



# CONFERENCE PROGRAM

## IEEE 20<sup>th</sup> International Conference on MODERN ELECTRICAL AND ENERGY SYSTEMS

**MEES`21**

**Kremenchuk Mykhailo Ostrohradskyi  
National University, Ukraine,  
September 21-24, 2021**

## SCHEDULE OF CONFERENCE

Date	Duration	Event	Meeting ID	
September 21 Tuesday	11:00-13:00	PLENARY SESSION	Opening Remarks Prof. Mykhaylo Zagirnyak IEEE Senior member, Chair of Organizing Committee, Rector of Kremenchuk Mykhailo Ostrohradskyi National University. Ukraine	<a href="#">Zoom ID</a> <b>773 670 1972</b> <a href="#">Password</a> <a href="#">MEES2021</a>
			Greeting to the conference participants Prof. Vladimir Klepikov President UAEE, National Technical University «Kharkiv Polytechnic Institute». Ukraine	
			Greeting to the conference participants Ievgen Pichkalov Vice Chair/Chair Elect of IEEE Ukraine Section	
			Greeting to the conference participants Prof. Andrzej Krawczyk University of Economy and Innovations. Lublin, Poland	
			Keynote Speech I Prof. Elena Kobilskaya Kremenchuk Mykhailo Ostrohradskyi National University. Ukraine	
			Keynote Speech II Prof. Viacheslav Prus Kremenchuk Mykhailo Ostrohradskyi National University. Ukraine	
			Keynote Speech III Prof. Victor Busher National University "Odessa Maritime Academy". Ukraine	
September 21 Tuesday	13:00-15:00	ORAL SESSION	Section 1, 5: Electrical and power systems engineering, Industrial electronics	<a href="#">Zoom ID</a> <b>773 670 1972</b> <a href="#">Password</a> <a href="#">MEES2021</a>
September 21 Tuesday	13:00-15:00	ORAL SESSION	Section 2, 4: Electrical Engineering Education and Education Technologies, Industrial application & Industry 4.0	<a href="#">Zoom ID</a> <b>674 540 1553</b> <a href="#">Password</a> <a href="#">MEES2021</a>
September 21 Tuesday	13:00-15:00	ORAL SESSION	Section 3, 6: Electromechanics, Simulation in electrical engineering	<a href="#">Zoom ID</a> <b>256 118 3340</b> <a href="#">Password</a> <a href="#">MEES2021</a>

September 22 Wednesday	10:00-13:00	POSTER SESSION	Section 1: Electrical and power systems engineering	<a href="#">Zoom ID</a> 773 670 1972
	14:00-17:00		Section 5: Industrial electronics	<a href="#">Password</a> <a href="#">MEES2021</a>
September 22 Wednesday	10:00-13:00	POSTER SESSION	Section 2: Electrical Engineering Education and Education Technologies	<a href="#">Zoom ID</a> 674 540 1553
	14:00-17:00		Section 2: Electrical Engineering Education and Education Technologies	<a href="#">Password</a> <a href="#">MEES2021</a>
September 22 Wednesday	10:00-13:00	POSTER SESSION	Section 3: Electromechanics	<a href="#">Zoom ID</a> 256 118 3340
	14:00-17:00		Section 3: Electromechanics	<a href="#">Password</a> <a href="#">MEES2021</a>
September 23 Thursday	10:00-13:00	POSTER SESSION	Section 6: Simulation in electrical engineering	<a href="#">Zoom ID</a> 773 670 1972
	14:00-16:00		Section 6: Simulation in electrical engineering	<a href="#">Password</a> <a href="#">MEES2021</a>
September 23 Thursday	10:00-13:00	POSTER SESSION	Section 4: Industrial application & Industry 4.0	<a href="#">Zoom ID</a> 674 540 1553
	14:00-16:00		Section 4: Industrial application & Industry 4.0	<a href="#">Password</a> <a href="#">MEES2021</a>
September 23 Thursday	16:00-17:00	CLOSING CEREMONY	Prof. Oleksii Chorny Vice-Chair of Organizing Committee. Kremenchuk Mykhailo Ostrohradskyi National University. Ukraine	<a href="#">Zoom ID</a> 773 670 1972 <a href="#">Password</a> <a href="#">MEES2021</a>
September 24 Friday	10:00-12:00	CLOSING CEREMONY	PANEL DISCUSSION. SUMMING UP THE CONFERENCE	<a href="#">Zoom ID</a> 773 670 1972 <a href="#">Password</a> <a href="#">MEES2021</a>

**20.09.2021**

**TEST CONNECTION**

[Zoom ID 773 670 1972](#)

Time: 9:00-13:00

## **ZOOM User Guideline**

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The most important function is Share Screen, because you will use it for your online presentation.

## PLENARY SESSION

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Time: 11:00-13:00

CHAIRMAN: Mykhaylo Zagirnyak

1.	<b>Prof. Mykhaylo Zagirnyak</b> IEEE Senior member, Chair of Organizing Committee, Rector of Kremenchuk Mykhailo Ostrohradskyi National University. Ukraine	Opening Remarks
2.	<b>Prof. Vladimir Klepikov</b> President UAEE, National Technical University «Kharkiv Polytechnic Institute». Ukraine	Greeting to the conference participants
3.	<b>Ievgen Pichkalov</b> Vice Chair/Chair Elect of IEEE Ukraine Section	
4.	<b>Prof. Andrzej Krawczyk</b> University of Economy and Innovations. Lublin, Poland	
5.	<b>Prof. Elena Kobilskaya</b> Kremenchuk Mykhailo Ostrohradskyi National University. Ukraine	Mykhaylo Ostrogradsky. A Genius Recognized during His Lifetime
6.	<b>Prof. Viacheslav Prus</b> Kremenchuk Mykhailo Ostrohradskyi National University. Ukraine	Principles of construction and operation of fuzzy models of reliability of structural units of electric machines
7.	<b>Prof. Victor Buser,</b> National University “Odessa Maritime Academy”. Ukraine	High-voltage multilevel cascade frequency converters: methods of compensation for failures of power switches
8.	<b>Prof. Oleksii Chorny</b> Vice-Chair of Organizing Committee, Head of the Institute of Electromechanics, Energy Saving and Automatic Control Systems, Kremenchuk Mykhailo Ostrohradskyi National University. Ukraine	Organizational issues of the conference

**ORAL SESSION**

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**Section 1, 5: Electrical and power systems engineering,  
Industrial electronics**

Time: 13:00-15:00

CHAIRMAN: Dmytro Mamchur, Rostyslav Yatsiuk

1.	Oleh Todorov, Oleksii Bialobrzheskiy, Ihor Reva, Maksym Bezzub	Estimation of the power components relationship degree on the transformer substation secondary voltage buses an industrial enterprise
2.	Maksym Bezzub, Oleksii Bialobrzheskiy, Ihor Reva, Oleh Todorov	Current harmonics distribution influence of a traction transformer secondary winding on a power losses level taking into account distortion power
3.	Oleksandr Cherednichenko, Mykhaylo Tkach, Serhii Dotsenko	Experimental Study of Processes in the Elements of Thermochemical Fuel Treatment Systems of Integrated Power Generating Units
4.	Oleg Shutenko, Oleksii Kulyk	Recognition of High-Temperature Overheating in High-Voltage Power Transformers by Dissolved Gas Analysis
5.	Oleg Shutenko, Serhii Ponomarenko	Diagnosing the Condition of Transformer Oils Using the Trajectory Method
6.	Mortensen Lasse, Shaker Hamid, Santos Athila, Veje Christian	Fault area location in electrical distribution system using smart meter data
7.	Olga Glazunova, Olga Maslak, Natalya Grishko, Yaroslava Yakovenko, Dmitriy Pirogov, Mariya Maslak	Innovative safety of the electrotechnical industry of Ukraine: target benchmarks
8.	Marek Pavlík, Andrii Gladyr	Experimental study of the influence of the inner filling of a brick on the penetration of electromagnetic field
9.	Oksana Dovgalyuk, Ivan Yakovenko, Roman Bondarenko	Influence of Energy Storage Systems on the Operation of Electricity Supply Networks
10.	Petro Lezhniuk, Olena Rubanenko	Improving the Energy Efficiency of RES in the Electricity Balance of Power Systems
11.	Taras Mysak	Space-vector control of a three-phase shunt active power filter using the rhombus algorithm current tracking in sliding mode

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<b>12.</b>	Svetlana Podnebennaya, Vladimir Burlaka, Sergey Gulakov, Ekaterina Kudinova, Volodymyr Kysliak	Modeling of Power Supply for Welding with Power Factor Correction
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## ORAL SESSION

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**Section 2, 4: Electrical Engineering Education and Education  
Technologies, Industrial application & Industry 4.0**

Time: 13:00-15:00

CHAIRMAN: Andrii Gladyr, Ihor Reva

1.	Pavlo Brin	Project-Based Learning for Responsible Education: Empirical Study of the Additional Value for Students
2.	Viktoriiia Shabunina, Oksana Tur, Mariia Butyrina, Anastasiia Tur, Volodymyr Krot, Denys Mytashop	Psychological and Educational Conditions for Developing Intellectual Competence of Electrical Engineering Students
3.	Viktoriiia Shabunina, Oksana Tur, Volodymyr Maslak, Evgeniia Chernaiia	Social and Psychological Readiness of Electrical Engineering Students for Academic Mobility
4.	Viktor Nagayev, Tetiana Gerliand, Viacheslav Kurepin, Galyna Nagayeva, Natalya Sosnickaya, Kateryna Yablunovska	Pedagogical Technology of Management of Students' Educational and Creative Activities in the Process of Professional Training of Engineers
5.	Pavlo Brin	Digitalization of Education: An Urgent Need of Sustainable Teaching Process Caused by Covid 19
6.	Mykhaylo Zagirnyak, Dmytro Mamchur, Andrii Gladyr	dComFra DC-office as a Tool for Digital Skills Development for the Electrical Engineering Students
7.	Yana Sukhenko, Pavel Lushyn, Oksana Davydova	Pandemic trajectories of student's personal development and learning
8.	Volodymyr Havryliuk	Fault Detecting of Turnouts Using DWT and ANN
9.	Inna Khovrak	Management of innovation activity in the conditions of Industry 4.0
10.	Olga Maslak, Natalya Grishko, Petro Pererva, Mariya Maslak, Olga Glazunova, Yaroslava Yakovenko	Artificial intelligence as a key driver of business operations transformation in the conditions of the digital economy
11.	Vince Tibor, Marciš Marek, Molnár Ján, Guzan Milan, Bereš Matej, Dmytro Mamchur	Design and Implementation of Smart Glasses Solution in Electromechanical Systems
12.	Viktoriiia Shara	Manufacture of electrical electronic optical equipment and ensuring innovation security
13.	Ievgen Buriak, Mykola Khomenko, Hanna Hanna, Mariia Buriak	Modern aspects of regional energy clusters innovative development



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<b>14.</b>	Alla Kasych, Valentyna Glukhova, Svitlana Bondarenko	Technology strategy as a key factor of competitiveness of electrical and electronic engineering companies
<b>15.</b>	Alla Kasych, Valentyna Glukhova, Nataliia Buhas	Corporate brand: essence evaluation methodology experience of electrical and electronic engineering companies
<b>16.</b>	Deb Ramanuj	Development of Portable Induction Furnace for MSME Sector

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Section 3, 6: Electromechanics, Simulation in electrical engineering

Time: 13:00-15:00

CHAIRMAN: Viacheslav Prus, Oleksandr Somka

1.	Vladimir Bolyukh, Oleksandr Kocherga	Multi-armature Electromechanical Converters of Impact-Force Action
2.	Roman Manko, Mario Vukotič, Danilo Makuc, Damijan Miljavec, Selma Čorović	Study of the dynamic performance of an electrically excited synchronous machine with rotary transformer
3.	Ihor Reva, Oleksii Bialobrzheskyi, Oleh Todorov, Maksym Bezzub	Investigation of the power consumption mode of a transformer with asymmetric load under the condition of temperature change of active parts
4.	Gennadii Martynenko, Volodymyr Martynenko	Passive Magnetic Bearing Made of Annular Permanent Magnets with Magnetizing Winding for Varying Mechanical Stiffness
5.	Oleksii Sheremet, Yuliia Sokhina, Kateryna Sheremet, Oleksandr Sadovoi	Single-Loop Relay Control System with Reference Model Based on Discrete Time Equalizer
6.	Dmitriy Kukharenko, Olha Novokhatko, Oksana Maznytska, Sergii Digtar, Oksana Sakun, Olena Nykyforova	Automation of the Power Plant with Variable Parametres of the Optimization Criterion
7.	Ján Molnár, Tibor Vince, Róbert Mitro, Olena Slavko	Design of Autonomous Temperature Measurement by Microcontroller with Wi-Fi Module
8.	Gennadii Martynenko, Lyudmyla Rozova	Stability Testing of Control Algorithms for Active Magnetic Bearings to Measurement Errors Occurrence on Scale Model of Turbocompressor
9.	Dmytro Mamchur, Rostyslav Yatsiuk	Designing a neural adaptive control system basing on analytical design method for aggregated nonlinear regulator to control an induction motor
10.	Serhii Husach	Python-based Induction Motors Monitoring and Lifetime Estimation System
11.	Volodymyr Nykyforov, Oksana Sakun, Olha Novokhatko, Oksana Maznytska, Sergii Digtar, Dmitriy Kukharenko	Determination of the intensity of electromagnetic radiation by the reaction hydro- and aerobionts

<b>12.</b>	Ahmed Ali Musaab Mohammed, Vladimir Vodichev	Simulation study of electric drive and industrial plants with new smart controller
<b>13.</b>	Bohdan Kopchak	Approximation of Transfer Function With a Characteristic Equation in a Fractional Order Binomial Form
<b>14.</b>	Stanislav Kovalchuk, Mykola Zablodskiy, Andrii Bereziuk, Andrii Zhyltsov, Volodymyr Gritsyuk	The numerical analysis of vibration parameters in the working element of twin-screw electromechanical hydrolyser for poultry by-products processing

Section 1: Electrical and power systems engineering

Time: 10:00-13:00

CHAIRMAN: Sergiy Buryan, Yevheniia Chebotarova

1.	Valerii Havrysh	A Hybrid Power Supply with Variable Speed Drive for Automatically Move Irrigation Equipment: Margin of Feasibility
2.	Viktoriia Kulynych, Salenko Yulia, Viktor Vorobiov, Larisa Vorobiov, Iryna Pieieva	To the issue of the of copper-aluminum elements production for conductive assemblies in electrometallurgy
3.	Oksana Onyshchenko	Introduction of energy efficient technologies of amalgamated territorial communities as a basis of energy independence
4.	Iryna Shvedchikova, Olexander Shavolkin	Energy management of hybrid three-phase photoelectric system with storage battery to meet the needs of local object
5.	Alaa Khasawneh, Qawaqzeh Mohamed Zaidan, Oleksandr Miroshnyk, Dmytro Danylchenko, Kseniia Minakova, Andrii Potryvai	Methodology For Accounting For The Influence Of Dust Cover On The Performance Of A Photovoltaic System For Matlab Simulink
6.	Tetiana Kurbatova	Solar energy advancement in Ukraine's households: is the feed-in tariff economically justified?
7.	Al_issa Huthaifa, Khasawneh Alaa, Olha Sotnik, Oleksandr Miroshnyk, Oleksii Sotnik, Sergiy Tymchuk	Influence of the value of the power factor of electricity consumers of the municipal sector of the village on the technical and economic indicators of low-voltage electricity networks
8.	Leonid Mazurenko, Anatolii Kotsiuruba, Oleksandr Dzhura, Maksym Shykhnenko	Voltage and Power Regulation of an Induction Generator-Based Hydroelectric Power Plant
9.	Volodymyr Chenchevoi, Iurii Zachepa, Olha Chencheva, Oleksii Chorny, Rostyslav Yatsiuk	Research of Processes in an Autonomous Induction Generator with Relay Regulation of Capacitive Current
10.	Yurii Zachepa, Vladimir Prokopenko, Ganna Mykhalchenko, Borys Kobylianskyi, Oksana Khrebtova, Nataliia Zachepa	Guaranteed and reliable excitation of asynchronous generator coupled to shaft of vehicle
11.	Alexander Balakhontsev, Alexander Beshta, Oleksandr Beshta, Valery Boroday, Serhii Khudolii, Stanislav Piriienko	A review of topologies of quick charging stations for electric vehicles

12.	Volodymyr Muravlov, Anton Horshkov, Yuliia Nikolaienko, Ihor Nehrebetskyi	Plastic deformation of crimp sleeves of electric networks
13.	Oleg Shutenko, Aleksandra Zagaynova	Diagnosing the Insulation Condition of High-Voltage Oil Filled Bushings Using Likelihood Ratios
14.	Mykhaylo Yelizarov, Tatyana Kozlovs'ka, Olha Novokhatko, Serhii Vladov, Oksana Maznytska, Mykhailo Yelizarov	Adjustment of biogas production parameters using neural networks
15.	Borys Kuznetsov, Ihor Bovdvi, Tatyana Nikitina, Valerij Kolomiets, Borys Kobylanskyi	Experimental Studies of Effectiveness of Active Screening of the Magnetic Field by Single Compensation Winding

## Section 5: Industrial electronics

Time: 14:00-17:00

CHAIRMAN: Sergiy Buryan, Olha Herasimenko

1.	Irena Kováčová, Viacheslav Melnykov	Laboratory Model of an Electric Vehicle Charger Based on the Principle of Energy Transfer by Air
2.	Matej Bereš, Šimon Gans, Mariia Maliakova	Design and Implementation of an Interleaved DC to DC Buck Converter Controlled and Supervised by the Internet
3.	Oksana Donskykh	Mathematical modeling of a contact metal-porous GaAs
4.	Halyna Bielokha, Ivan Shevchenko	Active rectifiers in the electrical system of aircraft
5.	Anatoliy Raschepkin, Igor Kondratenko, Oleksiy Karlov, Roman Kryshchuk	Energy Indicators Of A Cylindrical Magneto-Electric Sea Wave Energy Converter
6.	Roman Zaitsev	Analysis of electronic load advanced solution based on MOSFET-transistor
7.	Victor Busher, Oksana Glazeva, Anatoly Shestaka, Lubov Melnikova, Oleksii Chorny, Valerii Tytiuk	Method of Space Vector Pulse Width Modulation in High Voltage Cascaded Frequency Converter with Damaged H-cells

## POSTER SESSION

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### Section 2: Electrical Engineering Education and Education Technologies

Time: 10:00-13:00

CHAIRMAN: Inna Khovrak, Mykhailo Kushch-Zhyrko

1.	Ilona Batsurovska	Massive Open Online Courses in the System of E-learning of Masters in Electrical Engineering
2.	Svitlana Soshenko, Ruslana Bilous, Ksenia Sizova, Anfisa Sheleva, Viktoriia Perevozniuk, Liudmyla Suprun	Creative Workspaces of a Modern University in Terms of Student-centered Teaching
3.	Mykhaylo Zagirnyak, Andrii Gladyr, Viktoriia Nozhenko	Creating an Enabling Environment for the Sponsored Research in the Case of Institute of Electrical Engineering and Information Technology
4.	Gennadii Slavko	Optimization of LMS Moodle configuration and Education Technologies on the Example of Electrical Engineering Education
5.	Olena Titova, Petro Luzan, Roman Kurok, Iryna Mosia	The Methodology for Assessment of Engineering Students Outcomes
6.	Iryna Shvedchikova, Iryna Soloshych, Natalia Kononets	Competence and resource-oriented approaches to the development of digital educational resources
7.	Iryna Trunina, Kateryna Pryakhina, Maryna Bilyk	Management of competitive advantages of Higher Education Institutions
8.	Lyudmyla Riznichenko, Lesia Sakun, Yulia Viedienina, Kateryna Mazharenko, Serhiy Yakimets, Maksym Kovalenko	Use of modern educational technologies in the electrical engineers and electromechanics preparation by a blended learning system
9.	Olena Sushchenko, Tetiana Mostenska, Eduard Yurii, Dariya Basyuk	Personal Effectiveness and the Innovative Decision-Making Skills on Electrical Engineering Education
10.	Yulia Shulzhenko, Tetiana Chrdileli	Teaching Electrical Engineering Students the Skill of Academic Essay Writing in the Context of Scientific Discourse
11.	Patrik Jacko, Milan Guzan, Andrii Kalinov	Remote microcontroller scanner design for STM32 microcontrollers used to distance education form
12.	Hennadii Moskalyk, Larysa Maksymova, Maryna Martynenko	Augmented reality in modern higher education: pedagogical and philosophical aspects

<b>13.</b>	Iryna Shvedchykova, Iryna Soloshych, Natalia Kononets	Model of formation of ecological competence of future engineers-electromechanics
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## Section 2: Electrical Engineering Education and Education Technologies

Time: 14:00-17:00

**CHAIRMAN: Kobilskaya Elena, Mykhailo Kushch-Zhyrko**

<b>14.</b>	Olena Sushchenko, Svitlana Nazarova	E-Learning Course Design Concept for Engineering Students on the Basis of Competence Approach
<b>15.</b>	Olha Chencheva, Volodymyr Chenchevoi, Oleksii Chorny, Larysa Herasymenko, Anfisa Shmeleva, Olena Besspartochna	Application Of Visualization Systems Based On Augmented Reality Technology In Teaching Students Of Technical Specialties
<b>16.</b>	Svitlana Melnychenko, Nadiia Vedmid, Alla Okhrimenko, Liudmyla Romanchuk	Transformations of educational technologies
<b>17.</b>	Anatolii Mazaraki, Marharyta Boyko, Myroslava Bosovska, Mariia Kulyk, Alla Okhrimenko	Concept system of higher education quality management
<b>18.</b>	Ilona Batsurovska	Methods for Organising Conferences for Electrical Engineering Specialists via Distance Learning
<b>19.</b>	Dmytro Babenko, Nataliia Dotsenko, Olena Gorbenko, Nataliia Kim	Structural Model of Training Bachelors in Electrical Engineering in the Online Learning Environment
<b>20.</b>	Svitlana Soshenko, Denys Zagirniak, Ksenia Sizova, Larysa Herasymenko, Ruslana Bilous, Anfisa Sheleva	Academic Performance' Dynamics of Generation Z Representatives During the Transition to E-learning in Covid-19 Crisis
<b>21.</b>	Mykhaylo Zagirnyak, Volodymyr Luhovyi, Serhii Serhiienko, Zhanneta Talanova, Denys Zagirniak	The Challenge of Developing Quality Profile of the Electrical and Energy Engineering Higher Education in Ukraine in the Context of World Experience
<b>22.</b>	Oleksii Chorny, Larysa Herasymenko, Maryna Bigdan, Tyityuk Valeriy, Victor Busher	Visualisation of the Maturity of Future Electrical Engineers Professional Competencies
<b>23.</b>	Valerii Sydorenko	dComFra Project Learning Module M20 "Advanced Spreadsheets" in Mathematical Modeling Tasks of Electrical and Computer Engineers Education
<b>24.</b>	Denys Zagirniak, Nataliia Shalimova, Oleksandra Akmalidnova, Yuri Stezhko, Viktoriia Perevozniuk	Providing the competitiveness of education due to the formation of professional competence via the project-based learning technology
<b>25.</b>	Daria Vasylenko, Svitlana Fedorenko, Larysa Butko, Volodymyr Maslak, Mykola Nesen	Elective subjects as an important component of the students' individual educational trajectory implementation
<b>26.</b>	Nataliia Dotsenko	Implementation of Tutorials with Interactive Elements for the Study of General Technical and Electrical Engineering Disciplines in the E-environment

## POSTER SESSION

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### Section 3: Electromechanics

Time: 10:00-13:00

CHAIRMAN: Tetyana Korenkova, Viktoriya Kovalchuk

1.	Mykola Moroz, Serhii Korol, Olena Moroz, Kateryna Korol, Igor Kuzev, Oleksii Vasylkovskyy	The method for stabilizing the electrical power of a vehicle diesel generator plant
2.	Oleksandr Derets, Oleksandr Sadovoi, Hanna Derets	Synthesis and Study of Derivatives Observer with Sliding Mode Control for Servo Drive
3.	Olexiy Iegorov, Olga Iegorova, Natalia Potryvaieva, Halyna Zaluzhna	The Traction Induction Motor Magnetic Circuit Saturation Influence on the Variable Electric Drive Energy Efficiency
4.	Olexiy Iegorov, Olga Iegorova, Marina Glebova, Irina Shinkarenko	The Single-phase Induction Motor Windings Parameters Experimental Optimization at a Given Capacity of the Phase-shifting Capacitor
5.	Dmytro Marchenko, Aleksandr Dykha, Kateryna Matvyeyeva, Viacheslav Kurepin	Research of electric contact welding by a wire at restoration of details of cars
6.	Volodymyr Osadchyy, Olena Nazarova, Victor Brylysty	Laboratory stand for research of energy characteristics of electric vehicle drives
7.	Ievgen Zaitsev, Anatolii Levytskyi, Mykhailo Panchyk, Viktoriiia Bereznychenko	Fiber Bragg Grating-Based Monitoring System for Large Generator Core Clamping Fault Diagnosis
8.	Badur Tchunashvili, Mamuka Kobalia, Alexander Petrosyan, Gurgenadze Revaz, Bulbulashvili Giorgi	Optimization of the positional control system for electrical drives of non-supported pendulum suspended ropeways
9.	Olha Sushchenko, Yurii Bezkorovainyi	Modeling Actuators in Systems for Stabilization of Observation Equipment
10.	Rostislav Stavinskiy, Larisa Vakhonina, Elena Avdieieva, Oleksiy Sadovoy	Calculation Of Losses In Steel And Improvement Of A Three-Phase Transformer With A Twisted Spatial Magnetic Circuit
11.	Oleksandr Derets, Oleksandr Sadovoi, Hanna Derets	Performance optimization algorithm for electric drive control systems based on acceleration constraint
12.	Oleksiy Sadovoy, Elena Avdieieva, Larisa Vakhonina, Vyacheslav Shebanin	Comparison Of The Active Parts Of Single-Phase Transformers With Twisted And Laminated Magnetic Circuits
13.	Bohdan Vorobiov, Dmitry Pshenichnikov, Serhii Senchenko	Electric Vehicle Slippage Prevention System Based On Fuzzy Logic Controller



14.	Evgeniia Burdilna, Serhii Serhiienko, Olga Chorna	Automated control system for grain throwers based on fuzzy logic
15.	Viktoriya Kovalchuk, Tetyana Korenkova, Dmytro Rodkin, Oleksii Kravets, Qawaqzeh Mohamed Zaidan	Power Method of the Electrohydraulic Complex Parameter Identification Based on the Physical Model
16.	Tetyana Korenkova, Dmytro Rodkin, Viktoriya Kovalchuk, Almashakbeh Atef Saleh	A Method for the Assessment of Power Controllability of an Electrohydraulic Complex

## Section 3: Electromechanics

Time: 14:00-17:00

CHAIRMAN: Melnykov Viacheslav, Rostyslav Yatsiuk

17.	Viacheslav Melnykov	The correction of the operation modes for frequency-controlled induction motor with scalar control under stator windings damage appearance
18.	Nataliia Zachepa, Oksana Khrebtova, Yurii Zachepa, Nikita Rudenko, Valerii Tytiuk	Mathematical modeling of special induction motor with double squirrel cage rotor based on the theory of generalized electromechanical converter
19.	Kostiantyn Kuchynskiy, Iryna Mazurenko, Viacheslav Prus	Variant analysis of local heat release in the rotor of a synchronous machine under short-term operating conditions
20.	Andrey Stavynskiy, Dmytro Koshkin	Technical Solutions of Laminated Magnetic Cores of Transformers with Combination of Electrical Steel
21.	Borys Kuznetsov, Ihor Bovdui, Tatyana Nikitina, Valerij Kolomiets, Borys Kobylanskyi	Feedback Linearized Robust Control of Looper Electric Drives for Hot Rolling Mills
22.	Vladimir Burlaka, Sergey Gulakov, Ekaterina Kudinova	Brushless DC Motor Sensorless Controller With Extended Speed Range
23.	Mykola Buryk, Mykola Ostroverkhov, Liudmyla Spinul	Synchronous Drive with dual-zone Speed Control
24.	Mykola Ostroverkhov, Vadym Chumak, Yevhen Monakhov, Volodymyr Bazhenov	Control of a Hybrid Excited Synchronous Generator of an Autonomous Wind Turbine Unit
25.	Yevhen Monakhov, Mykola Ostroverkhov, Vadym Chumak	Comparison of Hybrid Excitation Synchronous Motor with Sinusoidal and Non-Sinusoidal Back-EMF
26.	Valerii Tytiuk, Victor Busher, Oleksii Chorny, Abdelmajid Berdai, Serhiy Kikovka	Exploring the MMF of a Three-Phase Induction Motor with Twelve-Zone Stator Windings
27.	Viacheslav Prus, Ihor Konoh, Oleksandr Somka, Volodymyr Grabko	Principles of construction and operation of fuzzy models of reliability of structural units of electric machines

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<b>28.</b>	Mykola Mukha, Vyshnevskyi, Vyshnevskyi	Leonid Dmitro	Discrete-pulse voltage control of an asynchronous generator
<b>29.</b>	Ewa Korzeniewska, Krawczyk, Jacek Stańdo	Andrzej	Electroceutical Tools in Diagnostics and Therapy of COVID-19
<b>30.</b>	Vitaliy Savchenko, Sinyavsky, Alla Dudnyk, Andriy Nesvidomin	Oleksandr	Influence of Voltage Deviation and Asymmetry on Transitional Processes in Asynchronous Electric Drive
<b>31.</b>	Oksana Khrebtova, Zachepa, Ilya Rodkin	Nataliia	Analysis of Vibroreological Indicators in the Formation of the Moment of Control of the Electric Drive in Special Modes

## POSTER SESSION

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### Section 6: Simulation in electrical engineering

Time: 10:00-13:00

CHAIRMAN: Serhii Kovbasa, Yevheniia Chebotarova

1.	Dobroslav Kovac, Viacheslav Melnykov	Simulation and Laboratory Model of Induction Heating in COMSOL Multiphysics
2.	Oleg Krol, Volodymyr Sokolov	Research of the machining center electromechanical drive with technological feedback
3.	Natalya Sosnickaya, Alena Dyadenchuk, Mykola Morozov, Larysa Khalanchuk	Modeling of solar cells with quantum dots GaN
4.	Denis Mospan, Alexey Yurko, Olena Fomovskaya, Vladyslav Mospan, Felix Fomovskii, Viktoriia Nevliudova	Approximation of ECG Signals by Labview Software
5.	Dmitry Pshenichnikov	High Operation Speed Iterative Multichannel Feed Electric Drive For Heavy Cutting Machines
6.	Nataliia Zaiets, Natalia Lutska	Forecasting the Efficiency of the Control System of the Technological Object on the Basis of Neural Networks
7.	Al_issa Huthaifa, Iryna Trunova, Oleksandr Miroshnyk, Oleksandr Moroz, Oleksandr Savchenko, Anatolii Sereda	Databases Case Study in substantiation of reconstruction of power distribution networks objects
8.	Anastasiia Vakarchuk, Volodymyr Moroz	Why High-Order Integrators Not Rational on Electrical Systems' Computer Calculation
9.	Milan Guzan, Branislav Sobota, Tibor Vince, Patrik Jacko, Simona Kirešová, Olena Slavko	Boundary surface vizualization of MVL memory: from 2D to 3D
10.	Ihor Obruch, Larysa Asmolova, Serhii Buriakovskiy	Research of closed loop control systems of the electric drive of mine electric locomotive with the DC series motor and nonlinear load

## Section 6: Simulation in electrical engineering

Time: 14:00-16:00

CHAIRMAN: Valerii Tytiuk, Oleksandr Somka

<b>11.</b>	Olena Nazarova, Volodymyr Osadchyy, Serhii Shulzhenko	Influence of supply voltage on the accuracy of two-speed elevator positioning
<b>12.</b>	Volodymyr Osadchyy, Olena Nazarova, Mykola Oliieinikov	The research of a two-mass system with a PID-controller considering the control object identification
<b>13.</b>	Yevgeniy Trotsenko, Mandar Dixit, Vladislav Mykhailenko	Expression for calculation of lightning ground flash density for conditions of India
<b>14.</b>	Ivan Biluk, Dmitro Shareyko, Anatolii Tubaltsev, Serhii Havrylov, Oleg Savchenko, Andrii Fomenko	Expansion Of Measurement Grid In Field Problems
<b>15.</b>	Igor Nevliudov, Oleksandr Tsymbal, Volodymyr Grytsyuk, Denis Mospan	The prospects for applying auger heat-electromechanical converters as part of universal mobile robotic platforms
<b>16.</b>	Viktor Lyashenko, Elena Kobil'skaya, Olga Demyanchenko	Problems of mathematical modeling of thermal processes in electric machines
<b>17.</b>	Mykola Tryputen, Vitaliy Kuznetsov, Volodymyr Nadtochyi, Viktor Artemchuk, Maksim Kovzel, Viktor Kovalenko	Minimization of the Description of Images in the Problem of Adaptive Control of Static Technological Objects
<b>18.</b>	Viacheslav Padalka, Serhii Liashenko, Antonina Kalinichenko, Oleksii Burlaka, Viktor Sakalo, Yuliia Padalka	Modeling of resonance phenomena in self-oscillating system of agricultural machines
<b>19.</b>	Andriy Malyar, Ihor Holovach	Simulation of Sucker-Rod Oil Pumping Unit Operation for Marginal Wells

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Section 4: Industrial application & Industry 4.0

Time: 10:00-13:00

CHAIRMAN: Olha Chencheva, Olha Herasimenko

1.	Olena Moroz, Iryna Trunina, Viktoria Herasymchuk	Implementation of marketing tools in the development of industry 4.0
2.	Volodymyr Zahorianskyi, Iryna Trunina, Mykola Moroz, Olena Moroz, Olena Zagoryanskya	Management of the logistics component of the grain harvesting process with consideration of the choice of automobile transport technology based on the energetic criterion
3.	Igor Nevliudov, Oksana Sychova, Oleksii Reznichenko, Sergiy Novoselov, Denis Mospan, Vladyslav Mospan	Motion Control System for Agricultural Robot Based on ROS
4.	Tetiana Haikova, Volodymyr Dragobetsky, Volodymyr Zahorianskyi, Olena Reznichenko, Roman Haikov, Anna Haikova	Determination of the mechanical and electrical properties of bimetallic thermoelectric contacts
5.	Serhey Romanov, Evgeniya Deryabkina, Evgeny Frolov, Viacheslav Puzyr	Influence of plastic deformation on cross-section area of electrical contacts
6.	Paranchuk Yaroslav, Yuriy Shabatura, Oleksiy Kuznyetsov	The Electrodes Positioning Control System for the Electric Arc Furnace Basing on Fuzzy Logic
7.	Roman Arhat, Ruslan Puzyr, Viktor Shchetynin, Yuliya Sira, Viktoriia Kulynych, Viktor Vorobyov	Research of the stress state while obtaining tapered flares on the connecting elements of electrical wires
8.	Roman Arhat, Olha Dolhikh, Viktor Shchetynin, Viktor Vorobyov, Viktoriia Kulynych, Oleg Trotsko	Reducing the operating resource of the induction motor bearings during the modernization of shaping machines
9.	Serhii Chernenko, Eduard Klimov, Andrii Chernysh, Mykhaylo Burlyga, Ihor Dmytriv	Improvement of technology of vehicle electric motors casing repair
10.	Jozef Dziak	System designed to collect and process human reaction time data
11.	Ihor Shchur, Valentyn Turkovskiy	Open-End Winding Dual Three-Phase BLDC Motor Drive System with Integrated Hybrid Battery-Supercapacitor Energy Storage for Electric Vehicle

**Section 4: Industrial application & Industry 4.0**

**Time: 14:00-16:00**

**CHAIRMAN: Sergii Shlyk, Olha Herasimenko**

<b>12.</b>	Kateryna Zaika, Andrii Pochtovyuk, Ievgen Buriak	Formation of resource potential management mechanism at industrial enterprise
<b>13.</b>	Volodymyr Kukhar, Elena Balalayeva, Adam Tomaszuk, Eduard Klimov, Vladyslav Glazko, Maryna Korenko	Electric Strain Gauges Method in the Effectiveness Assessment for the C-Frame Crank Press Elastic Compensators
<b>14.</b>	Igor Shevchenko, Iryna Oksanych, Nataliia Istomina, Svitlana Koval	The Method of Operations Models Forming under Uncertainty
<b>15.</b>	Mykhailo Kushch-Zhyrko, Andrii Perekrest, Inna Molodyka	Comparative analysis of methods for calculating building energy performance
<b>16.</b>	Salenko Yulia, Roman Vakulenko, Alexander Maslov, Viktor Shchetynin, Maksim Volochai	The research of the dynamics of the electromechanical drive of a concrete mixer
<b>17.</b>	Salenko Yulia, Roman Vakulenko, Alexander Maslov, Viktor Shchetynin, Ilona Kalach	Theoretical research of vibrations of the electromechanical drive of a technological machine in construction production
<b>18.</b>	Natalya Naphonenko, Marina Karayeva, Dmitry Maloshtan, Maria Komissarova	Operational planning and analysis of the transport process in terminal systems
<b>19.</b>	Marina Karayeva, Natalya Naphonenko, Dmitry Maloshtan, Elena Semchugova	Model Building for the Organization of Passenger Transport in Urban Agglomerations
<b>20.</b>	Anna Gurenko, Elena Parschina, Marharyta Parshyna, Yurii Parshyn, Olena Chernysheva, Andrii Shapoval	Resource management under waveguide production competitiveness support
<b>21.</b>	Iurii Savchenko, Alexander Shapoval, Viktoriya Kozechko, Volodymyr Voskoboynik, Oleg Markov, Natalia Hrudkina	Optimization of informative signals stability along the waveguides
<b>22.</b>	Alona Pasenko, Olena Nykyforova, Kateryna Prus, Olena Antonova, Oksana Sakun	The development of the express method for the assessment of the ecological condition of fresh water by physiological indicators of a biotest object
<b>23.</b>	Oksana Zbyrannyk, Kostiantyn Latyshev, Oleksandr Koren, Olena Reznichenko, Vadym Tatarinov	The criteria for the development of the eco-friendly concept in the energy sector

**23.09.2021**

**PLENARY SESSION  
CLOSING CEREMONY**

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Time: 16:00-17:00

CHAIRMAN: Oleksii Chorny, Serhii Serhienko, Volodymyr Chenchevoi

**Prof. Oleksii Chorny**

Vice-Chair of Organizing Committee, Head of the Institute of Electromechanics, Energy Saving and Automatic Control Systems. Kremenchuk Mykhailo Ostrohradskyi National University (Kremenchuk, Ukraine)

The results of MEES-2021 conference

**24.09.2021**

**PANEL DISCUSSION.  
SUMMING UP THE CONFERENCE**

[Zoom ID 773 670 1972](#)

Password – MEES2021

Time: 10:00-12:00

CHAIRMAN: Oleksii Chornyj, Serhii Serhiienko, Volodymyr Chenchevoi

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