### International Conference on

## MODERN ELECTRICAL AND ENERGY SYSTEMS

September 23-25, 2019 Kremenchuk Mykhailo Ostrohradskyi National University, Ukraine

# CONFERENCE PROGRAM

### Date/time

### September 22

Arrival of participants

### September 23

Registration
Plenary Session
(Opening Ceremony)
Conference Photo
Lunch
Oral Session
1121
Welcome Party

### September 24

$9^{00}$ -11 $^{00}$	Oral Session
	1121/1211
$11^{00}$ - $11^{30}$	Coffee break
$11^{30}$ - $13^{00}$	Poster Session
$13^{00}$ - $14^{00}$	Lunch
$14^{00}$ - $16^{30}$	Excursion
$18^{00}$	Farewell Dinner

### September 25

$10^{00}$ - $11^{30}$	Poster Session
$11^{30}$ - $12^{00}$	Coffee break
$12^{00}$ - $13^{00}$	Plenary Session
	(Closing Ceremony)

# SCHEDULE OF CONFERENCE

Time	22.09.2019,	23.09.2019,	24.09.2019,	25.09.2019,	
	Sunday	Monday	Tuesday	Wednesday	
09:00					
09:30					
10:00		Registration	Oral Sessions		
10:30				Poster Session	
11:00			Coffee break		
11:30		Plenary Session Opening		Coffee break	
12:00		Ceremony	Poster Session	Plenary Session Closing	
12:30				Ceremony	
13:00		Conference			
		Photo	Lunch		
13:30	Arrival of participants	Lunch			
14:00					
14:30					
15:00					
15:30		Oral Sessions	Oral Sessions Excursion	Excursion	
16:00					
16:30					
17:00					
17:30					
18:00		Welcome Part			
18:30			Farewell Dinner		
21:00					
22:00					

#### **REGISTRATION**

Academic Building #1, (9:00 – 11:00)

### PLENARY SESSION

Academic Building #1, Hall #1121 of «Auditorium named after Academician Vernadsky» (11:00 – 13:00)

CHAIRMAN: Ewa Korzeniewska, Mykhaylo Zagirnyak

1	Mukhayla Zagirayak	Creating to the conference participants
_	Mykhaylo Zagirnyak	Greeting to the conference participants
2	Ievgen Pichkalov	Greeting to the conference participants
3	Andrzej Krawczyk	5G technology as the successive stage in the history of wireless telecommunication
4	Oleksandr Beshta	Challenges of Electric Mobility
5	Andrii Gladyr	dComFra: Erasmus+ KA2 project. KrNU's experience

#### **CONFERENCE PHOTO**

Academic Building #1, Hall of Kremenchuk Mykhailo Ostrohradskyi National University (13:00-13:30)

### LUNCH

13:30 - 14:30

### **ORAL SESSION**

Hall #1121 (14:30 - 16:30)

CHAIRMAN: Andrzej Krawczyk, Viacheslav Prus

#### **Track 1: Electromechanics** Roman Voliansky, Oleksandr Sadovoi, Yulija Sokhina and Active Suspension Control System 1 Nina Volianska Aleksandr Yavtushenko, Ganna Yavtushenko, Victor 2 Dynamics of Mechanical Press Drive Protsenko, Yulia Bondarenko and Tatvana Vasilchenko Ihor Reva, Mario Vukotic, Investigation of leakage inductance influence on 3 Mykhaylo Zagirnyak, Selma torque characteristic of different types of induction Corovic and Damijan Miljavec machines

	Track 2: Electrical and power systems engineering		
4	Berdai Abdelmajid, Gourma Anass, Moussa Reddak and Titjuk Valerii	Overviewing of the Impact of wind farm integration on power grid	
5	Andrii Perekrest, Igor Konokh and Kushch-Zhyrko Mykhailo	Administrative buildings heating automatic control based on maximum efficiency criterion	
6	Serhii Liashenko, Viktor Sakalo, Olha Minkova and Antonina Kalinichenko	Justification of Construction Parameters of the Screen in the Small-Sized Household Biomass Chopper	

### **WELCOME PART**

Hall Academic Building #5 (17:00)

### ORAL SESSION

Hall #1121 (9:00 - 11:00)

CHAIRMAN: Bojan Štumberger, Dmytro Mamchur

	Track 1: Electromechanics		
1	Victor Busher and Vasily Goroshko	Dual Electromagnetic Retarder Control System for Tuning Internal Combustion Engines	
2	Mykola Moroz, Serhii O. Korol, Viacheslav Yelistratov, Serhii S Korol and Olena Moroz	Development of a moderator of the pump controlled drive for the engine	
3	Dmytro Mamchur, Serhii Husach and Rostyslav Yatsiuk	Induction Motors Condition Monitoring and Lifetime Estimation System	

	Track 3: Industrial electronics		
4	Denis Mospan, Vladyslav Mospan, Olena Fomovskaya, Felix Fomovskii, Alexey Yurko and Viktoriia Nevliudova	Possibility of the Optimal Control Method Application in Energy-Consuming Technological Processes of RED Production	
5	Roman Yershov, Volodymyr Voytenko, Volodymyr Bychko and Yevhenii Kuts	FPGA-based Frequency and Phase Comparators for Closed-Loop Motor Position Control	
6	Oleksandr Plakhtii, Vladislav Tsybulnyk and Volodymyr Nerubatskyi	Analysis of Energy Processes in Five-Level Autonomous Inverter Voltage with Fixing Diodes when implementing various modulation algorithms	

### **ORAL SESSION**

Hall #1211 (9:00 - 11:00)

CHAIRMAN: Tibor Vince, Andrii Gladyr

# Track 4: Simulation in electrical engineering Complex permeability hysteresis model for implementation in harmonic balance finite element method

Track 5: Electrical Engineering Education and Education Technologies			
	2	Svitlana Symonenko and Viacheslav Osadchyi	Peculiarities of English language training for electrical engineering students at Ukrainian universities
	3	Iryna Trunina and Inna Khovrak	Harmonization of the interests of employers and institutions of higher education as a basis for the sustainable regional development

	Track 6: Industrial application & Industry 4.0		
4		Investigaion of factors affecting on the forms of pulsed dielectrical barrier discharge on the surface of water in atmospheric air	
		Caching and Archiving in Distributed System for Effective Information Collection and Analysis	

# COFFEE BREAK Academic Building #1 (11:00 – 11:30)

### POSTER SESSION

Hall Academic Building #1 (11:30 - 13:00)

## Track 1: Electromechanics

CHAIRMAN: Andrii Kalinov, Mariia Maliakova, Alexei Bialobrzeski, Viacheslav Melnykov

1.	Borys Kuznetsov, Tatyana Nikitina, Ihor Bovdui and Borys Kobilyanskiy	Robust Anisotropic Control by Cable Winding Machine
2.	Borys Kuznetsov, Tatyana Nikitina and Ihor Bovdui	Improving of Accuracy of Electromechanical Servo Systems with Distributed Parameter of Plant Mechanical Part
3.	V. Kukhar, I. Karmazina, A. Prysiazhnyi, A. Elchaninov, V. Zubrytskyi, V. St'opin, M. Korenko and S. Hurkovska	Operation Modes of Electric Motors of Reversing Cold Rolling Mill 1680 during Rolling with Emulsions
4.	Olena Nazarova, Volodymyr Osadchiy and Serhiy Shulzhenko	Identification method of the loading rate of a two-speed elevator to improve the accuracy of its positioning
5.	Oleksandr Hubachov, Volodimir Kolosiuk and Andriy Kolosiuk	THE TORQUE OF UNDULATED-CURRENT TRACTION MOTORS
6.	Ihor Serhiienko, Serhii Serhiienko, Oleksii Chornyi and Valerii Tytiuk	The Analysis of the Relationship between the Parameters of the Nonlinear Object of Control and its Transfer Function of the Fractional Order
7.	Olexiy Iegorov, Mykolay Kundenko, Olga Iegorova and Andriy Milenin	The influence of the phase angle between the rotor magnetic axis and the stator winding current vector on the synchronous reluctance motor efficiency
8.	Roman Manko, Oleksii Kravets, Tetyana Korenkova and Mohamed Zaidan Qawaqzeh	Wavelet Transform Capabilities for Localization of Leaks in the Pipeline Network Pump Complex
9.	Vsevolod Sklabinskiy, Maksym Skydanenko, Mykola Kononenko and Artem Artyukhov	Improving of the Electronic Intellectual Cleaning System of Holes in Perforated Shells of the Priller
10.	Ján Molnár, Tomáš Lorinc and Olena Slavko	Design and Implementation of an Intelligent Air Quality Sensor

11.	Victor Busher and Vasily Goroshko	Dual Electromagnetic Retarder Control System for Tuning Internal Combustion Engines
12.	Olga Tolochko, Oleksii Burmelov and Daniil Danilov	Observer-based Sensorless Control of PMSM
13.	Maryna Antonova and Evgenia Vasilieva	Concept of anti-surge protection of gas pumping units
14.	Volodmyr Zinovkin, Mykola Antonov and Yrii Krysan	Simulation of static stability of synchronous electric drive at hardly variable load
15.	Gennadii Martynenko and Yuriy Ulianov	Combined Rotor Suspension in Passive and Active Magnetic Bearings as a Prototype of Bearing Systems of Energy Rotary Turbomachines
16.	Grygoriy Diachenko, Oleksandr Aziukovskiy, Mykhailo Rogoza and Serhiy Yakimets	Optimal Field-Oriented Control of an Induction Motor for Loss Minimization in Dynamic Operation using GRAMPC
17.	Mykola Ostroverkhov and Mykola Buryk	Control of Permanent Magnet Synchronous Motor under Conditions of Parametric Uncertainty
18.	Andrey Stavinskii, Vyacheslav Shebanin, Elena Avdieieva, Aleksandr Tsyganov, Rostislav Stavinskiy and Aleksey Sadovoy	Dependence of the indicators of three-phase transformers with planar plate magnetic wires from variants of rod configurations
19.	Andrey Stavinskii, Vyacheslav Shebanin, Elena Avdieieva, Aleksey Sadovoy, Larisa Vakhonina and Aleksandr Tsyganov	Axial asynchronous motor with a rotor's two- section cone-cylindrical magnetic circuit
20.	A. P. Oksanich, S.E. Pritchin, M. G. Kohdas and M.G. Dernova	Aspects of Forming the Information V2I Model of the Transport Vessel
21.	Ivan Biluk, Dmitro Shareyko, Andrii Fomenko, Serhii Havrylov, Oleg Savchenko and Rostislav Stavinskiy	Construction and adjustment of a vibration machine based on a complete electric drive
22.	Dmytro Yarymbash, Mikhaylo Kotsur, Yevheniia Kulanina and Tetyana Divchuk	Simulation of Idling Mode of Single-Phase Transformer
23.	Dmytro Yarymbash, Mikhaylo Kotsur, Tetyana Divchuk, Serhiy Yarymbash, Iryna Kylymnyk and Yevheniia Kulanina	Calculation of No-load Currents Using Hysteresis Loop
24.	Viktor Grebtnikov and Rostislav Gamaliia	COMPARATIVE ANALYSIS OF TWO TYPES OF GENERATORS WITH PERMANENT MAGNETS FOR WIND TURBINE

25.	Igor Atamanyuk	Predictive Control of Electrical Equipment Reliability on the Basis of the Non-linear Canonical Model of a Vector Random Sequence
26.	Viktoriya Kovalchuk and Tetyana Korenkova	Estimation of the efficiency of the pump plant with a variable-frequency drive at the alteration of the hydrosystem parameters
27.	Konstantyn Kuchynskyi and Viacheslav Prus	NUMERICAL EVALUATION OF THE MAXIMUM HEATINGS OF SOLID ROTOR OF THE SYNCHRONOUS MACHINE IN TRANSIENT MODE
28.	Oleksandr Popovych and Ivan Golovan	Currents System for Efficient Mathematical Modeling of an Induction Motor Using the Field Analysis
29.	Viktoriia Nozhenko, Dmytro Rodkin and Kostyantin Bohatyrov	Control of passing the resonance zone during start-up of above resonance vibration machines
30.	Olga Chorna, Valerii Tutiuk and Oleksii Chornyi	Detection Of Change Of Asynchronous Motor Parameters During Monitoring By Measuring The Induction Of a Magnetic Field On a Stator Surface
31.	Oleksandr Derets and Oleksandr Sadovoi	Synthesis of a quasi-optimal in speed relay- modal position control system, based on the N-i switching method
32.	Nataliia Zachepa, Olga Chorna and Dmytro Rieznik	Research levels and zones spatial propagation magnetic field asynchronous machine
33.	Vasyl Shynkarenko, Ali Makki, Viktoriia Kotliarova and Anna Shymanska	Modular Principle in the Structural Organization and Evolution of Electromechanical Objects
34.	Vasyl Shynkarenko, Ali Makki, Viktoriia Kotliarova and Anna Shymanska	Genetic Synthesis of Electromechanical Objects of the Modular Type
35.	Volodymyr Chenchevoi, Iurii Zachepa and Vita Ogar	The study of the harmonic composition of the voltage and current of the asynchronous generator with a high saturation of the magnetic system
36.	Mariia Maliakova, Oleg Zaichenko, Vitalii Stiazhkin, Serhii Kushnyriev and Atef Saleh Al-Mashakbeh	Increase of electromagnetic compatibility of the rotary type electromagnetic separator with semiconductor current regulators
37.	Oleksii Chornyi, Sergii Buryakovskyy, Leonid Mazurenko, Iurii Zachepa, Volodymyr Chenchevoi and Nataliia Zachepa	Development of Theory and Practice of the Local Autonomous Power Supply Sources Creation
38.	Evgeniia Burdilna and Volodymyr Hrabko	Transporter Control for Grain Handling in Granaries and Loading on Vehicles

39.	Irena Kováčová and Viacheslav Melnykov	Magnetic Fields of DC PM Motor and its EMC	
	Oleg Sinchuk and Thor Kozakevych	Analysis of Direct Torque Control System of Five-phase Induction Motor	
41.		The methods for accounting the degree of electric machines aging in the assessment of their reliability	
42.		Screening as a measure of normalization of the magnetic field of the asynchron machine in production conditions	

# Track 4: Simulation in electrical engineering

## CHAIRMAN: Tatjana Korenkova, Valerii Sydorenko

43.	Anna Hodulikova and Viacheslav Melnykov	Modelling of output signal of magnetoelastic pressure force sensor 120kN
44.	Rostislav Yatsyuk, Serhii Husach and Dmytro Mamchur	Development of the Mathematical Apparatus for the Neural Adaptive Electric Drive Control System
45.	Elena Kobilskaya, Viktor Lyashenko, Olga Demyanchenko and Tetiana Nabok	Thermal Process in Compound-Structure Permanent-Magnet Synchronous Machine
46.	Jozef Dziak and Andrii Kalinov	Simulation of Factory with Alternative Sources Used to Reduce Its Own Power Supply Using Matlab
47.	Patrik Jacko and Oleksii Kravets	Spectral Analysis by STM32 Microcontroller of the Mixed Signal
48.	Milan Guzan, Michal Hlavačka and Mariia Maliakova	Regions of Attraction for Two Hidden Attractors
49.	Vitaliy Kuznetsov, Mykola Tryputen, Yevheniia Kuznetsova, Alisa Kuznetsova, Maksym Tryputen and Mykola Babyak	Development and Verification of Dynamic Electromagnetic Model of Asynchronous Motor Operating in Terms of Poor-Quality Electric Power
50.	Yuriy Shurub, Alla Dudnyk, Viktor Vasilenkov and Yuriy Tsitsyurskiy	Simulation of Random Loads Applied to Statistical Optimal Synthesis of Electric Drives
51.	Gennadii Martynenko and Volodymyr Martynenko	Numerical Determination of Active Magnetic Bearings Force Characteristics Taking into Account Control Laws Based on Parametric Modeling

52.	Zinovkin Volodymyr, Blyzniakov Olexander and Vasilieva Jevgeniia	Non-stationary electromagnetic processes in power-intensive electrical facilities with highly varying loads
53.	Gennadii Slavko	Modeling Of A Non-Contact Sustainable Suspension Of A Free Superconducting Rotor On Magnetic Bearings
54.	Branislav Fecko and Andrii Kalinov	Matlab Model and PI Controler of DC Permanent Magnet Motor
55.	Peter Hrabovský and Oleksii Kravets	The Design and Simulation of Spiral Planar Coil in COMSOL Multiphysics
56.	Darina Špaldonová and Dmitro Mamchur	The Capacitor Field Modelling by Comsol
57.	Sergii Shlyk and Tetiana Haikova	Development of a Mathematical Model for Power Engineering Parts Deep Drawing from Two-layer Materials
58.	Ihor Kozakevych and Roman Siyanko	Simulation of processes in the modular multilevel converter

### LUNCH

(13:00 - 14:00)

### **EXCURSION**

(14:00 - 16:30)

### **FAREWELL DINNER**

(18:00)

### POSTER SESSION

Hall Academic Building #1 (10:00 – 11:30)

## Track 2: Electrical and power systems engineering

CHAIRMAN: Andriy Perekrest, Serhii Yakimets

1.	Borys Kuznetsov, Tatyana Nikitina and Ihor Bovdui	Feed Forward Robust Active Shielding System by Magnetic Field with Single Compensating Coil
2.	Matej Beres and Olena Slavko	Four Leg Interleaved DC-DC Buck-Boost Converter with Modifiable Topology Using Proposed Windows Application
3.	Vladyslav Mykhailenko, Sergiy Buryan, Galyna Mikhnenko, Julia Chunyk, Olga Tcharniak and Iryna Bashyrova	Study of AC pulse converters with active and active-inductive load
4.	Ruslan Vlasenko, Oleksii Bialobrzheskyi and Andrii Gladyr	Four-wire three-phase active power filter with fuzzy controller for compensation of distortion of currents unbalance in the conditions of fluctuated load
5.	Mykhaylo Tkach and Borys Tymoshevskyy	Energetic Complex for the Plastic's Waste Processing and Electricity Production
6.	Tetiana Skibina and Tetiana Kurbatova	Methodical Approach to Evaluate Management Efficiency of Energy Supply Companies
7.	Tetiana Kurbatova and Tetiana Skibina	Renewable energy policy in Ukraine's household sector: measures, outcomes and challenges
8.	Agnieszka Joanna Drzymała and Ewa Korzeniewska	Economic efficiency of a photovoltaic power plants
9.	Yuriy Sayenko and Andrii Molchan	Analysis of wind turbine impacts on power quality taking into account the variable nature of wind flow
10.	Valerii Havrysh, Vasyl Hruban, Aleksey Sadovoy, Antonina Kalinichenko and Katerina Taikhrib	Sustainable Energy Supply Based on Sunflower Seed Husk for Oil mills
11.	Oksana Dovgalyuk, Sherali Saidov and Ivan Yakovenko	Application of Energy Storage Systems at the Traders Work on the Ukraine Energy Market
12.	Serhii Bondarenko, Oleksii Bialobrzheskyi and Ruslan Vlasenko	The frequency response research of power part elements a one-phase series active power filter

13.	Leonid Mazurenko, Oleksandr Dzhura, Mykola Kramar and Maksym Shykhnenko	WIND ENERGY CONVERSION SYSTEM WITH INDUCTION GENERATORS CONNECTED TO A SINGLE STATIC COMPENSATOR
14.	Kateryna Kryvonos, Dmytro Pyrogov and Yurii Shevchuk	Modern aspects of alternative energy in Ukraine
15.	Yuan Li	Power grid scheduling strategy considering wind power reporting power confidence coefficient
16.	Igor Sinchuk	Introduction to the Formation of the Basic Structure of the Algorithm for the Control of Electric Energy Flows in Iron Ore Mines
17.	Yevgeniy Trotsenko, Volodymyr Brzhezitsky, Olexandr Protsenko and Yaroslav Haran	Experimental Laboratory Equipped with Voltage Dividers for Power Quality Monitoring
18.	Viacheslav Prus and Alyona Nikitina	Accounting of electric energy consumption and quality as a part of automatic systems of technical accounting of energy
19.	Oleg Sinchuk, Ihor Kozakevych and Denis Vornikov	Research of PMSM Wind Generator Under Assymetry Grid Conditions

## Track 3: Industrial electronics

CHAIRMAN: Valerii Tytiuk, Iurii Zachepa

20.	Svetlana Podnebennaya, Vladimir Burlaka and Sergey Gulakov	Development of Power Supply for Resistance Welding Machine
21.	Dávid Schweiner and Mariia Maliakova	Transient Analysis of Buck DC-DC Converter Switching
22.	Saraai Paracada VIIIII / alchanko	Partially feedback linearizing DC-link voltage controller for three-phase shunt active power filters
23.	Oleksandr Nikolaienko and Mykola Antonov	Asynchronous electric drive based on cascade multi-level frequency converter
24.	Dobroslav Kováč and Andrii Gladyr	Half Bridge Driver for MOSFET and IGBT Transistors
25.	Olexander Shavolkin, Iryna Shvedchykova and Olga Kravchenko	Three-phase Grid Inverter for Combined Electric Power System with a Photovoltaic Solar Battery

### **COFFEE BREAK**

# Track 5: Electrical Engineering Education and Education Technologies

## CHAIRMAN: Tamara Poyasok, Vita Ogar

master's programs of the specialty "Electric power engineering, electrical engineering and electromechanics"  Volodymyr Nykyforov, Oleksandr Hubachov, Alona Pasenko, Serhii Sukach, Elena Antonova and Yuliya Bredun  28. Anfisa Shmeleva, Ksenia Sizova and Svitlana Soshenko  19. Gennadii Slavko, Serhii Serhiienko and Larisa Herasimenko  30. Mykhaylo Zagirnyak, Serhii Serhiienko and Viktor Kostin  Serhiienko and Viktor Kostin  Denys Zagirniak, Viktoriia Perevozniuk and Oleg Kratt  19. Denys Zagirniak, Viktoriia Perevozniuk and Mariia Pokolodna  31. Viktoria Perevozniuk and Ruslana Kantemyrova  33. Viktoria Perevozniuk and Ruslana Kantemyrova  34. Yevheniia Chebotarova, Andrii Perekrest and Vita Ogar  Dmytro Babenko, Ilona Batsurovska, Nataliia Dotsenko, Olena Gorbenko, Iana Andriushchenko and Nataliia Kim  Volodymyr Lugovyi and Zhannata  Mykolodymyr Lugovyi and Zhannata Reproduction and development of personnel			
<ul> <li>Hubachov, Alona Pasenko, Serhii Sukach, Elena Antonova and Yuliya Bredun</li> <li>Anfisa Shmeleva, Ksenia Sizova and Svitlana Soshenko</li> <li>Gennadii Slavko, Serhii Serhiienko and Larisa Herasimenko</li> <li>Mykhaylo Zagirnyak, Serhii Serhiienko and Viktor Kostin</li> <li>Denys Zagirniak, Viktoriia Perevozniuk and Oleg Kratt</li> <li>Johasya Basyuk and Mariia Pokolodna</li> <li>Yevheniia Chebotarova, Andrii Perekrest and Vita Ogar</li> <li>Jiveta Tomčíková and Antaliia Kim</li> <li>Yolodymyr Lugovyi and Zhanneta</li> <li>Johas Sizova and Svitlana Sizova and Svitlana Soshenko, Yuliversity Training Course</li> <li>Implementation of Dual Education Elements into Electrical Engineering Education and Automatic Assessment of Study Results</li> <li>Implementation of Dual Education Elements into Electrical Engineering Education and Automatic Assessment of Study Results</li> <li>The Standardization of the Higher Engineering Education in Ukraine in the Light of American Experience</li> <li>Rationalization of professional orientation of a person according to the needs of the business</li> <li>Coaching as Education Technology on Electrica Engineering Education</li> <li>Accreditation of higher engineering education in the usa: american scientists' estimation</li> <li>Tool for Automatic Formulation of State Equations in the MATLAB Environment</li> <li>Application of monitoring of the informational and educational environment in the engineering education system</li> <li>Reproduction and development of personnel potential of electrical and power engineering in</li> </ul>	26.	Khalanchuk, Mykola Morozov and Halyna Onyshchenko	phenomena in quantum-sized systems in the course of physical and mathematical support of master's programs of the specialty "Electric power engineering, electrical engineering and
29. Gennadii Slavko, Serhii Serhiienko and Larisa Herasimenko  30. Mykhaylo Zagirnyak, Serhii Serhiienko and Viktor Kostin  31. Denys Zagirniak, Viktoriia Perevozniuk and Oleg Kratt  32. Dariya Basyuk and Mariia Pokolodna  33. Viktoria Perevozniuk and Ruslana Kantemyrova  34. Yevheniia Chebotarova, Andrii Perekrest and Vita Ogar  35. Iveta Tomčíková and Andrii Gladyr Dmytro Babenko, Ilona Batsurovska, Nataliia Dotsenko, Olena Gorbenko, Iana Andriushchenko and Nataliia Kim  36. Olena Gorbenko, Iana Andrii Slanova Arcologymyr Lugovyi and Zhanneta Talanova  37. Volodymyr Lugovyi and Zhanneta Talanova  38. Olena Gorbenko, Iana Andrii Gladyr Lalanova  39. Gennadii Slavko, Serhii Serhiienko and Automatic Assessment of Study Results and Auto	27.	Hubachov, Alona Pasenko, Serhii Sukach, Elena Antonova and	Identifying the Professional Abilities in Electrical Engineering of Listeners of the Pre-
30. Mykhaylo Zagirnyak, Serhii Serhiienko and Viktor Kostin  31. Denys Zagirniak, Viktoriia Perevozniuk and Oleg Kratt  32. Dariya Basyuk and Mariia Pokolodna  33. Viktoria Perevozniuk and Ruslana Kantemyrova  34. Yevheniia Chebotarova, Andrii Perekrest and Vita Ogar  35. Iveta Tomčíková and Andrii Gladyr  Dmytro Babenko, Ilona Batsurovska, Nataliia Dotsenko, Olena Gorbenko, Iana Andriushchenko and Nataliia Kim  Volodymyr Lugovyi and Zhanneta Talannya  The Standardization of the Higher Engineering Education in Ukraine in the Light of American Experience  Rationalization of professional orientation of a person according to the needs of the business  Coaching as Education Technology on Electrica Engineering Education  Tool for Automatic Formulation of State Equations in the MATLAB Environment  Application of monitoring of the informational and educational environment in the engineering education system  Reproduction and development of personnel potential of electrical and power engineering in	28.	Anfisa Shmeleva, Ksenia Sizova and Svitlana Soshenko	•
30. Myknaylo Zagirnyak, Sernii Serhiienko and Viktor Kostin  31. Denys Zagirniak, Viktoriia Perevozniuk and Oleg Kratt  32. Dariya Basyuk and Mariia Pokolodna  33. Viktoria Perevozniuk and Ruslana Kantemyrova  34. Yevheniia Chebotarova, Andrii Perekrest and Vita Ogar  35. Iveta Tomčíková and Andrii Gladyr  Dmytro Babenko, Ilona Batsurovska, Nataliia Dotsenko, Olena Gorbenko, Iana Andriushchenko and Nataliia Kim  Volodymyr Lugovyi and Zhanneta  36. Denys Zagirniak, Viktoriia Perevozniuk and Oleg Kratt  Rationalization of professional orientation of a person according to the needs of the business  Coaching as Education Technology on Electrica Engineering Education  Accreditation of higher engineering education in the usa: american scientists' estimation  Comparative analysis of efficiency energy saving solutions implemented in the buildings  Tool for Automatic Formulation of State Equations in the MATLAB Environment  Application of monitoring of the informational and educational environment in the engineering education system  Reproduction and development of personnel potential of electrical and power engineering in	29.	Gennadii Slavko, Serhii Serhiienko and Larisa Herasimenko	Digitalization Electrical Engineering Education and Automatic Assessment of Study Results
Iryna Trunina, Olena Sushchenko, Dariya Basyuk and Mariia Pokolodna  33. Viktoria Perevozniuk and Ruslana Kantemyrova  34. Yevheniia Chebotarova, Andrii Perekrest and Vita Ogar  35. Iveta Tomčíková and Andrii Gladyr  Dmytro Babenko, Ilona Batsurovska, Nataliia Dotsenko, Olena Gorbenko, Iana Andriushchenko and Nataliia Kim  36. Volodymyr Lugovyi and Zhanneta Talanova  Iryna Trunina, Olena Sushchenko, Coaching as Education Technology on Electrica Engineering Education  Coaching as Education Technology on Electrica Engineering Education  Coaching as Education Technology on Electrica Engineering Education  Accreditation of higher engineering education in the usa: american scientists' estimation  Comparative analysis of efficiency energy saving solutions implemented in the buildings  Tool for Automatic Formulation of State Equations in the MATLAB Environment  Application of monitoring of the informational and educational environment in the engineering education system  Reproduction and development of personnel potential of electrical and power engineering in	30.	Mykhaylo Zagirnyak, Serhii Serhiienko and Viktor Kostin	Education in Ukraine in the Light of American
<ul> <li>Dariya Basyuk and Mariia Pokolodna</li> <li>Wiktoria Perevozniuk and Ruslana Kantemyrova</li> <li>Accreditation of higher engineering education in the usa: american scientists' estimation</li> <li>Yevheniia Chebotarova, Andrii Perekrest and Vita Ogar</li> <li>Iveta Tomčíková and Andrii Gladyr Dmytro Babenko, Ilona Batsurovska, Nataliia Dotsenko, Olena Gorbenko, Iana Andriushchenko and Nataliia Kim</li> <li>Yolodymyr Lugovyi and Zhanneta Talanova</li> </ul> Accreditation of higher engineering education in the usa: american scientists' estimation Accreditation of higher engineering education in the usa: american scientists' estimation Accreditation of higher engineering education Accreditation of higher engineering education Accreditation of higher engineering education Tool for Automatic Formulation of State Equations in the MATLAB Environment Application of monitoring of the informational and educational environment in the engineering education system Reproduction and development of personnel potential of electrical and power engineering in	31.	Denys Zagirniak, Viktoriia Perevozniuk and Oleg Kratt	
<ul> <li>33. Kantemyrova in the usa: american scientists' estimation</li> <li>34. Yevheniia Chebotarova, Andrii Perekrest and Vita Ogar Comparative analysis of efficiency energy saving solutions implemented in the buildings</li> <li>35. Iveta Tomčíková and Andrii Gladyr Tool for Automatic Formulation of State Equations in the MATLAB Environment</li> <li>36. Dmytro Babenko, Ilona Batsurovska, Nataliia Dotsenko, Olena Gorbenko, Iana Andriushchenko and Nataliia Kim</li> <li>37. Volodymyr Lugovyi and Zhanneta Talanova</li> </ul>	32.	Dariya Basyuk and Mariia	Coaching as Education Technology on Electrical Engineering Education
<ul> <li>35. Iveta Tomčíková and Andrii Gladyr</li> <li>Dmytro Babenko, Ilona</li> <li>36. Batsurovska, Nataliia Dotsenko, Olena Gorbenko, Iana Andriushchenko and Nataliia Kim</li> <li>37. Volodymyr Lugovyi and Zhanneta</li> <li>37. Talanova</li> </ul> Tool for Automatic Formulation of State Equations in the MATLAB Environment  Application of monitoring of the informational and educational environment in the engineering education system  Reproduction and development of personnel potential of electrical and power engineering in	33.		
Dmytro Babenko, Ilona Batsurovska, Nataliia Dotsenko, Olena Gorbenko, Iana Andriushchenko and Nataliia Kim  Volodymyr Lugovyi and Zhanneta Talanova  Equations in the MATLAB Environment  Application of monitoring of the informational and educational environment in the engineering education system  Reproduction and development of personnel potential of electrical and power engineering in	34.	Yevheniia Chebotarova, Andrii Perekrest and Vita Ogar	
<ul> <li>36. Batsurovska, Nataliia Dotsenko, Olena Gorbenko, Iana Andriushchenko and Nataliia Kim</li> <li>Volodymyr Lugovyi and Zhanneta</li> <li>37. Talanova</li> </ul> Application of Hiolitoring of the informational and educational environment in the engineering education system Reproduction and development of personnel potential of electrical and power engineering in	35.	Iveta Tomčíková and Andrii Gladyr	
37. Talanova potential of electrical and power engineering in	36.	Batsurovska, Nataliia Dotsenko, Olena Gorbenko, Iana	and educational environment in the
	37.	Volodymyr Lugovyi and Zhanneta Talanova	potential of electrical and power engineering in

38.	Tamara Poyasok, Olena Bespartochna and Tanya Dniprovska	FORMATION OF SCIENTIFIC AND RESEARCH COMPETENCY OF FUTURE ELECTRICAL ENGINEERS
39.	Andrey Pochtovyuk and Kateryna Pryakhina	Increase in Use Values of Future Engineers through the Education Technology Trends Implementation
40.	Iryna Shvedchykova, Iryna Soloshych and Svitlana Pochtovyuk	Creation of educational and research software for integrated assessment of energy consumption and sustainable development of regions

# Track 6: Industrial application & Industry 4.0

## CHAIRMAN: Olena Slavko, Viacheslav Prus

41.	Andrzej Krawczyk and Ewa Korzeniewska	5G technology as the successive stage in the history of wireless telecommunication
42.	Tibor Vince and Olena Slavko	Enhanced Centralized Access Control System
43.	Olga Zalunina, Vita Ogar, Andrii Perekrest and Oksana Zbyrannyk	Formation of informational support in construction for the implementation of energy saving measures
44.	Ivan Laktionov, Oleksandr Vovna, Oksana Zolotarova, Serhii Sukach and Vladyslav Lebediev	Results of researches of metrological characteristics of analog temperature sensors
45.	Oleksandr Anishchenko, Volodymyr Kukhar, Andrii Prysiazhnyi, Elena Balalayeva, Viktor Agarkov and Leila Aliieva	Ensuring the Required Electrotechnical Properties During Recycling of Worn Trolley Wire
46.	Ivan Laktionov, Oleksandr Vovna, Oksana Zolotarova, Serhii Sukach and Vladyslav Lebediev	Results of researches of metrological characteristics of analog temperature sensors
47.	Olga Maslak, Natalya Grishko, Svitlana Ishchenko and Mariya Maslak	Export-oriented enterprise development of the electrotechnical industry: strategic guidelines
48.	Mykola Pechenik, Serhii Burian, Mykola Pushkar and Hanna Zemlianukhina	Analysis of the Energy Efficiency of Pressure Stabilization Cascade Pump System
49.	Alla Kasych, Zuzana Rowland and Oksana Onyshchenko	Evaluating effectiveness of the business models of electrical and electronic engineering companies: monitoring methods, experience and characteristics

50.	Sergei Peresada, Victor Reshetnyk, Yevhen Nikonenko and Dmytro Rodkin	Adaptive position control and self-commissioning of the interior permanent magnet synchronous motors
51.	Leonid Fylypchuk and Viktor Fylypchuk	Automatic regulation of parameters to render harmless chromium containing waste water a mixer-reactor of periodical action
52.	Volodymyr Dragobetskii, Alexander Shapoval, Dmytro Moloshtan, Elena Naumova and Sergii Shlyk	Improving The Operational Reliability Of Stamped Parts Of Electrical Engineering Machines And Electrical Products
53.	Oleksandr Cherednichenko, Mykhaylo Tkach and Serhii Dotsenko	The Usage of a Waste Heat Recovery Metal- Hydride Unit of Continuous Operation in the Maritime Energy
54.	Volodymyr Nykyforov, Oksana Sakun, Mykhaylo Yelizarov, Alona Pasenko and Oksana Maznytska	Test-object activity and mortality depending on electromagnetic radiation intensity and duration
55.	Viktor Pisminetsky, Igor Nevliudov, Iryna Botsman, Viktoriia Bortnikova, Vladyslav Yevsieiev and Denis Mospan	Degradation and Regeneration in Silicon Concentrator Solar Panels
56.	Alla Kasych, Yaroslava Yakovenko and Iryna Tarasenko	OPTIMIZATION OF BUSINESS PROCESSES WITH THE USE OF INDUSTRIAL DIGITALIZATION

### **COFFEE BREAK**

Academic Building #1 (11:30 - 12:00)

# PLENARY SESSION CLOSING CEREMONY

Academic Building #1, Hall #1121 of «Auditorium named after Academician Vernadsky» (12:00 – 13:00)

CHAIRMAN: Oleksii Chornyi, Serhii Serhiienko