraine*  
DIVERSITY OF LAND USE RESTRICTION IMPACT ON SOCIAL LIFE
5. **Jūratė Sužiedelytė Visockienė, Eglė Tumelienė, Maris Kalinka, Ingars Erins, Viktorija Vaivode, Ieva Korna, Rolands Smirnovs, Lauris Goldbergs, Kirils Gorovojs.** *Lithuania, Latvia*  
3D SPATIAL DATA FOR BUILDING MANAGEMENT – CASE STUDY



## SECTION 4. ENERGY FOR BUILDINGS

28 APRIL

### ORAL PRESENTATIONS

POSTER

#### Session 1

**Location:** VILNIUS TECH  
**Room:** SRC 602

**Chairmens of Session 1:**

**Assoc. Prof. Dr. Violeta Motuzienė.** *Vilnius Gediminas Technical University, Lithuania*

**Dr. Vilūnė Lapinskienė.** *Vilnius Gediminas Technical University, Lithuania*

- 9:00 – 9:15      **Anatolijs Borodinecs, Kristina Lebedeva, Tatjana Odineca.** *Latvia*  
**Nikolaos Skandalos.** *Czech Republic*  
ON-SITE AND NEARBY ELECTRICITY PRODUCTION  
POTENTIAL IN LATVIA AND CZECHIA
- 9:15 – 9:30      **Dalia Mohammed Talat Ebrahim Ali.** *Lithuania*  
A REVIEW ON THE SUSTAINABILITY OF SMART  
BUILDINGS THAT COMBINE GREEN AND  
PHOTOVOLTAIC ROOFTOPS IN COLD CLIMATE  
REGIONS
- 9:30 – 9:45      **Artur Rusowicz.** *Poland*  
ANALYSIS OF ENERGY DEMAND BY A 24-HOUR STORE
- 9:45 – 10:00      **Rimvydas Adomaitis, Kęstutis Valančius.** *Lithuania*  
PASSIVE HOUSE DESIGN ASPECTS AND ANALYSIS IN  
LITHUANIA
- 10:00 – 10:15      **Andrzej Grzebielec, Adam Szelągowski, Piotr Łapka, Lukasz Cieslikiewicz, Mirosław Seredyński.** *Poland*  
THE USE OF A GENETIC ALGORITHM TO DETERMINE  
THE OPTIMAL OPERATING CONDITIONS FOR A LOW-  
TEMPERATURE ORC SYSTEM
- 10:15 – 10:45      **Coffee break / 2<sup>nd</sup> floor, near Aula Magna Hall**
- 10:45 – 11:00      **Rosa Weber, Doris Rixrath, Raphael Schauer, Jürgen Krail, Gerhard Piringer.** *Austria*  
CARBON FOOTPRINTS OF LARGE COMPRESSION  
CHILLERS FOR DISTRICT COOLING – ACCOUNTING FOR  
TEMPORAL RESOLUTION OF THE ELECTRICITY SUPPLY

11:00 – 11:15

**Monika Grinevičiūtė, Kęstutis Valančius.** *Lithuania*  
RENEWABLE AND NON-RENEWABLE PRIMARY ENERGY  
FACTORS FOR LITHUANIAN A++ BUILDINGS' HEATING

11:15 – 12:00

Discussions

12:00 – 13:00

**Lunch / 1<sup>st</sup> floor, Hall near the Dressing Room and Aula  
Magna Hall /**



## INFORMATION

Conference Committee address:  
Vilnius Gediminas Technical University,  
Saulėtekio ave. 11,  
LT-10223 Vilnius,  
Lithuania

Phone: + 370 5 2745090  
E-mail: [icee@vilniustech.lt](mailto:icee@vilniustech.lt)  
Website:  
<https://vilniustech.lt/332109>