



VILNIUS
COLLEGE OF
TECHNOLOGIES
AND DESIGN

CONFERENCE TECHNICAL INNOVATIONS 2023: TOWARDS EUROPE'S GREEN COURSE

Session A. MECHATRONICS AND TRANSPORT ENGINEERING

22 March, 2023 (Wednesday)

Olandu st. 16, 303 a

Moderator **PhD Aurelijus Pitrėnas, Tadas Vipartas**, Vilnius College of Technologies and Design
The session will also take place remotely in the MS Teams: [LINK TO MS TEAMS](#)

9.00 – 9.30	Welcome Coffee and Registration – 302 a.
9.30 – 9.40	Welcome word – 303 a. PhD Gražina Strazdienė , Dean of Technical Faculty of Vilnius College of Technologies and Design
9.40 – 10.00	“New linkage piston-crankshaft mechanism for the IC engine” PhD Stanislaw Szwaja , Czestochowa University of Technology, Poland
10.00 – 10.20	“Dependence of Hybrid Car Fuel Consumption and Carbon Dioxide on Battery Capacity Using Numerical Modelling Method” Tadas Vipartas, PhD Alfredas Rimkus, Petras Kaikaris , Vilnius College of Technologies and Design, Lithuania
10.20 – 10.40	“Comparative analysis of pyrolysis oil spray by the high pressure injector” Magdalena Szwaja , Czestochowa University of Technology, Poland
10.40 – 11.00	“Analysis of electric and internal combustion vehicles performance” PhD Donatas Kriaučiūnas, Mantas Kairys, Aurimas Giržadas , General Jonas Žemaitis Military Academy of Lithuania, Lithuania
11.00 – 11.10	Technical break
11.10 – 11.30	“Modified hot-pressing device for fabrication of enhanced diamond reinforced composites” PhD Mirosław Rucki, PhD Edvin Hevorkian , Kazimierz Pulaski University of Technology and Humanities in Radom, Poland, PhD Boranbay Ratov, PhD Boris.V. Fedorov , K.I. Satbayev Kazakh National Technical University, Republic of Kazakhstan, PhD Volodymyr Mechnik , V. Bakul Institute for Superhard Materials of the National Academy of Sciences of Ukraine, Ukraine, PhD Samal Muratova , Caspian University, Republic of Kazakhstan
11.30 – 11.50	“Electric vehicles in Poland – charging issue and environmental impact” PhD Grzegorz Przybyła , Silesian University of Technology, Poland
11.50 – 12.10	“Hydrogen use in a CI research engine for a sustainable mobility” PhD Ezio Mancaruso , CNR – Institute of Science and Technology for Sustainable Energy and Mobility, Italy
12.10 – 12.30	“Automated diagnostics of electric train pantographs” PhD Vytautas Gargasas , Vilnius College of Technologies and Design, Lithuania

12.30 – 13.30 Coffee break – 302 a.	
13.30 – 13.30	13.30 – 13.45
<p>Session A.1 – 303 a. Moderator Daiva Aktas, Vilnius College of Technologies and Design</p>	<p>Session A.2 – 269 a. Moderator PhD Jelena Selivonec, Vilnius College of Technologies and Design</p>
<p>13.30 – 13.45 “Harmonic spectrum analysis of automobile original and modified exhaust system sound”. Audrius Matulis, PhD Aurelijus Pitrenas, PhD Deividas Navikas, Vilnius College of Technologies and Design, Lithuania</p>	<p>13.30 – 13.45 “Variation of the geometric parameters of the cross-section of the bridge girder due to long-term corrosion” Jolanta Pileckienė, Vilnius College of Technologies and Design, Lithuania, PhD Jurijus Tretjakovas, Vilnius College of Technologies and Design, Vilnius Gediminas Technical University, Lithuania</p>
<p>13.45 – 14.00 “Combustion process analysis of compression ignition engine running on various biofuel blends and changing EGR”. Dovydas Mačiulis, Vilnius Gediminas Technical University, Lithuania, PhD Alfredas Rimkus, Vilnius College of Technologies and Design, Lithuania</p>	<p>13.45 – 14.00 “Investigation of the deformation behaviour of a statically unsolvable tensile rod”. PhD Jurijus Tretjakovas, Vilnius College of Technologies and Design, Vilnius Gediminas Technical University, Lithuania, PhD Stevo Borojević, University of Banja Luka, Bosnia and Herzegovina, Liang Zhang, Henan University of Science and Technology, China</p>
<p>14.00 – 14.15 “Modal travel distribution of Klaipėda city residents in the context of the implementation of the Green Course”. Jūratė Liebuviienė, Vida Jokubynienė, Klaipėdos valstybinė kolegija / Higher Education Institution, Lithuania</p>	<p>14.00 – 14.15 “Experimental reconstruction of medieval two-handed sword production technologies”. Jonas Nariūnas, PhD Vitalijus Rudzinskas, Vilnius College of Technologies and Design, Lithuania</p>
<p>14.15 – 14.30 “An overview of the possibilities of using E-fuels in the background of modern technologies” Rūta Tumėnienė, Vilnius Gediminas Technical University, Lithuania</p>	<p>14.15 – 14.30 “Comparative analysis of shear strength of thread of bolt and nut”. PhD Jelena Selivonec, PhD Jurijus Tretjakovas, Vilnius College of Technologies and Design, Vilnius Gediminas Technical University, Lithuania</p>
<p>14.30 – 14.45 “Aspects of assessment of ecological parameters of passenger car diesel engines”</p>	<p>14.30 – 14.45 “Influence of FE size on stress distribution of the car chassis lever”. PhD Jelena Selivonec, Vilnius College of Technologies and Design,</p>

	<p>PhD Saulius Nagurnas, Domantas Škultinas, Vilnius Gediminas Technical University, Lithuania, PhD Alfredas Rimkus, Vilnius College of Technologies and Design, Lithuania</p>		<p>Vilnius Gediminas Technical University, Lithuania, Aleksandr Vika, Vilnius College of Technologies and Design, Lithuania</p>
14.45 – 15.00	<p>“An overview of the tools used for digitization and the benefits of digitized processes”.</p> <p>Mantas Paurys, Vilnius College of Technologies and Design, Lithuania</p>	14.45 – 15.00	<p>“Overview of steering gear repair technologies”.</p> <p>Mantas Juchnevičius, Virginijus Daugėla, PhD Jonas Matijošius, Vilnius College of Technologies and Design, Lithuania</p>
15.00 – 15.15	<p>“Research of ecological parameters of heavy duty vehicles diesel engines”</p> <p>PhD Saulius Nagurnas, Augustas Ivaško, PhD Jurijus Zaranka, Vilnius Gediminas Technical University, Lithuania</p>	15.00 – 15.15	<p>“Analysis of stress distribution in a special design nut”.</p> <p>PhD Jelena Selivonec, PhD Audrius Čereška, PhD Jurijus Tretjakovas, Vilnius College of Technologies and Design, Lithuania</p>
15.15 – 15.30	<p>“The issues of training and certification conditions for train operator in the railway system of the Baltic and Polish countries”.</p> <p>Irina Briuchoveckaja, Julius Gaidys, Vilnius College of Technologies and Design, Lithuania, Pawel Andrejczyk, Ewa Rajczakowska, Collegium Witelona Uczelnia Panstwowa, Poland</p>	15.15 – 15.30	<p>“Modelling of field oriented control of six-phase drive with fuzzy controllers”.</p> <p>PhD Roma Rinkevičienė, Bronė Mitkienė, Vilnius College of Technologies and Design, Lithuania</p>
15.30 – 16.00	<p>CONFERENCE SECTION SUMMARY – 303</p>		

CONFERENCE TECHNICAL INNOVATIONS 2023: TOWARDS EUROPE'S GREEN COURSE

Session B. CREATIVE POSSIBILITIES IN DESIGN AND MEDIA ARTS

22 March, 2023 (Wednesday)

Olandų str. 16, 261 a.

Moderator **Jonas Malinauskas**, Vilnius College of Technologies and Design

The session will also take place remotely in the MS Teams: [LINK TO MS TEAMS](#)

9.30 – 10.00	Welcome Coffee and Registration – 302 a.
10.00 – 10.10	Welcome word – 261 a. Lorita Butrimienė , Dean of Design Faculty, Vilnius College of Technologies and Design.
10.10-10.30	"AI as Creative Partner and Muse" PhD Christopher Hales , Interactive film/video independent artist, Lecturer and Researcher, United Kingdom
10.30 – 10.50	"Collaboration between artificial intelligence and designer" Jonas Lekevičius , host and creator of the internet show "Du Bitai", Lithuania
10.50 – 11.10	"Application of capabilities of MidJourney artificial intelligence program in graphic design". Justinas Vinevičius , Art Director, studio "Justin Vin", Lithuania
11.10 – 11.30	"Ah, is this myyour's face?" A moving image contemplated by artificial intelligence" Artūras Bukauskas , lecturer, Vilnius Academy of Arts, Lithuania
11.30 – 11.50	"The synthesis of Augmented Reality and artificial intelligence in home interior decoration" Giedrius Morkūnas , the founder of startup "DressMyCrib", Lithuania
11.50 – 12.10	"Back to nature?" Ieva Aleknienė , marketing specialist, „Akzo Nobel Baltics“ Ltd, Lithuania
12.10-12.30	"The subjective aspect of a photography art project" Arturas Valiauga , lecturer, Vlnius College of Technologies and Design, Lithuania
12.30 – 13.00	Coffee break – 302 a.

CONFERENCE TECHNICAL INNOVATIONS 2023: TOWARDS EUROPE'S GREEN COURSE

Session C. TRANSPORT LOGISTICS

22 March, 2023 (Wednesday)

Antakalnis st. 54, 502 a.

Moderator **Inga Piščikienė**, Vilnius College of Technologies and Design

The session will also take place remotely in the MS Teams: [LINK TO MS TEAMS](#)

10.00 – 10.20	Welcome Coffee and Registration – 160 a.
10.20 – 10.30	Welcome word – 502 a. PhD Deividas Navikas , Dean of Faculty of Civil Engineering of Vilnius College of Technologies and Design
10.30 – 10.50	“Overview of reverse logistics in cities” PhD Oldřich Kodym, PhD Vaclav Cempirek, Michal Turek, Matěj Hrouda , College of Logistics, Czech Republic
10.50 – 11.10	“Impact of Online Sales Business Cargo Flows on the Logistic complex of Georgia's Transport-Transit Corridor – Brief Analysis and Recommendations” PhD Boris Gitolandia, PhD Otari Gelashvili, Luka Kemoklidze , Georgian Technical University, Georgia
11.10 – 11.30	“Supply chain dynamic capabilities as a factor impacting SME's resilience” Joana Lapkovskaja , Vilnius College of Technologies and Design, Vilnius Gediminas Technical University, Lithuania
11.30 – 11.50	“Assessing the impact of the Mobility package on the transport sector” Aurelijus Vaškys, PhD Indrė Sprogytė-Bredelienė , Vilnius College of Technologies and Design, Lithuania
12.00 – 13.00	Coffee break – 160 a.

CONFERENCE TECHNICAL INNOVATIONS 2023: TOWARDS EUROPE'S GREEN COURSE

Session D. CONSTRUCTION ENGINEERING

22 March, 2023 (Wednesday)

Antakalnis st. 54, 162 a.

Moderator **PhD Andrius Gulbinas**, Vilnius College of Technologies and Design

The session will also take place remotely in the MS Teams: [LINK TO MS TEAMS](#)

10.00 – 10.30	Welcome Coffee and Registration – 160 a.
10.30 – 10.40	Welcome word – 162 a. PhD Deividas Navikas , Dean of Faculty of Civil Engineering of Vilnius College of Technologies and Design
10.40 – 11.00	“Evaluation of different retrofit solutions for industrial building facades in a life cycle perspective using BIM” Neri Banti, Cecilia Ciacci , DICEA – University of Florence, Italy
11.00 – 11.20	“Internet of Thing in Smart Houses” Aleksejs Zorins, Ilmārs Apeināns , Rezekne Academy of Technologies, Latvia
11.20 – 11.40	“Urban Transformation in the Context of EU Green Deal” Omer Devrim Aksoyak , Abdullah Gul University, Turkey
11.40 – 12.00	“Environmentally friendly construction of foundations in Lithuania and abroad” Danutė Sližytė, Rimantas Mackevičius , Vilnius Gediminas Technical University, Lithuania
12.00 – 13.00	Coffee break – 160 a.
13.00 – 13.20	“BIM – from design to installation. Facade industry” Julius Zykus , KG Constructions, Lithuania
13.20 – 13.40	“Alternative concrete reinforcement – greener construction” Andrius Karpauskas , PP Baltic, Lithuania
13.40 – 14.00	“Waste management for smart cities and logistics” Berrin Denizhan , Abdullah Gul University, Turkey
14.00 – 14.30	CONFERENCE SECTION SUMMARY