

# Final Schedule and Program of the 64th International Scientific Conference of Riga Technical University on Power and Electrical Engineering RTUCON2023

## At Glance

### Dates

All activities of RTUCON2023 will occur on Monday (October 9, 2023) and Tuesday (October 10, 2023).

### Venue (Day 1)

Most of the activities of RTUCON2023 will take place at Riga Technical University, Faculty of Electrical and Environmental Engineering (Latvia, Riga, Azenes street 12 – Building 1).

**Day 1: Monday, October 9, 2023.** The registration for the conference will take place from 9:00 to 13:00 in the hall in front of rooms 114/115/116. Formal opening and Keynote session “Baltic Research Program” will occur from 10:00 till 12:40 in room 115, and working sessions will continue from 13:15 in rooms 115 and 116. The **lunch** will be provided from 12:40 to 13:15 in faculty bistro at the 1st floor. Coffee break will be served in room 114 from 15:15 to 15:45.

The **Gala Dinner** will take place in the Domus Auditorialis auditoria center, Zunda krastmala 8 (building next to Faculty of Electrical and Environmental Engineering) from 19:30 to 22:30.

### Short-Form Timetable

2023, October 9 (Monday)

	115	116	
8:00			8:00
9:00			9:00
10:00	Opening ceremony		10:00
11:00	Opening and Keynote Session "Baltic Research Program"		11:00
12:00			12:00
13:00	Lunch (Bistro 1st floor)		13:00
14:00	Electrical Machines, Drives and Vehicles [Reports 7847, 388, 3272, 8880, 6099, 3859, 643, 7570, 5605 → 9 presentations]	Power Engineering (Part I) [Reports 4164, 8226, 3354, 8756, 9381, 4656, 1896, 671 → 8 presentations]	14:00
15:00		Coffee Break	15:00
16:00	Power Electronics (Part I) [Reports 7160, 5051, 2297, 1008, 6814, 4900, 6125, 7349 → 8 presentations]	Power Engineering (Part II) [Reports 5175, 9989, 9620, 7323, 8602, 9145, 9693, → 7 presentations]	16:00
17:00			17:00
18:00			18:00
19:00			19:00
20:00	Gala Dinner – Domus Auditorialis auditoria center		20:00

**Monday, October 9, 2023**

Hall, 9:00-13:00, Registration

## Work Program (Room 115)

### Room 115, 10:00-12:40, Opening and Keynote Session "Baltic Research Program"

Chairpersons:	Dr. Andrei Blinov (Tallinn University of Technology, Estonia) Prof. Ilya Galkin (Riga Technical University, Latvia)	
From	To	<i><u>Presenting Author (Affiliation), Paper Authors</u></i> <b>"Paper Title" (Paper ID)</b>
10:00	10:30	<i><u>Prof. Leonids Ribickis, Prof. Oskars Krievs, Prof. Antans Sauhats (Riga Technical University, Latvia)</u></i> <b>"Welcome Speeches"</b>
10:30	11:10	<i><u>Prof. Raimondas Pomarnacki (Vilnius Gediminas Technical University, Lithuania)</u></i> <b>"Experience, challenges and results in carrying out a scientific cooperation project between the Baltic countries and Norway - EMONDI"</b>
11:10	11:50	<i><u>Dr. Toomas Vaimann (Tallinn University of Technology, Estonia)</u></i> <b>"IoT Based Tools and Methods for Electrical Machine Diagnostics"</b>
11:50	12:30	<i><u>Dr. Andrei Blinov (Tallinn University of Technology, Estonia)</u></i> <b>"Optimized Residential Energy Storage Systems - ORBES"</b>
12:30	12:40	<i><u>Prof. Ilya Galkin (Riga Technical University, Latvia)</u></i> <b>Announcements</b>

Bistro, 12:40-13:15, Lunch

## Room 115, 13:15-15:30, Electrical Machines, Drives and Vehicles

Chairpersons:		Prof. Valery Vodovozov (Tallinn University of Technology, Estonia) Prof. Andrejs Podgornovs (Riga Technical University, Latvia)
From	To	<u>Presenting Author (Affiliation),</u> <u>Paper Authors</u> <b>"Paper Title" (Paper ID)</b>
13:15	13:30	<u>Arturs Brekis (University of Latvia, Latvia)</u> Arturs Brekis, Andrey Shishko, Imants Bucenieks, Kalvis Kravalis, Oskars Mikanovskis and Leonids Buligins <b>"Study of the disc-type electromagnetic pump with permanent magnets for liquid metal applications" (7847)</b>
13:30	13:45	<u>Daniel Foito (Instituto Politecnico de Setubal, Portugal)</u> Miguel Marques, Rui Dias Jorge, Luís Filipe Mendes, Armando Cordeiro, Daniel Foito, Vitor Fernão Pires and João Francisco Martins <b>"Online Fault Detection and Diagnosis in Three Phase Induction Machines using the <math>\alpha\beta</math> Vector Approach: A Practical Implementation" (388)</b>
13:45	14:00	<u>Shahid Hussain (Tallinn University of Technology, Estonia)</u> Shahid Hussain, Ants Kallaste, Muhammad Usman Naseer, Martin Sarap, Hans Tiismus and Toomas Vaimann <b>"Preliminary Design Analysis of an Axial Flux Yokeless Stator Switched Reluctance Machine" (3272)</b>
14:00	14:15	<u>Oleksandr Dobzhanskyi (Point Park University, USA)</u> Oleksandr Dobzhanskyi, Rupert Gouws, Bidzina Kekelia, Sreekant Narumanch, Jeff Tomerlin and Emily Cousineau <b>"Modelling a Motor Cooling System with Stator Lamination Fins" (8880)</b>
14:15	14:30	<u>Muhammad Usman Sardar (Tallinn University of Technology, Estonia)</u> Muhammad Usman Sardar, Toomas Vaimann, Lauri Kutt, Ants Kallaste, Bilal Asad, Karolina Kudelina and Siddique Akbar <b>"Analysis of Common Mode and Rapidly Varying Voltage Profile on Stator Current Harmonics of an Inverter-fed Induction Motor" (6099)</b>
14:30	14:45	<u>Deniss Brodnevs (Riga Technical University, Latvia)</u> Alberts Serebrjakovs and Deniss Brodnevs <b>"Interrelation and Selection of Teeth Zone Parameters of a Homopolar Inductor Alternator" (3859)</b>
14:45	15:00	<u>Valery Vodovozov (Tallinn University of Technology, Estonia)</u> Valery Vodovozov, Zoja Raud and Eduard Petlenkov <b>"Control of Pick-and-Place Robots with Reduced Power Consumption" (643)</b>
15:00	15:15	<u>Vsevolod Burenin (Riga Technical University, Latvia)</u> Vsevolod Burenin, Jaroslavs Zarembo, Genadijs Kobenkins and Oskars Krievs <b>"Implementation of Hybrid PWM with Smooth Transitions between Modulation Modes for Railway Traction Field-Oriented Control System" (7570)</b>
15:15	15:30	<u>Deniss Brodnevs (Riga Technical University, Latvia)</u> Deniss Brodnevs and Alberts Serebrjakovs <b>"An Approach to Permeance Calculation of a Teeth Zone of a HIA Using MATLAB" (5605)</b>

## Room 114, 15:30-15:45, Coffee Break

## Room 115, 15:45-17:45, Power Electronics (Part I)

Chairpersons:		Prof. Dmitri Vinnikov (Tallinn University of Technology, Estonia) Prof. Ilya Galkin (Riga Technical University, Latvia)
From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
15:45	16:00	<i>Parham Mohseni (Tallinn University of Technology, Estonia)</i> Parham Mohseni, Oleksandr Husev, Dmitri Vinnikov, Oleksandr Matiushkin and Naser Vosoughi Kurdkandi <b>"A Three-Phase Unfolding-Based PFC Topology with Two Inductors for Electric Vehicles Battery Charging" (7160)</b>
16:00	16:15	<i>Kaspars Kroičs (Riga Technical University, Latvia)</i> Kaspars Kroičs, Kristiāns Gaspersons and Martin Makar <b>"Zero Current Detection Circuit based on Saturable Transformer Application in GaN based DC-DC Converter with Triple-Mode Switching" (5051)</b>
16:15	16:30	<i>Neelesh Yadav (Tallinn University of Technology, Estonia)</i> Neelesh Yadav, Andrii Chub, Naser Hassanpour, Andrei Blinov and Dmitri Vinnikov <b>"Step-Up/Down Partial Power Converter with Enhanced MPPT Efficiency Around Zero Partiality" (2297)</b>
16:30	16:45	<i>Tanel Jalakas (Tallinn University of Technology, Estonia)</i> Ali Ebrahimi, Ebrahim Babaei, S.M.J Mousavi, Hamed Mashinchi and Tanel Jalakas <b>"Impedance Network-based Diode-Clamped Multilevel Inverter Voltage Balancing with Cascaded Voltage Multiplier" (1008)</b>
16:45	17:00	<i>Armando Cordeiro (Instituto Politécnico de Lisboa; INESC ID Lisboa, Portugal)</i> Armando Cordeiro, Vitor Fernão Pires, Daniel Foito and José Fernando Silva <b>"Six Phase Fault Tolerant Inverter using a Multilevel Nine Switch Converter" (6814)</b>
17:00	17:15	<i>Naser Hassanpour (Tallinn University of Technology, Estonia)</i> Naser Hassanpour, Andrii Chub, Andrei Blinov and Dmitri Vinnikov <b>"Droop Control Implementation in Bidirectional Step-Up/Down Partial Power Converter for Battery Energy Storage Applications" (4900)</b>
17:15	17:30	<i>Saeed Pourjafar (Tallinn University of Technology, Estonia)</i> Saeed Pourjafar, Parham Mohseni, Oleksandr Matiushkin, Oleksandr Husev and Dmitri Vinnikov <b>"Isolated High Power Density High Step-up DC-DC Converter" (6125)</b>
17:30	17:45	<i>Indrek Roasto (Tallinn University of Technology, Estonia)</i> Indrek Roasto, Andrei Blinov, Dmitri Vinnikov and Tanel Jalakas <b>"DC Droop Control Strategies and Tuning Principles" (7349)</b>

## Work Program (Room 116)

### Room 116, 13:15-15:15, Power Engineering (Part I)

Chairpersons:		Dr. Roman Petrichenko (Riga Technical University, Latvia) Dr. Jevgenijs Kozadajevs (Riga Technical University, Latvia)
From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
13:15	13:30	<u>Roman Petrichenko (Riga Technical University, Latvia)</u> Antans Sauhats, Roman Petrichenko, Lubov Petrichenko, Galina Bockarjova, Konstantins Burcevs and Marija Zima-Bockarjova <b>"The role of hydrogen in the green future of the Baltic energy system" (4164)</b>
13:30	13:45	<u>Lubov Petrichenko (Riga Technical University, Latvia)</u> Lubov Petrichenko, Roman Petrichenko, Antans Sauhats, Galina Bockarjova, Konstantins Burcevs, Saulius Gudzius and Marija Zima-Bockarjova <b>"Operation, optimization and taxation of large-scale combined solar and hydro pumped storage power plant" (8226)</b>
13:45	14:00	<u>Tatjana Lomane (Riga Technical University, Latvia)</u> Anatolijs Mahnitko, Tatjana Lomane, Inga Zicmane and Timurs Kuzņecovs <b>"Computer Simulation of Modes for Baltic Power System as Part of Entso-E Power Unit" (3354)</b>
14:00	14:15	<u>Tatjana Lomane (Riga Technical University, Latvia)</u> Yurii Veremiichuk, Olena Yarmoliuk, Ivan Prytyskach, Vitalii Opryshko, Anatolijs Mahnitko and Tatjana Lomane <b>"Optimal Generation Structure within Sustainable Energy Communities Demand" (8756)</b>
14:15	14:30	<u>Roman Petrichenko (Riga Technical University, Latvia)</u> Antans Sauhats, Roman Petrichenko and Marija Zima-Bockarjova <b>"Ensuring fully renewable Baltic power system" (9381)</b>
14:30	14:45	<u>Roman Petrichenko (Riga Technical University, Latvia)</u> Valdislav Oboskalov, Danil Ignatev, Anatolijs Mahnitko and Romans Petrichenko <b>"Application of Arbitrary Polynomial Chaos in the Analysis of Power System Adequacy" (4656)</b>
14:45	15:00	<u>Olegs Borscevskis (Riga Technical University, Latvia)</u> Olegs Borscevskis, Deniss Zaicevs, Maksims Jagubovs and Sergejs Ribakovs <b>"Directional earthfault protection operation and setup aspects in medium voltage compensated network" (1896)</b>
15:00	15:15	<u>Jevgenijs Kozadajevs (Riga Technical University, Latvia)</u> Jevgenijs Kozadajevs, Aleksandrs Dolgicers and Ivars Zalitis <b>"New experience of fuel cell micro CHP operation in Latvia" (671)</b>

### Room 114, 15:15-15:30, Coffee Break

## Room 116, 15:30-17:00, Power Engineering (Part II)

Chairpersons:		Prof. Anna Mutule (Riga Technical University, Latvia) Dr. Diana Zalostiba (Riga Technical University, Latvia)
From	To	<u>Presenting Author (Affiliation),</u> <u>Paper Authors</u> <b>"Paper Title" (Paper ID)</b>
15:30	15:45	<u>Roberts Lazdins (Riga Technical University, Latvia)</u> <u>Roberts Lazdins and Anna Mutule</u> <b>"Impact of Variable Factors on the Viability and Efficiency of Energy Communities: A Scenario Simulation Study in Latvia" (5175)</b>
15:45	16:00	<u>Evita Kairisa (Institute of Physical Energetics, Latvia)</u> <u>Cristian Aguayo, Evita Kairiša and Paula Carroll</u> <b>"Data, Analytics and Algorithms to support Local Energy Communities" (9989)</b>
16:00	16:15	<u>Partha Kayal (National Institute of Technology Silchar, India)</u> <u>Rahul Nakka, Sukalyan Maji and Partha Kayal</u> <b>"A Resilient Power Supply Approach by Strategic Interconnection of Multiple Microgrids" (9620)</b>
16:15	16:30	<u>Jana Teremranova (Riga Technical University, Latvia)</u> <u>Jana Teremranova, Zane Broka and Karlis Baltputnis</u> <b>"Power System Modelling in the Baltic Countries: Data Accessibility and Consistency Aspects" (7323)</b>
16:30	16:45	<u>Dmitrijs Rusovs (Riga Technical University, Latvia)</u> <u>Dmitrijs Rusovs and Varis Žentiņš</u> <b>"Hybrid heating system sizing and operation control with Neural Network based simulation" (8602)</b>
16:45	17:00	<u>Artjoms Obusevs (Zurich University of Applied Sciences, Switzerland)</u> <u>Artjoms Obusevs, Lukas Herter, Samuel Grossmann, Petr Korba and Andre Gomes</u> <b>"Technical and Economic Investigation of Alternative Power Supply Scheme of Radial Medium Voltage Distribution Grid" (9145)</b>
17:00	17:15	<u>Artjoms Obusevs (Zurich University of Applied Sciences, Switzerland)</u> <u>Artjoms Obusevs, Linda Rüegg, Roger Hildebrand and Petr Korba</u> <b>"The Potential of Flexibility Utilisation for Municipalities to Optimally Use the Electricity Grid" (9693)</b>

**Gala Dinner, 19:30-22:30, Domus Auditorialis auditoria center, Zunda krastmala 8 (building next to Faculty of Electrical and Environmental Engineering)**

## Venue (Day 2)

**Day 2: Tuesday, October 10, 2023.** The registration for the conference will take place from 9:00 to 13:00 in the hall in front of rooms 114/115/116. The **lunch** will be provided from 11:45 to 12:45 in faculty bistro at the 1st floor. Coffee break will be served in room 114 from 15:30 to 15:45.

Award Ceremony and Closing of the conference will be held in room 116 from 17:45 to 18:15 (after Education in Engineering session).

## Short-Form Timetable

### 2023, October 10 (Tuesday)

	115	116	
8:00			8:00
9:00			9:00
10:00	<b>Power Engineering (Part III)</b> [Reports 375, 4608, 1271, 3355, 1361, 2491, 5972, 8770 → 8 presentations]	<b>Power Electronics (Part II)</b> [Reports 1697, 9204, 1619, 5157, 8806, 7972, 9365 → 7 presentations]	10:00
11:00			11:00
12:00	Lunch (Bistro 1st floor)	Lunch (Bistro 1st floor)	12:00
13:00			13:00
14:00	<b>Hybrid session</b> [Reports 4272, 751, 2912, 2967, 6103, 9677, 6455, 5737, 8824, 9992, 3918 → 11 presentations]		14:00
15:00			15:00
	Coffee Break	Coffee Break	
16:00	<b>Electrical Engineering</b> [Reports 195, 6399, 4705, 7293, 9709, 9062, 8746, 6693 → 8 presentations]	<b>Education in Engineering</b> [Reports 6068, 3746, 3620, 4281, 3308, 1348, 1059, 7800 → 8 presentations]	16:00
17:00			17:00
18:00		<b>Award Ceremony + Closing</b>	18:00
19:00			19:00
20:00			20:00

**Tuesday, October 10, 2023**

**Hall, 9:00-13:00, Registration**

## **Work Program (Room 115)**

### **Room 115, 10:00-12:00, Power Engineering (Part III)**

Chairpersons:		Prof. Aleksandrs Dolgicers (Riga Technical University, Latvia) Dr. Laila Zemite (Riga Technical University, Latvia)
From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
10:00	10:15	<u>Josifs Survilo (Riga Technical University, Latvia)</u> Josifs Survilo <b>"Let's Take What the Sun Gives Us" (375)</b>
10:15	10:30	<u>Josifs Survilo (Riga Technical University, Latvia)</u> Josifs Survilo <b>"Purposeful Change in Transmission Line" (4608)</b>
10:30	10:45	<u>Alejandro Parrado-Duque (The University of Quebec at Trois-Rivieres, Canada)</u> Alejandro Parrado-Duque, Yves Dube, Sebastien Charrel, Cedric Gaden, Nilson Henao, Kodjo Agbossou and Yvan Guibault <b>"Potential for Waste Heat Recovery in a Digital Currency Mining Facility: A Building Infrastructure Case Study" (1271)</b>
10:45	11:00	<u>Miroslav Gutten (University of Zilina, Slovakia)</u> Miroslav Gutten, Daniel Korenciak, Matej Kucera and Marek Paskala <b>"Analysis of the Condition Transformer after a Fault using the SFRA and FDS method" (3355)</b>
11:00	11:15	<u>Andris Bačkurs (Latvia University of Life Sciences and Technologies, Latvia)</u> Andris Bačkurs, Laila Zemite, Aigars Laizans, Ilmars Bode, Aivars Starikovs and Liga Vempere <b>"Towards Sustainable Transport: Evaluating Potential of Hydrogen Fuel Cell Buses and Trucks in Latvia" (1361)</b>
11:15	11:30	<u>Ainars Selickis (Riga Technical University, Latvia)</u> Ainars Selickis, Leo Jansons, Ilmars Bode, Laila Zemite and Namejs Zeltins <b>"Basis of Operational Planning Methodology in Diversified Gas Distribution Systems" (2491)</b>
11:30	11:45	<u>Dauids Kronkalns (Riga Technical University, Latvia)</u> Dauids Kronkalns, Laila Zemite, Aivo Jasevics, Andris Bačkurs and Leo Jansons <b>"Assessing Financial and Operational Feasibility of Solar Energy Storage" (5972)</b>
11:45	12:00	<u>Aleksandrs Kuposovs (Riga Technical University, Latvia)</u> Aleksandrs Kuposovs, Leo Jansons, Ilmars Bode, Laila Zemite and Egīls Dzelzītis <b>"Technical Condition Assessment Framework for Steel Underground Gas Distribution Pipelines in Latvia" (8770)</b>

**Bistro, 12:00-12:45, Lunch**



## Room 115, 12:45-15:30, Hybrid session

Chairpersons:		Prof. Ilya Galkin (Riga Technical University, Latvia) Prof. Dmitri Vinnikov (Tallinn University of Technology, Estonia) Prof. Andrejs Podgornovs (Riga Technical University, Latvia) Prof. Nadezhda Kunicina (Riga Technical University, Latvia)
From	To	<u>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</u>
12:45	13:00	<u>Angela Amato (Polytechnic University of Turin, Italy)</u> Paolo Di Leo, Gabriele Malgaroli, Angela Amato, Stefano Schubert, Alessandro Ciocia and Filippo Spertino <b>"An Academic Laboratory for All-Electric Energy Communities: the Case Study of PVZEN Microgrid" (4272)</b>
13:00	13:15	<u>Ahmed Gamal Ezzeldin Mohamed Ibrahim Mowafy (Riga Technical University, Latvia)</u> Ahmed Gamal Ezzeldin Mohamed Ibrahim Mowafy and Ingars Steiks <b>"Comparison of power flow methods for Distribution Grids" (751)</b>
13:15	13:30	<u>Yuri Soluyanov ( Kazan State Power Engineering University, Russian Federation)</u> Yuri Soluyanov, Alexander Fedotov, Azat Akhmetshin and Vladimir Soluyanov <b>"Specific Electrical Loads of Multi-Apartment Residential Buildings in the Agglomeration «Moscow - Moscow Region»" (2912)</b>
13:30	13:45	<u>Kristers Šabansks (University of Latvia, Latvia)</u> Kristers Sabansks, Jevgenijs Telicko and Andris Jakovic <b>"Secure Video IoT Monitoring System Based on ESP32" (2967)</b>
13:45	14:00	<u>Christos Pergamalis (National and Kapodistrian University of Athens, Greece)</u> Christos Pergamalis, Eleftherios Tsampasis, Panagiotis Gkonis and Charalambos Elias <b>"A Review of Energy Storage Technologies – Comparison and Future Challenges" (6103)</b>
14:00	14:15	<u>Jurijs Timofejevs (Riga Technical University, Latvia)</u> Jurijs Timofejevs, Andrejs Potapovs and Mikhail Gorobet <b>"Computer Vision System for Autonomous Sea Buckthorn Harvesting Robot" (9677)</b>
14:15	14:30	<u>Nadezhda Kunicina (Riga Technical University, Latvia)</u> Nadezhda Kunicina and Yelena Chaiko <b>"Cultivating Future-Ready Education: Striking a Balance with Personalized Empowerment in Electrical Engineering" (6455)</b>
14:30	14:45	<u>Antons Patlins (Riga Technical University, Latvia)</u> Antons Patlins and Leonids Ribickis <b>"Evaluation of the efficiency of collaboration between universities and enterprises" (5737)</b>
14:45	15:00	<u>Elizaveta Staroverova (Kostroma State University of Technology, Russian Federation)</u> Elizaveta Staroverova and Borislav Staroverov <b>"Choosing of Electrical Engineering Equipment Using Fuzzy Models in Expert Evaluation Methods" (8824)</b>
15:00	15:15	<u>Nadezhda Kunicina (Riga Technical University, Latvia)</u> Nadezhda Kunicina and Yelena Chaiko <b>"Navigating New Horizons in Electrical Engineering Education" (9992)</b>
15:15	15:30	<u>Fatih Çıġrıkçı (Arçelik A.Ş., Turkey)</u> Fatih Çıġrıkçı, Rahmet Aybüke Bilir and Serkan Güney <b>"Effects of Poor Quality UPS" (3918)</b>

## Room 114, 15:30-15:45, Coffee Break

## Room 115, 12:45-15:30, Electrical Engineering

Chairpersons:		Prof. Ilya Galkin (Riga Technical University, Latvia) Dr. Milan Belik (University of West Bohemia, Czechia)
From	To	<u>Presenting Author (Affiliation),</u> <u>Paper Authors</u> <b>"Paper Title" (Paper ID)</b>
15:45	16:00	<u>Vlads Vladinovskis (Riga Technical University, Latvia)</u> <b>"Selection of microcontroller board and stepper motor driver for FDM 3D printing to reduce power consumption" (195)</b>
16:00	16:15	<u>Anatolijs Simonovs (Riga Technical University, Latvia)</u> <u>Anatolijs Simonovs, Igors Uteshevs, Nadezda Kunicina</u> <b>"Processes in living organisms as a source of electrical energy" (6399)</b>
16:15	16:30	<u>Jelena Dikun (Higher Education Institution Klaipeda, Lithuania)</u> <u>Daiva Stanelytė, Jelena Dikun and Algimantas Andriušis</u> <b>"Research regarding the methods for computing grounding resistance" (4705)</b>
16:30	16:45	<u>Olena Rubanenko (Vinnitsya National Technical University, Ukraine)</u> <u>Olena Rubanenko and Milan Belik</u> <b>"PV system for emergency power supply of cattle-farm in war conditions" (7293)</b>
16:45	17:00	<u>Girts Stana (Riga Technical University, Latvia)</u> <u>Girts Stana, Kaspars Kroics, Viesturs Brazis and Dimitar Arnaudov</u> <b>"Method for Estimating the Efficiency of Energy Recycling for Electric Transport Equipped with Mobile Supercapacitor Storage System" (9709)</b>
17:00	17:15	<u>Milan Belik (University of West Bohemia, Czechia)</u> <u>Milan Belik and Olena Rubanenko</u> <b>"Digital Twin of PV system for Ukrainian thermal power plant flue gas cleaning unit" (9062)</b>
17:15	17:30	<u>Roberts Grants (Riga Technical University, Latvia)</u> <u>Andrii Hnatov, Shchasiana Arhun, Vasiliy Mygal, Martins Bisenieks, Roberts Grants and Olha Ulianets</u> <b>"Prospects for the Use of Electric Drives in Urban Passenger Vehicle Transport in Ukraine" (8746)</b>
17:30	17:45	<u>Sonali Mangal (Grid Controller of India Limited, India)</u> <u>Sonali Mangal, Subhendu Mukherjee and Naresh Kumar Mhalas</u> <b>"Green Day Ahead Market in Indian Power Sector" (6693)</b>

## Work Program (Room 116)

### Room 116, 10:00-11:45, Power Electronics (Part II)

Chairpersons:		Dr. Ingars Steiks (Riga Technical University, Latvia) Dr. Andrii Chub (Tallinn University of Technology, Estonia)
From	To	<i><u>Presenting Author (Affiliation),</u></i> <i>Paper Authors</i> <b>"Paper Title" (Paper ID)</b>
10:00	10:15	<i><u>Tanel Jalakas (Tallinn University of Technology, Estonia)</u></i> <i>Milad Ghavipankeh Marangalu, Hamed Mashinchi Maheri, Dmitri Vinnikov and Tanel Jalakas</i> <b>"A New High Step-up NPC-Based Switched-Capacitor Seven-Level Grid-Tied Inverter for PV Applications" (1697)</b>
10:15	10:30	<i><u>Salman Khan (Tallinn University of Technology, Estonia)</u></i> <i>Salman Khan, Andrii Chub and Dmitri Vinnikov</i> <b>"An Overview of Wide Voltage-Range Isolated DC-DC Converters" (9204)</b>
10:30	10:45	<i><u>Nasser Hassanpour (Tallinn University of Technology, Estonia)</u></i> <i>Deniz Zargariafshar, S.M.J Mousavi, Ebrahim Babaei, Hamed Mashinchi Maheri and Naser Hassanpour</i> <b>"A Single-Phase High-Frequency Isolated Quasi-Z-Source AC-AC Converter Without Commutation Problem and Step-Change Frequency Operation" (1619)</b>
10:45	11:00	<i><u>Orkhan Karimzada (Sapienza University of Rome, Italy)</u></i> <i>Orkhan Karimzada and Giulio De Donato</i> <b>"Design of GaN-bases three-phase grid-connected PV inverter" (5157)</b>
11:00	11:15	<i><u>Marcis Prieditis (Riga Technical University, Latvia)</u></i> <i>Edgars Kalsnavs, Aleksejs Jekimovs and Marcis Prieditis</i> <b>"Comparison of GaN HEMT Power Loss Calculation Methods for DAB converter" (8806)</b>
11:15	11:30	<i><u>Mohammad Mahad Nadeem (Tallinn University of Technology, Estonia)</u></i> <i>Mohammad Mahad Nadeem, Andrei Blinov and Dmitri Vinnikov</i> <b>"EV Battery Charging Converters with Wide Output DC Voltage Range" (7972)</b>
11:30	11:45	<i><u>Oleksandr Husev (Tallinn University of Technology, Estonia)</u></i> <i>Viktor Shevchenko, Bohdan Pakhaliuk, Oleksandr Husev, Maksym Khomenko, Dmitri Vinnikov and Ryszard Strezelecki</i> <b>"Analysis and static mode optimization of simultaneous inductive and capacitive coupled wireless power transfer system" (9365)</b>

**Bistro, 11:45-12:45, Lunch**

## Room 116, 15:45-17:45, Education in Engineering

Chairpersons:		Prof. Nadezhda Kunicina (Riga Technical University, Latvia)
From	To	<u>Presenting Author (Affiliation),</u> <u>Paper Authors</u> <b>"Paper Title" (Paper ID)</b>
15:45	16:00	<u>Maris Terauds (Riga Technical University, Latvia)</u> <u>Maris Terauds and Vladimirs Smolaninovs</u> <b>"The MATLAB Grader: Expanding Possibilities with Various Task Versions" (6068)</b>
16:00	16:15	<u>Nadezhda Kunicina (Riga Technical University, Latvia)</u> <u>Yelena Chaiko and Nadezhda Kunicina</u> <b>"Enhancing Student Motivation and Academic Success. Effective Strategies for Promoting Study Programs in Education" (3746)</b>
16:15	16:30	<u>Antons Patlins (Riga Technical University, Latvia)</u> <u>Antons Patlins and Leonids Ribickis</u> <b>"The evaluation of cooperation between universities" (3620)</b>
16:30	16:45	<u>Jelena Caiko (Riga Technical University, Latvia)</u> <u>Nadezhda Kunicina, Rasa Bruzgiene, Jelena Caiko, Anton Rassölkin and Darius Plonis</u> <b>"Development of Mutual Recognition of Education Approach in Advanced Computer-Oriented Engineering Technologies in the Baltic Region" (4281)</b>
16:45	17:00	<u>Zoja Raud (Tallinn University of Technology, Estonia)</u> <u>Valery Vodovozov, Zoja Raud and Eduard Petlenkov</u> <b>"Gen Z Oriented Engineering Education in the "Industry 4.0" Age" (3308)</b>
17:00	17:15	<u>Nadezhda Kunicina (Riga Technical University, Latvia)</u> <u>Anastasia Zhiravetska, Nadezhda Kunicina, Jelena Chaiko and Julija Maksimkina</u> <b>"Study Courses Digitalisation At RTU On the Basis of HPC Platform and Combined Learning Methodology" (1348)</b>
17:15	17:30	<u>Martins Priede (Riga Technical University, Latvia)</u> <u>Martins Priede, Pavels Maksimkins, Andrejs Stupans and Leonids Ribickis</u> <b>"A Strategic Approach to Implementing Problem-Based Learning in Higher Education Through Student-Managed Laboratories and Adapting Existing Courses" (1059)</b>
17:30	17:45	<u>Nadezhda Kunicina (Riga Technical University, Latvia)</u> <u>Luciana Toti and Nadezhda Kunicina</u> <b>"Sustainable development of the professional education during the period of COVID19" (7800)</b>

## Room 116, 17:45-18:15, Award Ceremony and Closing of the conference