



ENERGYCON2022

Final Schedule and Program

Venue: Riga Technical University
12/1, Azenes Street Riga, Latvia
May 9th – 12th, 2022
114; 115; 116

Join Zoom Meeting

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Meeting ID: 973 7603 0206

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<http://ieee-energycon2022.org/>





Dear Participants!

We invite you to participate in one of the largest events in the energy sector in Latvia and Europe in 2022.

Riga Technical University is organizing the international IEEE 8th Region (Europe and Africa) leading energy conference ENERGYCON, which covers a wide range of electricity and energy systems topics, and we are proud to announce that the 7th conference will take place in Riga, Latvia, on May 9-12 2022. Previous conferences took place in Bahrain, Italy, Croatia, Belgium, Cyprus and Tunisia, attracting a wide audience and promoting active cooperation between the academy and industry, the main industrial partner of the conference is Latvenergo AS.

The ENERGYCON conference is dedicated to promoting the latest research in energy and energy systems, advancing technological advances, and disseminating industrial prototypes to a wide range of professionals. This event has become one of the focal points for the use of electronics, tools, information and communication technologies in the energy sector. ENERGYCON provides an opportunity for scientists, engineers, multidisciplinary professionals and engineering students to present their work, publish results, exchange ideas, build a community of people interested in energy, power electronics and related technologies, and offer industry partners a platform for scientific and industrial collaboration and introduction of innovative technologies.

Conference participants will give presentations on topics related to electricity and energy systems, such as:

- design and security of smart grids;
- power electronics and energy conversion;
- renewable energy and storage;
- power systems and smart grids;
- advanced technologies for smart grid management, design and operation.

The number of participants is expected to be several hundred industry professionals from different countries. This will provide a great opportunity to establish new business contacts in the proposed cooperation activities with new potential customers and promote your company's products or services, as well as to create a positive image in society by conducting PR activities and financially supporting the publicity of Ukrainian researchers' research results.

Student registration is free at <http://ieee-energycon2022.org/>.

The previous ENERGYCON has attracted more than 1,000 participants with 500 published articles by co-authors from IEEE R8 countries, representing primarily the European and Asian markets, the Middle East, Africa, and both continents.

On behalf of ENERGYCON2022
Conference committee

Professor Nadezhda Kunicina



<http://ieee-energycon2022.org/>



NB. Time slots are indicated in Latvian time CET+1

We are starting at 8:00 CET on Monday! Please carefully check the time of your slot

At Glance

Short-Form Timetable

Day 1 May 9 Monday				Day 2 May 10 Tuesday			Day 3 May 11 Wednesday	
Room A 114	Room B 115	Room C 116		Room A (Online)	Room B (Online)	Room C 531*	Room A (Online)	Room B (Online)
9:00 REGISTRATION				9:00 REGISTRATION			9:00	
Welcome: L.Ribickis A.Luque Latvenergo								
10:00 Rik W. De Doncker (IEEE Fellow)				10:00 TT1 (12, 88, 90, 108, 130, 142)			10:00 TT7 (14, 153, 157, 168)	
Power Electronics for a Sustainable Society by Pooya Davari and Frede Blaabjerg (Aalborg University, AAU Energy)							TT9 (Student Forum) Online (159, 179, 180, 181, 182, 186)	
11:00 IEEE technical talks				11:00 TT2 (16, 18, 27, 35, 43, 46)			11:00 TT4 (41, 109) Online (23, 91, 92, 113)	
Best Student Paper Awards, in Memoriam of Prof. Elias Kyriakides				Coffee Break			Break	
12:00 TT1 (21, 42, 128, 140, 154)				12:00 TT1 (146, 147, 150, 163) (111)			12:00 TT8 (31, 34, 36, 53, 136, 144)	
TT2 (17, 38, 48, 58, 63, 71, 72, 97)				TT2 (47, 57, 61, 81, 85)			TT9 (Student Forum) Online (187, 188, 189, 190, 193, 194, 195)	
TT3 (29, 33, 79, 82, 110, 131, 95)				TT4 (50, 60, 114)				
13:00 Other Topics Local (5, 19, 25)				13:00 Lunch & Break				
14:00 Lunch & Break				14:00 TT3 (40, 145) (55, 123, 124)			14:00 Other Topics Online (1, 4, 59) (2, 6, 10, 28, 192)	
15:00 TT5 (15, 44, 166) Local (132, 137, 139, 151, 152, 160, 165, 83)				15:00 TT2 (87, 96, 115, 129, 156) (13, 24)			15:00	
TT2 (132, 137, 139, 151, 152, 160, 165, 83)				Coffee Break			Coffee Break	
TT6 (56, 62, 64, 68, 70, 103, 120, 177, 191) Online (22, 26)				TT2 (75, 105, 117, 121, 134, 148, 155)			16:00	
16:00				16:00			16:00	
17:00				17:00			17:00	
18:00 Guided Tour				18:00			18:00	
19:00				19:00			19:00	
20:00 Gala Dinner				20:00			20:00	

TT1 - Power System Control, Protection and Risk Assessment
 TT2 - Renewable Energy, Storage and Distributed Energy Systems
 TT3 - Energy Economics, Management and Policy
 TT4 - Advanced Digital Technologies for Energy Systems
 TT5 - Smart Grid Design and Security
 TT6 - Power Electronics
 TT7 - Industrial Automation and Robotic Systems
 TT8 - Engineering Education in Knowledge Based Society

Day 4 | May 12 | Thursday

Technical visits

Sponsors & Organizers

Time: CET + 1 hour

Venue

Riga Technical University, Faculty of Electrical and Environmental Engineering (Latvia, Riga, Azenes street 12 – Building 1, Rooms 114(A)/115(B)/116(C), the hall in front of these rooms, as well as bistro at the 1st floor).



Monday (2022, May 9)

Registration

On Monday (2022, May 9) at from 8:45 to 9:30 and on Tuesday (2022, May 10) from 9:00 to 9:45 in the hall in front of rooms 114 (A), 115 (B) and 116 (C).

9:30 – 9:45 | Room B (115) | **Welcome** (L.Ribickis, A.Luque, M. Čakste)

9:45 – 10:15 | Room B (115) | **The European Green Deal - How Power Electronic Energy Conversion makes a CO₂ Neutral Energy Supply a Reality** (Prof. Dr. ir **Rik W. De Doncker**, IEEE Fellow, Director E.ON ERC and Research Campus, RWTh Aachen University, Germany)

10:15 – 10:45 | Room B (115) | **Power Electronics for a Sustainable Society**

(by prof. **Pooya Davari** and prof. **Frede Blaabjerg**, IEEE Fellow , Aalborg University, AAU Energy)

10:45 – 11:15 | Room B (115) | **IEEE Technical talks**

11:15 – 11:20 | Room B (115) | **Best Student Paper Awards, in Memoriam of Prof. Elias Kyriakides** (Presenter: Dr. **Irina Ciornei**, University of Cyprus, KIOS Research and Innovation Center of Excellence)

Room A (114), 11:30-12:45, Power System Control, Protection and Risk Assessment (TT1)

Chairpersons:

Boris Dumnic, Assistant Professor at Faculty of Technical Sciences, University of Novi Sad, Serbia

Diana Zalostiba, Associate Professor of Riga Technical University, Latvia

Björn Siemers, Scientific Researcher, OFFIS - Institute for Information Technology, Carl von Ossietzky University in Oldenburg, Germany

From	To	<i>Presenting Author (Affiliation), Paper Authors</i> "Paper Title" (Paper ID)
11:30	11:45	<u>21</u> <i>Maurizio Zajadatz (Germany, Karlsruhe Institute of Technology), Maurizio Zajadatz, Michael Suriyah and Thomas Leibfried</i> "Experimental Validation of Thermal Monitoring Systems for Medium-Voltage Switchgears"
11:45	12:00	<u>42</u> <i>Alexander Bisseling (Germany, Karlsruher Institute of Technology) Patrick Präger, Alexander Bisseling, Robin Schrewe, Michael Suriyah and Thomas Leibfried</i> "Comparison of a Modular Multilevel Converter – Virtual Synchronous Machine to a Synchronous Generator of the same power class in different grid scenarios"
12:00	12:15	<u>128</u> <i>Behnam Akbari (Switzerland, ETH Zurich), Behnam Akbari and Giovanni Sansavini</i> "Sequential Second-Order Cone Programming for AC Load Maximization Problems"
12:15	12:30	<u>140</u> <i>Ivars Zalitis (Latvia, Riga Technical University), Aleksandrs Dolgicers, Ivars Zalitis, Janis Berkolds and Jevgenijs Kozadajevs</i> "Linear solution of the High-Voltage Transmission Line transient influence problem"
12:30	12:45	<u>154</u> <i>Minh-Quan Tran (Netherlands, Eindhoven University of Technology), Minh-Quan Tran, Trung Thai Tran, Phuong H. Nguyen and Le Anh Tuan</i> "Coordination of Load Tap Changer and Distributed Energy Resources to Improve Long-term Voltage Stability"

Room A (114), 12:45-13:30, Other topics

Chairpersons: **Andrejs Romanovs** Head of Dept. of Modelling and Simulation, Riga Technical University, Latvia
Nadezda Kunicina Professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Ingars Steiks assoc. professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia

From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
11:30	11:45	<u>5</u> <i>Olav Henrik Skonnord (Norway, Smart Innovation Norway), Iliana Ilieva and Olav Henrik Skonnord</i> "The Role of the Flexibility Aggregator within the Flexibility Value Chain and Associated Research Needs"
11:45	12:00	<u>19</u> <i>Johanna Geis-Schroer (Germany, Karlsruhe Institute of Technology), Johanna Geis-Schroer, Ali Tawbe, Michael Suriyah and Thomas Leibfried</i> "On the Robustness of Domestic Devices to Decreased Frequency Quality"
12:00	12:15	<u>25</u> <i>Constandinos X Mavromoustakis (Cyprus, University of Nicosia), Grace Khayat, Constandinos X Mavromoustakis, George Mastorakis, Jordi Mongay Batalla and Evangelos Pallis</i> "Weighted Cluster Routing Protocol with Redundant Cluster Head for Damaged WSN"

Room A (114), 14:15-16:00, Smart Grid Design and Security (TT5)

Chairpersons: **Artjoms Obusevs** Research Associate in the Institute of Energy Systems and Fluid Engineering, Zurich University of Applied Science, Switzerland
Janis Zakis assoc. prof. of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Peteris Apse - Apsitis professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia

From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
14:15	14:30	<u>15</u> <i>Tom Steffen (Germany, Hamburg University of Technology), Tom Steffen, Malte Peikenkamp, Hanko Ipach, Matthias Lorenz, Davood Babazadeh and Christian Becker</i> "Interference of Household Devices on Broadband Power Line Communication in German Smart Grids"
14:30	14:45	<u>44</u> <i>Björn Siemers (Germany, OFFIS), Björn Siemers, Lars Fischer and Sebastian Lehnhoff</i> "A Trust Model in Control Systems to Enhance and Support Cybersecurity"
14:45	15:00	<u>166</u> <i>Almir Ekic (United States, North Dakota State University), Almir Ekic, Di Wu and Ying Huang</i> "A Review on Cascading Failure Analysis for Integrated Power and Gas Systems"
15:00	15:15	<u>73</u> <i>Vincent Nyangaresi (Kenya, Jaramogi Oginga Odinga University Of Science), Vincent Nyangaresi, Junchao Ma, Zaid Ameen Abduljabbar and Mustafa A. Al Sibahee</i> "Temporary Symmetric Key Based Message Verification Protocol for Smart Energy Networks"
15:15	15:30	<u>89</u> <i>Shams Taha (Switzerland, ETHZ), Shams Taha, Jan Poland, Katarina Knezovic and Dmitry Shchetinin</i> "Learning to Run a Power Network under Varying Grid Topology"
15:30	15:45	<u>119</u> <i>Oladapo Ibitoye (Nigeria, Afe Babalola University), Oladapo Ibitoye</i> "A Review of IoT-Based Techniques for Smart Power Systems Architectures"
15:45	16:00	<u>125</u> <i>Siyuan Dong (United Kingdom, Keele University), Siyuan Dong and Zhong Fan</i> "Cybersecurity Threats Analysis and Management for Peer-to-Peer Energy Trading"



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Room B (115), 11:30-13:30, Renewable Energy, Storage and Distributed Energy Systems (TT2)

Chairpersons: **Argo Rosin** Vice-Dean for Research, Tallinn University of Technology, Estonia
Sertac Bayhan Associate Professor of Sustainable Division, Hamad Bin Khalifa University, Qatar
Janis Zakis assoc. prof. of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Andrii Chub Department of Electrical Power Engineering and Mechatronics, Senior Researcher, Tallinn University of Technology, Estonia

From	To	<u>Presenting Author (Affiliation),</u> <i>Paper Authors</i> "Paper Title" (Paper ID)
11:30	11:45	<u>17</u> <i>Jens Hönen (Netherlands, University of Twente)</i> <i>Jens Hönen, Johann L. Hurink and Bert Zwart</i> "Robust Energy Management for a Microgrid"
11:45	12:00	<u>38</u> <i>Qingwen Pang (United Kingdom, Imperial College London)</i> <i>Qingwen Pang, Vincenzo Trovato, Antonio De Paola and Goran Strbac</i> "The impact of variable wind and demand levels on the flexible operation of interconnectors in Great Britain"
12:00	12:15	<u>48</u> <i>Frederik Gielnik (Germany, Karlsruhe Institute of Technology)</i> <i>Frederik Gielnik, Samuel Eichhorn, Steven de Jongh, Alexander Bisseling, Michael Suriyah and Thomas Leibfried</i> "Modeling and Dynamic Simulation of Voltage Fluctuations in Low-Voltage Grids and Validation Using Field Test Data "
12:15	12:30	<u>58</u> <i>Roman Petrichenko (Latvia, Riga Technical University)</i> <i>Roman Petrichenko, Jevgenijs Kozadajevs, Lubov Petrichenko and Aigars Silis</i> "Reserve power estimation according to the Baltic power system 2050 development plan"
12:30	12:45	<u>63</u> <i>Andrey Vulfovich (Israel, Ben Gurion University of the Negev)</i>

		<p><i>Andrey Vulfovich, Ilan Shalish, Simon Lineykin and Alon Kuperman</i></p> <p>"Similarity Between Photovoltaic and Thermoelectric Generator Equivalent Circuits"</p>
12:45	13:00	<p><u>71</u> <i>Hasan Berkem Sonder (United Kingdom, Cardiff University)</i></p> <p><i>Hasan Berkem Sonder, Emmanuel Mudaheranwa and Liana Cipcigan</i></p> <p>"Estimation of Cable and Transformer Loading with Electric Vehicles and Battery Energy Storage Units"</p>
13:00	13:15	<p><u>72</u> <i>Andreas Andreou (Cyprus, University of Nicosia and University of Nicosia Research Foundation (UNRF))</i></p> <p><i>Andreas Andreou, Constandinos Mavromoustakis, George Mastorakis, Jordi Mongay Batalla and Evangelos Pallis</i></p> <p>"Energy Conservation by using the Integration of Distributed Energy System in Smart Vehicles"</p>
13:15	13:30	<p><u>97</u> <i>Ye-Obong Udoakah (United Kingdom, Cardiff University)</i></p> <p><i>Ye-Obong Udoakah, Hasan Berkem Sonder and Liana Cipcigan</i></p> <p>"Nigerian Distribution Network Feeder Impact Assessment with Integration of Electric Vehicles"</p>

Room B (115), 14:15-16:15, Renewable Energy, Storage and Distributed Energy Systems (TT2)

Chairpersons:

- Argo Rosin** Vice-Dean for Research, Tallinn University of Technology, Estonia
- Sertac Bayhan** Associate Professor of Sustainable Division, Hamad Bin Khalifa University, Qatar
- Nadzhda Kunicina** professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
- Andrii Chub** Department of Electrical Power Engineering and Mechatronics, Senior Researcher, Tallinn University of Technology, Estonia

From	To	<p><u>Presenting Author (Affiliation),</u></p> <p><u>Paper Authors</u></p> <p>"Paper Title" (Paper ID)</p>
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14:15	14:30	<u>132</u>	<i>Alejandro Gonzalez-Moreno (Spain, Public University of Navarra (UPNA), Alejandro Gonzalez-Moreno, Javier Marcos, Iñigo de la Parra and Luis Marroyo</i> "Inverter-based PV ramp-rate limitation strategies: minimizing energy losses"
14:30	14:45	<u>137</u>	<i>Matej Krpan (Croatia, University of Zagreb)</i> <i>Matej Krpan, Marija Miletić, Igor Kuzle and Hrvoje Pandžić</i> "Incorporating Settling Time Constraints of Energy Storage Systems in Frequency Containment Control Optimization Problems"
14:45	15:00	<u>139</u>	<i>Anatoliy Prystupa (Ukraine, Chernihiv Polytechnic National University)</i> <i>Anatoliy Prystupa, Volodymyr Kazymyr, Anatolijs Zabasta, Anatoliy Revko, Serhii Stepenko and Kateryna Novyk</i> "Autonomous Power Supply Development for Hydrometeorological Monitoring Station"
15:00	15:15	<u>151</u>	<i>Immanuel Ninma Jiya (Norway, University of Agder, Norway)</i> <i>Paula Bastida-Molina, Immanuel Ninma Jiya and Van Khang Huynh</i> "Modelling a Hybrid Renewable Energy System for Recharging Electric Vehicles"
15:15	15:30	<u>152</u>	<i>Evelin Blom (Sweden, KTH Royal Institute of Technology)</i> <i>Evelin Blom and Lennart Söder</i> "Comparison of Different Computational Methods and Formulations for Hydropower Equivalents"
15:30	15:45	<u>160</u>	<i>Hamed Athari (Hungary, Budapest University of Technology and Economics)</i> <i>Hamed Athari and David Raisz</i> "Three-phase multi-frequency energy transfer system for realizing the energy internet"
15:45	16:00	<u>165</u>	<i>Sweta Malik (Ireland, NUIG)</i> <i>Sweta Malik, Subhasis Thakur, Maeve Duffy and John Breslin</i> "Double auction mechanisms for peer-to-peer energy trading: A comparative analysis"

16:00	16:15	<u>83</u>	<i>Ivan Pavić (Croatia, University of Zagreb), Ivan Pavić, Tomislav Capuder and Hrvoje Pandzic</i> " Analysis of aFRR and mFRR Balancing Capacity \& Energy Demands and Bid Curves"
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Room C (116), 11:30-13:30, Energy Economics, Management and Policy (TT3)

Chairpersons:

Aphrodite Ktena Professor at National and Kapodistrian University of Athens, Greece

Anna Mutule Leading researcher, Riga Technical University, Latvia

From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
11:30	11:45	<u>29</u> <i>Sinan Kufeoglu (United Kingdom, University of Cambridge), Caner Budak, Ulaş Erdoğan and Sinan Kufeoglu</i> "A Peer-to-Peer Energy Trading Smart Contract"
11:45	12:00	<u>33</u> <i>Sanket Puranik (Norway, Smart Innovation Norway), Sanket Puranik, Martha M. Hoffmann, Farhan Farrukh and Sunil Sharma</i> "Optimal investments into rooftop solar and batteries for a distribution grid company and prosumers: A case study in India"
12:00	12:15	<u>79</u> <i>Ibrahim Alkadi (Saudi, Arabia Saudi Aramco), Ibrahim Alkadi, Ahmad Albin Hamad and Faisal Oufi</i> "A Novel Method to Identify the Best Conventional Power Generation Technology in Saudi Arabia"
12:15	12:30	<u>82</u> <i>Jana Teremranova (Riga Technical University, Latvia), Jana Teremranova and Diana Zalostiba</i> "Modelling of Building Sector Impact on Decarbonization of the Baltic Energy System"
12:45	13:00	<u>110</u> <i>Mikhail Gorobetz (Riga Technical University, Latvia), Mikhail Gorobetz, Aleksandr Korneyev and Laila Zemite</i> " Long-term Energy and Fuel Consumption Forecast in Private and Commercial Transport using Artificial Life Approach "
13:00	13:15	<u>131</u> <i>Petra Miljan (Croatia, University of Zagreb), Petra Miljan, Marija Miletic and Hrvoje Pandzic</i> "Modeling of an Active Household under Different Tariffs"

13:15	13:30	<u>95</u>	<i>Hossein Nourollahi Hokmabad (Estonia, TalTech University)</i> <i>Hossein Nourollahi Hokmabad, Juri Belikov, Oleksandr Husev and Dmitri Vinnikov</i> " State-of-the-art Activity Recognition and Prediction Techniques Applicable to the Home Energy Management System "
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Room C (116), 14:15-17:00, Power Electronics (TT6)

Chairpersons: **Ilya Galkin** Professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Dmitry Vinnikov Professor of Department of Electrical Power Engineering and Mechatronics, Tallinn University of Technology, Estonia

From	To	<i>Presenting Author (Affiliation), Paper Authors</i> "Paper Title" (Paper ID)
14:15	14:30	<u>22</u> <i>Antons Patlins (Latvia, Riga Technical University), Antons Patlins, Andrii Hnatov, Shchasiana Arhun, Hanna Hnatova and Olexii Saraiev</i> "Features of converting a car with an internal combustion engine into an electric car"
14:30	14:45	<u>26</u> <i>Daniel Barth (Germany, Karlsruhe Institute of Technology), Daniel Barth, Michael Suriyah and Thomas Leibfried</i> "Soft Start-up Current Control of an LCC-S Compensated Inductive Charging System"
14:45	15:00	<u>56</u> <i>Omar Abdel-Rahim (Estonia, Tallinn University of Technology), Omar Abdel-Rahim, Dmitri Vinnikov, Andrii Chub and Andrei Blinov</i> "Parital Buck-Boost Resonant Power Converter for Residential PV Applications"
15:00	15:15	<u>62</u> <i>Abualkasim Bakeer (Estonia, Tallinn University of Technology), Abualkasim Bakeer, Andrii Chub and Dmitri Vinnikov</i> "Fault Diagnosis of Output-side Diode-Bridge in Isolated DC-DC Series Resonant Converter"
15:15	15:30	<u>64</u> <i>Andrii Hnatov (Ukraine, Kharkiv National Automobile and Highway University), Andrii Hnatov, Shchasiana Arhun, Vasiliy Mygal, Olha Ulianets, Nadezhda Kunicina and Leonids Ribickis</i> "Diagnostics of Tractor Transmissions by Vibration Levels"
15:30	15:45	<u>68</u> <i>Omar Abdel-Rahim (Estonia, Tallinn University of Technology), Omar Abdel-Rahim, Dmitri Vinnikov, Khaled Awad, Mohamed Orabi, Mahmoud Gafaar and Andrii Chub</i>

			"An electrolytic capacitor-less multiple-output LED driver with a universal input voltage"
15:45	16:00	<u>70</u>	<i>Sana Othman (Tunisia, ENIG/ENSEA), Sana Othman, Lassaad Sbita and Jean-Pierre Barbot</i> "Shunt active power filter based on flying capacitor multilevel inverter for harmonic mitigation "
16:00	16:15	<u>103</u>	<i>Pavels Suskis (Latvia, Riga Technical University), Pavels Suskis, Janis Zakis, Aleksandrs Suzdalenko and Huynh Khang</i> "Converter State-Space Model Estimation Using Dynamic Mode Decomposition"
16:15	16:30	120	Abualkasim Bakeer (Estonia, Tallinn University of Technology), Abualkasim Bakeer, Andrii Chub and Dmitri Vinnikov "Study of MOSFET Post-Fault Operation in Fault-Tolerant DC-DC Converters"
16:30	16:45	<u>177</u>	<i>Tala Hemmati Shahsavar (Iran, University of Tabriz), Tala Hemmati, Oleksandr Husev, Ebrahim Babaei, Mehran Sabahi, Dmitri Vinnikov and Arash Khoshkbar-Sadigh</i> "A New Single Source Five-Level Common Ground Switched Capacitor based Inverter"
16:45	17:00	<u>191</u>	<i>Mahdiyyeh Najafzadeh (Estonia, Tallinn University of Technology), Mahdiyyeh Najafzadeh</i> "DC Nano grid Control in the Residential Energy Router with the Presence of Constant Power Loads"

Tuesday (2022, May 10)

Room A, 9:45-11:15, Power System Control, Protection and Risk Assessment (TT1)

Chairpersons: **Boris Dumnic**, Assistant Professor at Faculty of Technical Sciences, University of Novi Sad, Serbia
Diana Zalostiba, Associate Professor of Riga Technical University, Latvia
Björn Siemers, Scientific Researcher, OFFIS - Institute for Information Technology, Carl von Ossietzky University in Oldenburg, Germany

From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
09:45	10:00	<u>12</u> <i>Marco Maccioni (Italy, Sapienza University of Rome)</i> <i>Fabio Massimo Gatta, Alberto Geri, Stefano Lauria, Marco Maccioni and Ludovico Nati</i> "A global DC branch model incorporating power system flexibility"
10:00	10:15	<u>88</u> <i>Christos Iraklis (Greece, Independent Author)</i> <i>Christos Iraklis</i> "Multi-objective Combined Heuristic-SPSO for Power Loss and Congestion Mitigation in Distribution Networks"
10:15	10:30	<u>90</u> <i>Ahmed Aul Alshahri (Oman, University of Technology and Applied Sciences)</i> <i>Ahmed Aul Alshahri</i> "Analysis of Induced Potential on Gas/Water Pipelines due to Extra High Voltage AC/DC OHTL"
10:30	10:45	<u>108</u> <i>Andressa Oliveira (Brazil, Western Federal University of Bahia)</i> <i>Andressa Oliveira, Fernando Moreira and Alessandra Picanço</i> " Application of Hilbert-Huang and Stockwell Transforms to Fault Location in Transmission Lines Using Traveling Wave Theory"
10:45	11:00	<u>130</u> <i>Vasyl Kostiuk (Ukraine, Igor Sikorsky Kyiv Polytechnic Institute)</i>

		<i>Vasyl Kostiuk, Oleksandr Sidorov and Taras Kostyuk</i> "Enhanced Control of the Interchange Power Flows in the Interconnected Energy System"
11:00	11:15	<u>142</u> <i>Vinh Quang Luu Huu (Viet Nam, HCMUT)</i> <i>Vinh Quang Luu Huu</i> " A New Method for Analyzing the Voltage Stability to Assess the Power Load Buses in Power Systems"

Room A, 11:30-12:45, Power System Control, Protection and Risk Assessment (TT1)

Chairpersons: **Boris Dumnic**, Assistant Professor at Faculty of Technical Sciences, University of Novi Sad, Serbia
Diana Zalostiba, Associate Professor of Riga Technical University, Latvia
Björn Siemers, Scientific Researcher, OFFIS - Institute for Information Technology, Carl von Ossietzky University in Oldenburg, Germany

From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
11:30	11:45	<u>146</u> <i>Mohammad Karimzadeh (United States, Tufts University)</i> <i>Mohammad Karimzadeh, George Zavaliagkos and Karen Panetta</i> " Feature Extraction and Data Gap Analysis of US Residential Electricity Consumption"
11:45	12:00	<u>147</u> <i>Susanne Schmitt (Germany, Hitachi Energy)</i> <i>Susanne Schmitt, Jan Poland, Iiro Harjunkoski, Xiaoming Feng and Marco Giuntoli</i> " Fast Solution of Unit Commitment Using Machine Learning Approaches"
12:00	12:15	<u>150</u> <i>Katarina Knezovic (Switzerland, Hitachi Energy Research)</i> <i>Riccardo Vasapollo, Dmitry Shchetin and Katarina Knezovic</i> " Taylor-series based Convex Approximation Method for Optimization of Active Distribution Networks"

12:15	12:30	<u>163</u>	<u>Hendrik Vennegeerts (Germany, University of Duisburg-Essen)</u> Mahshid Maherani, Jens Denecke and Hendrik Vennegeerts "Current Limitation based on fast voltage control for fully grid-forming Direct Voltage Control"
12:30	12:45	<u>111</u>	<u>Elkssayer Mohamed Khalil (Tunisia, Engineers School of Gabes)</u> Elkssayer Mohamed Khalil, Naoui Mohamed, Hajejj Mohamed and Sbita Lassad " Enhancement of Finite Set Model Predictive Control for Direct Matrix Converter fed DFIG-Wind Energy Conversion System"

Room A, 13:30-15:00, Energy Economics, Management and Policy (TT3)

Chairpersons: **Aphrodite Ktena** Professor at National and Kapodistrian University of Athens, Greece
Anna Mutule Leading researcher, Riga Technical University, Latvia

From	To		<u>Presenting Author (Affiliation),</u> <u>Paper Authors</u> "Paper Title" (Paper ID)
13:30	13:45	<u>40</u>	<u>Marco Maccioni (Italy, 'Sapienza' University of Rome)</u> Fabio Massimo Gatta, Alberto Geri, Stefano Lauria, Marco Maccioni and Ludovico Nati " Integration of Passenger Road Transport in a Fully Renewable Electric Power System Dominated by Variable Generation "
13:45	14:00	<u>145</u>	<u>Carlos José Alves Santos (Brazil, CERTI Foundation)</u> Carlos José Alves Santos, Isla Almeida Oliveira, Pâmela Rugoni Belin, Mathias Arno Ludwig, Júlia da Rosa Howat Rodrigues and Marcos Aurélio Izumida Martins " Proposition of a Portfolio Optimization System to Manage a Commercial Virtual Power Plant in the Brazilian Free Energy Market "
14:00	14:15	<u>55</u>	<u>Michela Migliori (Italy, Terna S.p.A.)</u> Massimo La Scala, Maria Dicorato, Giuseppe Forte, Corrado Gadaleta, Chiara Giordano, Michela Migliori, Davide Monno and Enrico Maria Carlini

		" Network development alternative analysis based on Analytic Hierarchy Process "
14:30	14:45	<u>123</u> <i>Aysun Koksal (Turkey, Beykent University)</i> <i>Aysun Koksal and Aydogan Ozdemir</i> " Composite system reliability assessment to reduce the curtailment risk using the storage systems "
14:45	15:00	<u>124</u> <i>Aysun Koksal (Turkey, Beykent University)</i> <i>Aysun Koksal and Aydogan Ozdemir</i> " Assessment of storage system benefits on the reliability and the Cost of composite electric power systems "

Room B, 9:45-11:15 , Renewable Energy, Storage and Distributed Energy Systems (TT2)

Chairpersons: **Argo Rosin** Vice-Dean for Research, Tallinn University of Technology, Estonia
Sertac Bayhan Associate Professor of Sustainable Division, Hamad Bin Khalifa University, Qatar
Peteris Apse - Apsitis professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia

From	To	<u>Presenting Author (Affiliation),</u> <u>Paper Authors</u> "Paper Title" (Paper ID)
09:45	10:00	<u>16</u> <u>Héctor Yépez (Ecuador, Universidad Politécnica Salesiana)</u> Héctor Yépez, Wilson Pavon, Silvio Simani, Edy Ayala and Ama Baduba Asiedu-Asante " Source Inverter Voltage and Frequency Control for AC Isolated Microgrid Applications"
10:00	10:15	<u>18</u> <u>Hector Bastida (United Kingdom, Cardiff University)</u> Hector Bastida, Amanda Younes, Carlos E. Ugalde-Loo, Rob Smart, Mansoureh Khaljani, Nick Jenkins and Babar Baluch " An experimental facility for latent heat thermal energy storage units"
10:15	10:30	<u>27</u> <u>Sunetra Chowdhury (South Africa, University of Cape Town)</u> Caitlin Bailey and Sunetra Chowdhury " Design of a cost-effective waste to energy system with storage for a typical African animal farm"
10:30	10:45	<u>35</u> <u>Srinivasan Munisamy (United Kingdom, Cranfield university)</u> Srinivasan Munisamy and Wenxuan Wu "State of Charge Estimation of Lithium Sulfur Batteries using Sliding Mode Observer"
10:45	11:00	<u>43</u> <u>Robert T. F. Ah King (Mauritius, University of Mauritius)</u> Abdul Ahad Jhumka, Robert T. F. Ah King, Abdel Khoodaruth and Chandana Ramasawmy

		" Comparative Performance Analysis of Solar Energy and Wind Energy Systems using Rotor Angle Stability"
11:00	11:15	<u>46</u> <i>Mehdi Montakhabi (Belgium, imec-SMIT, Vrije Universiteit Brussel)</i> <i>Mehdi Montakhabi, Jorre Vannieuwenhuyze and Pieter Ballon</i> " Expert Recommendations on Energy Trading Market Models using the AHP model"

Room B, 11:30-12:45, Renewable Energy, Storage and Distributed Energy Systems (TT2)

Chairpersons: **Argo Rosin** Vice-Dean for Research, Tallinn University of Technology, Estonia
Sertac Bayhan Associate Professor of Sustainable Division, Hamad Bin Khalifa University, Qatar
Anastasija Ziravecka professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Peteris Apse - Apsitis professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia

From	To	<i>Presenting Author (Affiliation), Paper Authors</i> "Paper Title" (Paper ID)
11:30	11:45	<u>47</u> <i>Antun Premec (Croatia, University of Zagreb)</i> <i>Antun Premec, Lovro Magaš, Hrvoje Kristek and Mario Vražić</i> " Temperature distribution measurement of a battery pack in a controlled testing environment "
11:45	12:00	<u>57</u> <i>Kai Zhao (United Kingdom Cardiff University)</i> <i>Kai Zhao, Ying Liu, Wenlong Ming, Yue Zhou and Jianzhong Wu</i> " Digital Twin-Driven Estimation of State of Charge for Li-ion Battery "
12:00	12:15	<u>61</u> <i>Sunetra Chowdhury (South Africa, University of Cape Town)</i> <i>James Lombard and Sunetra Chowdhury</i> "Optimal Size and Placement of Independent Power Producers on MV/HV/EHV Lines For Minimizing Power Line Losses Using Artificial Neural Networks "

12:15	12:30	<p><u>81</u> <i>Asare Koduah (Lithuania, Kaunas University of Technology)</i></p> <p><i>Asare Koduah and Gytis Svinkunas</i></p> <p>" Switching Harmonic Ripple Attenuation in a Matrix Converter-Based DFIG Application "</p>
12:30	12:45	<p><u>85</u> <i>Marinko Barukčić (Croatia, University of Osijek)</i></p> <p><i>Marinko Barukčić, Toni Varga, Vedrana Jerković Štil and Tin Benšić</i></p> <p>"Research on node voltage indices for battery storage management through fuzzy decision making in power distribution networks "</p>

Room B 13:30-15:15, Renewable Energy, Storage and Distributed Energy Systems (TT2)

Chairpersons: **Argo Rosin** Vice-Dean for Research, Tallinn University of Technology, Estonia
Sertac Bayhan Associate Professor of Sustainable Division, Hamad Bin Khalifa University, Qatar
Peteris Apse - Apsitis professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Lauris Bisenieks, Riga Technical University, Latvia

From	To	<i>Presenting Author (Affiliation), Paper Authors</i> "Paper Title" (Paper ID)
13:30	13:45	<u>87</u> <i>Anulekha Majumdar (India, National Institute of Ocean Technology), Anulekha Majumdar, Prasad Dudhgaonkar and Purnima Jalihal</i> "Structural Modification and Optimization of AlSi7Mg0.6 Alloy Based Rotor for Wave Energy Harvesting"
13:45	14:00	<u>96</u> <i>Tobias Häring (Estonia, Tallinn University of Technology), Tobias Häring, Luca Link, Argo Rosin and Helmuth Biechl</i> " Hybrid energy storage lifetime-oriented control strategy in islanded microgrids: A real time simulation case study"
14:00	14:15	<u>115</u> <i>Ogechukwu Okonor (United Kingdom, University of Roehampton), Ogechukwu Okonor and Mo Adda</i> " Novel Power Management Technique for Energy Efficient Cloud System Applications Using A Java Agent"
14:15	14:30	<u>129</u> <i>Oladapo Ibitoye (Nigeria, Afe Babalola University), Oladapo Ibitoye</i> " Nigeria Electricity Grid and the Potentials of Renewable Energy Integration: A Concise Review"
14:30	14:45	<u>156</u> <i>Eleni Stai (Switzerland, ETHZ), Eleni Stai, Evangelia Kokolaki, Lesia Mitridati, Petros Tatoulis, Ioannis Stavrakakis and Gabriela Hug</i> "Game-Theoretic Energy Source Allocation Mechanism in Smart-Grids"

14:45	15:00	<u>13</u>	<i>Martins Bisenieks (Latvia, Riga Technical University), Martins Bisenieks, Roberts Grants, Ojars Kruminis and Anatolijs Zabasta</i> "Fast charging for electric vehicles station integration with renewable energy sources"
15:00	15:15	<u>24</u>	<i>Mohamadamin Gharibi (Iran, Amirkabir University of Technology), Mohamadamin Gharibi and Hossein Askarian Abyaneh</i> "Parking lots Load prediction by LSTM"

Room B 15:30-17:15, Renewable Energy, Storage and Distributed Energy Systems (TT2)

Chairpersons:

Argo Rosin Vice-Dean for Research, Tallinn University of Technology, Estonia
Sertac Bayhan Associate Professor of Sustainable Division, Hamad Bin Khalifa University, Qatar

Peteris Apse - Apsitis professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia

Lauris Bisenieks, Riga Technical University, Latvia

From	To	<i>Presenting Author (Affiliation), Paper Authors</i> "Paper Title" (Paper ID)
15:30	15:45	<u>75</u> <i>Achwak Alazrag (Tunisia, National Engineering School of Gabes Tunisia), Achwak Alazrag and Lassaad Sbita</i> "Dynamic Control of an induction generatorWind Farm"
15:45	16:00	<u>105</u> <i>Keysan Polat (Turkey, Power Technologies International (PTI) Siemens Turkey), Keysan Polat, Aydogan Ozdemir and Mahdis Delkhooni</i> "Load Point Reliability Analysis in LV Distribution Networks with P2P Energy Trading"
16:00	16:15	<u>117</u> <i>Jovan Vujasinović (Serbia, University of Belgrade), Jovan Vujasinović, Goran Savic and Zeljko Despotovic</i> "Architecture and Sizing of System for Remote Control of Renewable Energy Sources Powered Station for Electric Vehicles Charging"
16:15	16:30	<u>121</u> <i>Siyu Tao (China, Nanjing University of Aeronautics and Astronautics), Siyu Tao, Chaohai Zhang and Gang Zheng</i> "Coordinated Optimization of the Planning and Operation of a WF/BESS"
16:30	16:45	<u>134</u> <i>Ye-Obong Udoakah (Nigeria, University of Uyo), Ye-Obong Udoakah, Hasan Sonder, Liana Cipcigan and Jun Liang</i> " Development of a Viable Black Start Restoration Pathway and Problem Formulation Sequence"
16:45	17:00	<u>148</u> <i>Imre Drovтар (Latvia, Institute of Physical Energetics), Imre Drovтар, Tarmo Korõtko, Anna Mutule, Evita Kairisa and Argo Rosin</i> " Determining Optimisation Framework for Local Energy Communities"

17:00	17:15	<u>155</u>	<i>Zaint Alexakis (Greece, University of Patras), Zaint Alexakis and Antonio Alexandridis</i> " Minimizing the impact of losses on MPP tracking of PVs under shading conditions"
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Room C, 9:45-11:15, Advanced Digital Technologies for Energy Systems (TT4)

Chairpersons: **Janis Grabis** Director of Institute of Information Technology, Riga technical University, Latvia
Dalius Navakauskas Vice-rector for research and innovation, Vilnius Gediminas Technical University, Lithuania

From	To	<i>Presenting Author (Affiliation), Paper Authors</i> "Paper Title" (Paper ID)
09:45	10:00	<u>41</u> <i>Farhan Farrukh (Norway, Smart Innovation Norway)</i> <i>Farhan Farrukh and Bryan Pellerin</i> " Business ecosystem of the local flexibility platforms with corresponding business models in a digital energy system"
10:00	10:15	<u>109</u> <i>Thien-An Nguyen-Huu (Netherlands, Eindhoven University of Technology)</i> <i>Thien-An Nguyen-Huu, Trung Tran, Minh-Quan Tran, Phuong Nguyen and Jg Han Slootweg</i> " Operation Orchestration of Local Energy Communities through Digital Twin: A Review on suitable modeling and Simulation Approaches"
10:15	10:30	<u>23</u> <i>Grigore Stamatescu (Romania, University Politehnica of Bucharest)</i> <i>Grigore Stamatescu, Radu Plamanescu, Ana-Maria Dumitrescu, Irina Ciornei and Mihaela Albu</i> "Multiscale Data Analytics for Residential Active Power Measurements through Time Series Data Mining"
10:30	10:45	<u>91</u> <i>Rucha Bhalchandra Joshi (India, National Institute of Science Education and Research)</i> <i>Rucha Bhalchandra Joshi, Annada Prasad Behera and Subhankar Mishra</i> "eBIM-GNN : Fast and Scalable energy analysis through BIMs and Graph Neural Networks"
10:45	11:00	<u>92</u> <i>Philipp Wohlgenannt (Austria, Vorarlberg University of Applied Sciences & University of Agder)</i>

		<p><i>Philipp Wohlgenannt, Markus Preißinger, Mohan Lal Kolhe and Peter Kepplinger</i> " Demand Side Management of a Battery-Supported Manufacturing Process with On-Site Generation"</p>
11:00	11:15	<p><u>113</u> <i>Tarmo Korõtko (Latvia, Institute of Physical Energetics)</i> <i>Tarmo Korõtko, Imre Drovtar, Anna Mutule, Evita Kairisa and Argo Rosin</i> "Load Flow Modelling in Local Energy Community Electric Power Systems"</p>

Room C, 11:30-12:45, Advanced Digital Technologies for Energy Systems (TT4)

Chairpersons: **Janis Grabis** Director of Institute of Information Technology, Riga technical University, Latvia
Dalius Navakauskas Vice-rector for research and innovation, Vilnius Gediminas Technical University, Lithuania

From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
11:30	11:45	<u>118</u> <i>Clemens Eyhoff (Germany, Fraunhofer FIT)</i> Clemens Eyhoff and Wolfgang Prinz "Using the blockchain as notary service for a local energymarket"
11:45	12:00	<u>135</u> <i>Muluken Regas Eressa (France, Université Gustave Eiffel)</i> Muluken Regas Eressa and Hakim Badis " Sparse Variational Gaussian Process with Dynamic Kernel for Electricity Demand Forecasting"
12:00	12:15	<u>50</u> <i>Jānis Kampars (Latvia, Riga Technical University)</i> Jānis Kampars, Vineta Minkevica, Viesturs Pavlovs, Dainis Tropins, Janis Grabis and Andzelika Zaharova " Dynamic Demand Response Management System for Electrical Energy Balancing"
12:15	12:30	<u>60</u> <i>Francisco Carrasco (Germany, Technische Hochschule Köln)</i> Francisco Carrasco and Johanna May " Targeted preprocessing for weight reduction in NILM datasets"
12:30	12:45	<u>114</u> <i>Stylianios Rompotis (Greece, National & Kapodistrian University of Athens)</i> Stylianios Rompotis, John Konstantaras, Aphrodite Ktena, Lambros Sarakis and Christos Manasis " A Monitoring System for PV plants using Open Technologies"

Room C 13:30-15:30, Other Topics

Chairpersons: **Andrejs Romanovs** Head of Dept. of Modelling and Simulation, Riga Technical University, Latvia
Nadezda Kunicina Professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Ingars Steiks assoc. professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia

From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
13:30	13:45	<u>1</u> <i>Olakunle Alao (Ireland, University College Dublin), Olakunle Alao and Paul Cuffe</i> "Towards Hedging Imbalance Risk of Wind Power Producers Using Derivative Smart Contracts on a Blockchain Marketplace "
13:45	14:00	<u>4</u> <i>Gleb Nesterenko (Russia, Novosibirsk State Technical University), Gleb Nesterenko, Denis Armeev, Dmitriy Gladkov, Vyacheslav Zyryanov, Julia Mokrousova and Anastasia Myachina</i> "Adaptive Frequency Control Algorithm In Off-Grid Power System Based On Photovoltaic Diesel Hybrid System And Energy Storage "
14:00	14:15	<u>59</u> <i>Muhammad Shehab (Qatar, Qatar University), Muhammad Shehab, Tamer Khattab, Murat Kucukvar and Daniele Trincherò</i> " The Role of Future Communication systems in Building Sustainable and Energy-Efficient Smart Cities "
14:15	14:30	<u>2</u> <i>Moses Peter Musau (Kenya, The University of Nairobi), Moses Peter Musau and Richard Obumba Ochieng</i> " Voltage Stability Improvement by Inclusion of Parallel Transmission Lines: A Case Study of Western Kenya Region "
14:30	14:45	<u>6</u> <i>Yang Yang (China, North China Electric Power University), Jianfei Shen, Yang Yang, Wen Liu and Yi Shen</i> " The Green Transition of the Energy Industry: How to Define the Role of the Government "

14:45	15:00	<u>10</u>	<i>Samuel Kibaara (Kenya, Technical University of Mombasa), Samuel Kibaara and Martin Karwera</i> " Developing a Techno-Economic Modelling Tool for Small scale Utility Solar PV Technology for Quantifying Environmental Impacts "
15:00	15:15	<u>28</u>	<i>Kuanysh Baimirov (Kazakhstan, al-Farabi Kazakh National niversity), Kuanysh Baimirov, Estay Mergengali and Bolat Baimirov</i> "Speech recognition based on artificial neural networks "
15:15	15:30	<u>192</u>	<i>Andrejs Stupans (Latvia, Riga Technical University), Andrejs Stupans, Pavels Maksimkins, Armands Senfelds and Leonids Ribickis</i> " Industrial robot energy consumption analysis for gravity-induced opposing force minimization"

Wednesday (2022, May 11)

Room A, 10:00-11:30, Industrial Automation and Robotic Systems (TT7)

Chairpersons: **Nadezda Kunicina** Professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Jan Haase Chair of IEEE Germany Section, Germany

From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
10:00	10:15	<u>167</u> <i>Magzhan Aliaskar (Kazakhstan, Al-Farabi Kazakh National University)</i> Magzhan Aliaskar, Talgat Mazakov, Aigerim Mazakova, Sholpan Jomartova and Timur Shormanov " Human voice identification based on the detection of fundamental harmonics"
10:15	10:30	<u>170</u> <i>Nurdaulet Tasmurzayev (Kazakhstan, Al-Farabi Kazakh National University)</i> Bibars Amangeldy, Nurdaulet Tasmurzayev, Zhanel Baigarayeva, Madina Mansurova, Boris Resnik and Gulshat Amirkhanova "Improvement of HVAC System Using the Intelligent Control System"
10:30	10:45	<u>14</u> <i>Bernt Bremdal (Norway, Smart Innovation Norway)</i> Bernt Bremdal, Iliana Ilieva and Sanket Puranik " The Need for a Comprehensive Ontology for Smart Buildings"
10:45	11:00	<u>153</u> <i>Kaspars Kroics (Latvia, Riga Technical University)</i> Kaspars Kroics " Considerations for Development of High Speed Response BLDC Motor Drive with GaN Semiconductors"
11:00	11:15	<u>157</u> <i>Ahmidah Elgali (Libya, Sirte Oil Company)</i> Ahmidah Elgali and Ahmad Saad " An Industrial SCADA System Remote Control Using Mobile Phones "

11:15	11:30	<u>168</u>	<i>Aigerim Mazakova (Kazakhstan, Al-Farabi Kazakh National University)</i> <i>Aigerim Mazakova, Sholpan Jomartova, Talgat Mazakov, Timur Shormanov and Bauyrzhan Amirkhanov</i> " Controllability of an unmanned aerial vehicle "
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Room A, 11:45-13:30, Engineering Education in Knowledge Based Society (TT8)

Chairpersons: **Habib M. Kammoun** IEEE Region8 Conference Coordination Subcommittee, Chair
Andrejs Romanovs Head of Dept. of Modelling and Simulation, Riga Technical University, Latvia
Anastasija Ziravecka Professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia

From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
11:45	12:00	<u>32</u> <i>Vladimir Yavorskiy (Kazakhstan, Karaganda Technical University), Vladimir Yavorskiy, Dinara Kaibassova and Yelena Klyuyeva</i> " Issues of Developing Measures to Analyze Storage Medium for Educational Achievements of Students"
12:00	12:15	<u>31</u> <i>Aliya Kintonova (Kazakhstan, L.N.Gumilyov Eurasian National University), Aliya Kintonova, Amanbek Sabitov, Igor Povkhan, Aizhan Tokkuliyeva and Natalya Demidchik</i> " Online Learning Technologies"
12:15	12:30	<u>34</u> <i>Aliya Kintonova (Kazakhstan, L.N.Gumilyov Eurasian National University), Aliya Kintonova, Igor Povkhan and Amanbek Sabitov</i> " Development of an Online Course for "Web Programming" discipline with OLAT"
12:30	12:45	<u>36</u> <i>Peteris Apse-Apsitis (Latvia, Riga Technical university), Peteris Apse-Apsitis</i> " Internet of Things solution for electrical engineering education process"
12:45	13:00	<u>53</u> <i>Jelena Caiko (Latvia, Riga Technical University), Jelena Caiko, Gulnara Mussina and Aliya Kintonova</i> " Modern Models of Learning at the University"
13:00	13:15	<u>136</u> <i>Nicklas Scheel (Denmark, Technical University of Denmark), Nicklas Scheel, Ulrik Andersen and Peter Randewijk</i>

		<p>" Hands-on Education in using Process Bus for Digital Substation Automation Systems, based on IEC 61850-9-2LE "</p>
13:15	13:30	<p><u>144</u> <i>Nadezhda Kunicina (Latvia, Riga Technical University), Mariana Mitova, Panco Tomov, Nadezhda Kunicina, Antons Patlins, Madina Mansurova and Oyun-Erdene Namsrai</i></p> <p>" Towards to sustainability of education: the mutual cooperation with partners in Smart city project "</p>

Room B, 10:00-11:30, Student Forum (TT9)

Chairpersons: **Nadezda Kunicina** Professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Kouzou Abdellah Professor Djelfa University, Algeria
Peteris Apse-Apsitis Professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Ansis Avotins head of laboratories of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Haralds Millers "Latvenergo" AS

From	To	<i>Presenting Author (Affiliation), Paper Authors "Paper Title" (Paper ID)</i>
10:00	10:15	<u>159</u> <i>Nadjet Karfa (Algeria, Riga Technical University)</i> Nadjet Karfa and Ayoub Kaabouche "Innovative Smart Traffic Light"
10:15	10:30	<u>179</u> <i>Arturs Bogdanovs (Latvia, Riga Technical University)</i> Arturs Bogdanovs " Prototype of bi-directional 5-phase interleaved DC/DC buck converter with coupled inductors"
10:30	10:45	<u>180</u> <i>Andrejs Poddubnaks (Latvia, Riga Technical University)</i> Andrejs Poddubnaks, Viktors Prohorovs and Arturs Bogdanovs " Prototype of 3-phase 3-level neutral point diode clamped inverter"
10:45	11:00	<u>181</u> <i>Renars Buka (Latvia, Riga Technical University)</i> Renars Buka, Janis Alekis Vitols and Oskars Korenevskis "Lock&Roll - Electric Scooter Charging Station"
11:00	11:15	<u>182</u> <i>Edgars Kalsnavs (Latvia, Riga Technical University)</i> Edgars Kalsnavs "RePower"

11:15	11:30	<u>186</u> <i>Klavs Vabulnieks (Latvia, Riga Technical University)</i> <i>Klavs Vabulnieks, Linda Mezule and Antons Patlins</i> " Custom device for disinfection of public transportation surfaces with UV-C LED illumination"
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Room B, 11:45-13:30, Student Forum (TT9)

Chairpersons: **Nadezda Kunicina** Professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Kouzou Abdellah Professor Djelfa University, Algeria
Peteris Apse-Apsitis Professor of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Ansis Avotins head of laboratories of Institute of Electrical Engineering and Electronics, Riga Technical University, Latvia
Haralds Millers " Latvenergo" AS

From	To	<u>Presenting Author (Affiliation),</u> <i>Paper Authors</i> "Paper Title" (Paper ID)
11:45	12:00	<u>187</u> <i>Klāvs Vabulnieks (Latvia, Riga Technical University),</i> <i>Klāvs Vabulnieks, Linda Mezule and Antons Patlins</i> " Custom device for disinfection of public transportation air and general surfaces with UV-C Hg lamp irradiation"
12:00	12:15	<u>188</u> <i>Hanna Hnatova (Ukraine, Kharkiv National Automobile and Highway University),</i> <i>Hanna Hnatova, Illia Lysak, Sergii Novikov and Dmytro Hriebiennikov</i> " Desktop Lighting Control System"
12:15	12:30	<u>189</u> <i>Violetta Dmytriieva (Ukraine, Kryvyi Rih National University),</i> <i>Violetta Dmytriieva, Nazar Liashok and Olha Kravchenko</i> " Remote Monitoring of Indoor Station"
12:30	12:45	<u>190</u> <i>Tymofii Yakushkin (Ukraine, Chernihiv Polytechnic National University),</i> <i>Yevhenii Kuts, Tymofii Yakushkin and Andrii Los</i> " Automatic plant watering system using a built-in reservoir"

12:45	13:00	<u>193</u>	<i>Darja Cirjulina (Latvia, Riga Technical University), Darja Cirjulina, Ruslans Babajans and Anna Litvinenko</i> " FM-CSK Communication System"
13:00	13:15	<u>194</u>	<i>Ruslans Babajans (Latvia, Riga Technical University), Ruslans Babajans, Darja Cirjllina and Anna Litviņenko</i> " Quadrature chaos phase-shift keying-based communication system's (QCPSK) prototype"
13:15	13:30	<u>195</u>	<i>Filips Capligins (Latvia, Riga Technical University), Filips Capligins and Anna Litvinenko</i> " DigiModTwin"

Thursday (2022, May 12)

10:00-14:00 Technical Visits in RIGA