



Conference Program

2026 IEEE 8th International Conference on Smart Technologies in Power Engineering and Electronics STEE-2026



April 27-30, 2026
Kyiv, Ukraine



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Conference Technical Tracks

TT1 – Power and Industrial Electronics

Chair Oleksandr BONDARENKO, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine

Vice Chair Vadym MARTYNIUK, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine

TT2 – Acoustics, Multimedia and Speech Processing

Chair Pavlo POPOVYCH, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine

TT3 – Electronic Components, Packaging and Manufacturing Technology

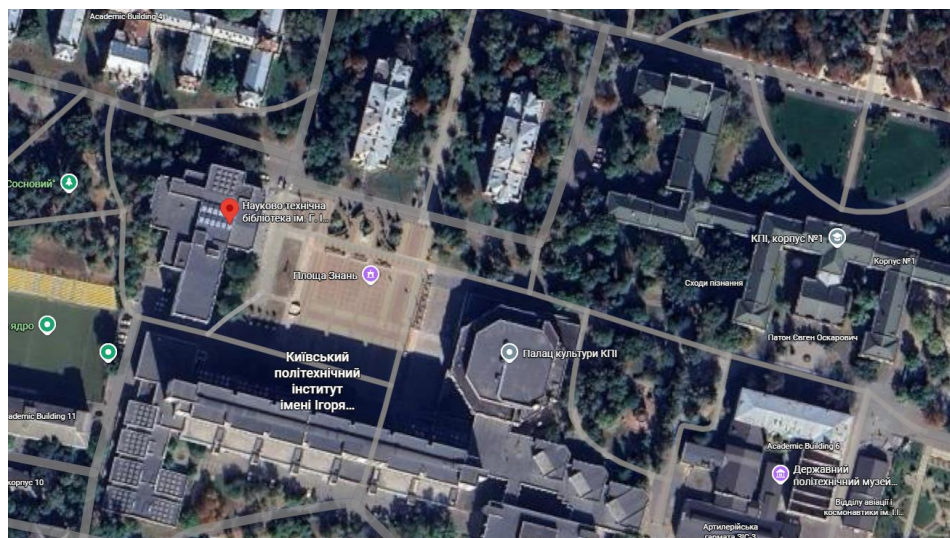
Chair Ostap OLIINYK, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine



Venue

Smart Shelter CLUST Space, Scientific and Technical Library of Igor Sikorsky Kyiv Polytechnic Institute

37 Beresteys'kyy Avenue, Kyiv, 03056, Ukraine
(Location 50°26'59.3"N 30°27'23.9"E)



Time zone

Time zone: Kyiv city, Ukraine (GMT+3)



Monday, 27th April 2026

Time	Activities
10:30 - 11:00	Conference Participants Registration Smart Shelter CLUST Space, Library of Igor Sikorsky Kyiv Polytechnic Institute
11:00 - 11:30	IEEE Kyiv Polytechnic Week: OPENING CEREMONY Smart Shelter CLUST Space, Library of Igor Sikorsky Kyiv Polytechnic Institute
12:00 - 14:00	Online Session 1 TT1 – Power and Industrial Electronics

Tuesday, 28th April 2026

Time	Activities
10:00 - 11:30	Online Session 2 TT2 –Acoustics, Multimedia and Speech Processing
12:00 - 13:00	Online Session 3 TT3 –Electronic Components, Packaging and Manufacturing Technology
12:00 – 14:00	IEEE YP MEETUP Smart Shelter CLUST Space, Library of Igor Sikorsky Kyiv Polytechnic Institute



Wednesday, 29th April 2026

Time	Activities
10:00 - 11:30	Oral Session 4 TT3 – Electronic Components, Packaging and Manufacturing Technology Smart Shelter CLUST Space, Library of Igor Sikorsky Kyiv Polytechnic Institute
11:30 - 12:00	Coffee break
12:00 - 13:45	Oral Session 5 TT2 – Acoustics, Multimedia and Speech Processing Smart Shelter CLUST Space, Library of Igor Sikorsky Kyiv Polytechnic Institute
13:45 - 14:00	Coffee break
14:00 - 16:00	Oral Session 6 TT1 – Power and Industrial Electronics Smart Shelter CLUST Space, Library of Igor Sikorsky Kyiv Polytechnic Institute

Thursday, 30th April 2026

Time	Activities
10:00 - 12:00	Online Session 7 Reserve session
16:00 – 18:00	IEEE YP MEETUP Online WORKSHOP/SEMINAR



Time Table

DAY 1 - 27th April

IEEE Kyiv Polytechnic Week: OPENING CEREMONY

Location: [Smart Shelter CLUST Space, Scientific and Technical Library of Igor Sikorsky Kyiv Polytechnic Institute](#)

10:30 – 11:00	Conference Participants Registration
11:00- 11:30	Anatolii Melnychenko , Rector of Igor Sikorsky Kyiv Polytechnic Institute, Ukraine
	Serhii Naida , IEEE STEE Honorary Chair, Dean of the Faculty of Electronics, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine
	Ievgen Pichkalov , IEEE ELNANO and IEEE STEE Oversight Committee Member, IEEE Ukraine Section Treasurer, Section OpCom Member, Ukraine
	Yuriy Yakymenko , IEEE ELNANO Honorary Chair, Academician, IEEE Life Senior Member, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine
	Kateryna Ivanko , IEEE ELNANO Organizing Committee Chair, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine
	Ievgen Verbytskyi , IEEE STEE Organizing Committee Chair, Igor Sikorsky Kyiv Polytechnic Institute, Ukraine



DAY 1 - 27th April

Online Session 1 – TT1 Power and Industrial Electronics

Session Chair: Oleksandr BONDARENKO

Session Vice-Chair: Vadym MARTYNIUK

12:00 – 14:00	<p>Influence of the Nonlinearity on the Harmonic Content of Current and Electromagnetic Torque in a Six-Phase Induction Motor (ID#6) <u>Mykola Semeniuk</u>; Andriy Kutsyk; Vasyl Tytka</p>
	<p>Analysis and Assessment of the Energy-Saving Effect of a Three-Phase Current-Source Inverter with Seven Switches (ID#10) <u>Oleksandr Plakhtij</u>; Yakiv Shcherbak; Yurii Semenenko; Katerina Ivakina; Vladyslav Govorun; Kostyantyn Illenko</p>
	<p>Analysis of Sliding Mode Equations of Electric Drive Control System with Acceleration Observer (ID#15) <u>Oleksandr Derets</u>; Oleksandr Sadovoi; Petro Karachkovskyi</p>
	<p>Transfer Function of a Resonant Inverter based on a Single-Pulse Model (ID#32) <u>Gennadiy Pavlov</u>; Andrii Obrubov; <u>Iryna Vinnychenko</u></p>
	<p>Thyristor Current Pulse Generator for Electroerosion Dispersion of Metals and Alloys with Variable Energy and Frequency (ID#33) <u>Natalia Nazarova</u>; Sergii Petrychenko; Yuriy Adamchuk</p>
	<p>High Voltage Conversion Ratio Single-Switch Non-Isolated DC-DC Converter Featuring Reduced Voltage Stress on Power Semiconductors (ID#35) <u>Vitor Fernão Pires</u>; Armando Cordeiro; Daniel Foito; <u>Oleksandr Bondarenko</u>; J. Fernando Silva; Joaquim Monteiro</p>



DAY 1 - 27th April

Online Session 1 – TT1 Power and Industrial Electronics

Session Chair: Oleksandr BONDARENKO

Session Vice-Chair: Vadym MARTYNIUK

12:00 – 14:00	Incremental Conductance MPPT Algorithm with Integral Compensator for Extended Gain DC-DC Buck-Boost Converter in PV Systems (ID#37) Joaquim Monteiro; J. Fernando Silva; Sónia Pinto; Oleksandr Bondarenko; <u>Vitor Pires</u>
	Three-Channel Controlled Power Converter for Electric Brakes of Large-Diameter Antenna Drive System (ID#59) Volodymyr Yaskiv; <u>Anna Yaskiv</u>
	Application of High-Frequency Pulse Current Modulation in TIG Welding of Stainless Steels (ID#31) Igor Krivtsun; <u>Dmytro Kovalenko</u> ; Ruslan Hubatiuk; Serhii Rymar; Oleksii Pavlov



DAY 2 - 28th April

Online Session 2 – TT2 Acoustics, Multimedia and Speech Processing

Session Chair: Pavlo POPOVYCH

10:00 – 11:30	<p>Increasing the Energy Efficiency of Electric Discharge Low-Frequency Hydroacoustic Emitters (ID#4) <u>Serhiy Kozyrev</u></p>
	<p>Model of Two-Dimensional Modulation Transfer Function for Modern Video Applications (ID#8) Olena Mazurkiewicz; <u>Svitlana Kiiko</u>; Volodymir Baliar; Oleksii Keidaliuk</p>
	<p>Control of Operational Quality of Digital TV Broadcasting on Transport Stream Level (ID#20) <u>Volodymir Baliar</u>; Olena Mazurkiewicz; Oleksandra Koltsova</p>
	<p>Vehicle Localization and Classification in Images from UAVs in Rainy and Foggy Conditions Using YOLO (ID#49) <u>Rostyslav Tsekhmystro</u>; Vladimir Lukin; Dmytro Krytskyi</p>
	<p>Prediction and Measurement of the Speech Transmission Index under Dominant Reverberation (ID#40) <u>Arkadiy Prodeus</u>; Anton Naida; Maryna Didkovska</p>
	<p>Localization of Objects by Acoustic Methods Using Microphone Arrays (ID#46) Serhii Naida; Serhii Kozेरuk; Oleksandr Drozdenko; <u>Oleksandr Dvornyk</u></p>



DAY 2 - 28th April

Online Session 3 – TT3 Electronic Components, Packaging and Manufacturing Technology

Session Chair: Ostap OLIINYK

12:00 – 13:00	Interaction between high-voltage internal insulation components as an indicator of equipment operability (ID#2) <u>Antonina Maliushevska</u> ; Viktor Gun'ko; Inna Perekupka; Olena Tanasova; Tetiana Feshchuk
	Electrochemical Synthesis and Photoluminescent Properties of CdO/CdS/ZnO Heterostructure for Optoelectronic Applications (ID#27) <u>Yana Suchikova</u> ; Serhii Kovachov; Ivan Kosogov; Ihor Bohdanov; Marina Konuhova; Anatoli I. Popov
	Electrochemically Engineered Micro-Textured InP Surface as a Compliant Buffer Layer for Advanced Electronic and Optoelectronic Heterostructures (ID#28) <u>Yana Suchikova</u> ; Serhii Kovachov; Ivan Kosogov; Ihor Bohdanov; Zhakyp Karipbaev; Anatoli I. Popov



DAY 2 - 28th April

IEEE R8 Young Professionals Meetup

Supported by IEEE Young Professionals and IEEE Foundation

ON-SITE PRESENTATIONS

Location: [Smart Shelter CLUST Space, Scientific and Technical Library of Igor Sikorsky Kyiv Polytechnic Institute](#)

12:00 – 12:30	Overview of the IEEE and Young Professionals community. IEEE Engagement & Volunteering Opportunities	Kateryna Ivanko , IEEE Ukraine Section Student Activity Committee Chair
12:30 – 13:00	<i>Seminar 1</i> Intelligent Control for Assistive Orthoses: An Embedded Linux and Distributed Architecture Approach	Anton Kotsiubailo , Igor Sikorsky Kyiv Polytechnic Institute - Ukraine
13:00 – 13:30	<i>Seminar 2</i> Longitudinal Modeling and Prediction of Parkinson's Disease Using Deep Learning and Clinical Time-Series Data	Illia Mushta , Igor Sikorsky Kyiv Polytechnic Institute - Ukraine
13:30 – 14:00	Networking Session	Discussions with the speakers and further interaction with fellow attendees



DAY 3 - 29th April

Oral Session 4 – TT3 Electronic Components, Packaging and Manufacturing Technology

Session Chair: Ostap OLIIYK

Location: [Smart Shelter CLUST Space, Scientific and Technical Library of Igor Sikorsky Kyiv Polytechnic Institute](#)

10:00 – 11:30	<p>Assessment of Path Loss for Deploying a LoRa System for Image Transmission Inside a Building (ID#53) Roman Yaroshenko; Yurii Onykiienko; Illia Kyrylenko; Nataliia Yakunina</p>
	<p>Compact Ku-band 16-element Passive Microstrip Antenna Array for Communication Terminals (ID#12) Serhiy Martyniuk; Volodymyr Perevertailo</p>
	<p>Correct-by-Construction High-Level Synthesis for FPGA: From Algebraic Models to RTL (ID#25) Igor Redko; Petro Yahanov; Maksym Zylevich</p>
	<p>Impact Generation of Electron-Ion Inductive Coupled Plasma for Ion Enhanced Metal Deposition (ID#43) Anatoly Kuzmichev; Serhii Sydorenko; Oleg Shcheklanov</p>

COFFEE BREAK

Smart Shelter CLUST Space (11:30 – 12:00)



DAY 3 - 29th April

Oral Session 5 – TT2 Acoustics, Multimedia and Speech Processing

Session Chair: Pavlo POPOVYCH

Location: [Smart Shelter CLUST Space, Scientific and Technical Library of Igor Sikorsky Kyiv Polytechnic Institute](#)

12:00 – 13:30	<p>An Efficient Image Compression Method for LoRa Networks (ID#14) Yurii Onykiienko; Maksim Mazin; <u>Pavlo Popovych</u>; Serhii Naida; Illia Kyrylenko</p>
	<p>On the Connection of Electrical, Mechanical, and Acoustic Processes in Remote Sensing by Cylindrical Piezoceramic Transducers with Internal Screens (ID#21) Oleksandr Leiko; Anatolii Derepa; Olha Pozdniakova; <u>Oleksii Bogdanov</u>,</p>
	<p>Signaling Sounds Minimizing Stress-Induced Human Responses: A Pilot Study (ID#56) Kateryna Drozdenko; Serhii Naida; <u>Dmytro Pareniuk</u></p>

COFFEE BREAK

Smart Shelter CLUST Space (13:30 – 14:00)



DAY 3 - 29th April

Oral Session 6 – TT1 Power and Industrial Electronics

Session Chair: Oleksandr BONDARENKO, Vadym MARTYNIUK

Location: [Smart Shelter CLUST Space, Scientific and Technical Library of Igor Sikorsky Kyiv Polytechnic Institute](#)

14:00 – 16:00	<p>Apparent Power Definitions in Reduced Coordinate Basis (ID#29) Mykhailo Artemenko; Yurii Kutafin; Ivan Shapoval; Vasyl Chopyk; Valerii Mykhalskyi; Serhii Polishchuk</p>
	<p>Analysis of Thermal Stability of Power Electronic Modules in Cold Start Mode (ID#36) Vadym Martyniuk; Valerii Zhuikov; Olena Abakumova</p>
	<p>A Method of Adaptive Pulse Charging for Lead-Acid Batteries Based on Voltage Derivative Analysis (ID#41) Artur Zahranychnyi; Valerii Zhuikov; Olena Abakumova</p>
	<p>Spectral Analysis of Unipolar and Bipolar SPWM Signals in Single-Phase Inverters (ID#44) Dmytro Prykhodko; Artem Moskovko</p>
	<p>Optimal Power Distribution in Microgrids with Power Electronics Converters (ID#47) Serhii Denysiuk; Halyna Bielokha</p>
	<p>Dynamic Performance Evaluation of GaN HEMT Based Phase Leg Module (ID#54) Serhii Kovbasa; Yurii Verbovyi</p>
	<p>Analysis of Soft-Switching Techniques for a Lightweight Tethered Drone Power Converter (ID#57) Ievgen Verbytskyi; Oleksiy Skrypchynskyy</p>



DAY 4 - 30th April

Online Session 7 – Reserve Session and Closing Ceremony

The reserve online session is appointed to participants who cannot join the proper sections in time

Session Chair: Ievgen VERBYTSKYI

10:00 – 12:00	Presentations from participants who cannot join the proper meetings in time.
	Summing Up the Conference
	Closing ceremony

IEEE R8 Young Professionals Meetup

Supported by IEEE Young Professionals and IEEE Foundation

ONLINE WORKSHOP/SEMINAR (16:00 – 18:00)

<https://meet.google.com/jiq-cwou-kki>

16:00 – 17:30	Possibilities and Prospects for the Development of IEEE Young Professionals in Ukraine
17:30 – 18:00	Questions and Answers Session, Networking