

Day 1: October 20, 2025, Monday

13⁰⁰-13¹⁵ Opening Ceremony

Welcome messages and greetings to participants of CAMPE-2025:

*General Conference Chair - Andrii **Kostikov**, Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine*

*Alexander **Cheng**, University of Mississippi, Brevard, USA*

*Xiao-Wei **Gao**, Dalian University of Technology, Dalian, China*

*Anton **Tkachuk**, Karlstad University, Karlstad, Sweden*

13¹⁵-14¹⁵ Session 1 *Fluid mechanics and heat transfer in power engineering*

Chair: Roman Rusanov, Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine

13¹⁵-13³⁰ *Yuriy Bykov, Lyubov Kolodyazhna, Mykola Kostin, Oleksii Petrov and Romuald Rzqdkowski. In-phase self-excited vibrations of fan blades*
Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine
SE Ivchenko-Progress, Zaporizhzhia, Ukraine
Robert Szewalski Institute of Fluid-Flow Machinery of the Polish Academy of Sciences, Gdansk, Poland

13³⁰-13⁴⁵ *Oleg Khoryev, Yuriy Bykov, Pavlo Korotaiev, Sergii Agibalov and Anton Panov. Impact of stay vane number on pump-turbine characteristics*
Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine

13⁴⁵-14⁰⁰ *Natalya Orlova, Svitlana Alyokhina. Analysis of Boundary Layer Hydrodynamic Parameters on Flat Building Surfaces under Air Leakage*
Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine
University of Applied Sciences Technikum Wien, Vienna, Austria

14⁰⁰-14¹⁵ *Andrii Kostikov, Natalya Orlova, Svitlana Alyokhina. Spatial–Angular Distribution of Aerodynamic Coefficients and Static Pressure on Residential Building Facades under Wind Flow*
Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine
University of Applied Sciences Technikum Wien, Vienna, Austria

14¹⁵-16⁴⁵ Session 2 *Energy saving technologies and environmental safety*

Chair: Roman Rusanov, Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine

14¹⁵-14³⁰ *Borys Kuznetsov, Ihor Bovdai, Konstantin Chunikhin, Olena Voloshko and Tetiana Nikitina. Magnetic Silence of an Uncertain Technical Object as a Geometric Inverse Problem of Magnetic Static's*

Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine

Bakhmut Education Research and Professional Pedagogical Institute V.N. Karazin Kharkiv National University, Bakhmut, Ukraine

14³⁰-14⁴⁵ *Ihor Bovdai, Borys Kuznetsov, Konstantin Chunikhin, Olena Voloshko and Tetiana Nikitina. Combined Active and Electromagnetic Passive Silencing of Power Lines Magnetic Field Based on Geometric Inverse Magneto Quasi Static's Problem*

Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine

Bakhmut Education Research and Professional Pedagogical Institute V.N. Karazin Kharkiv National University, Bakhmut, Ukraine

14⁴⁵-15⁰⁰ *Pavlo Kuznietsov, Olha Biedunkova, Alla Pryshchepa and Olesya Yaroshuk. Processes Optimisation of Coagulation, Flocculation, and Liming for Power Plant Water Treatment*

National University of Water and Environmental Engineering, Rivne, Ukraine

15⁰⁰-15³⁰ Coffee-break

15³⁰-15⁴⁵ *Viktor Lyashenko, Elena Kobilskaya, Olga Demyanchenko, Michail D. Todorov. Mathematical Model of Heat Transfer in a Roll Caliber*

Kremenchuk Mykhailo Ostrohradskyi National University, Kremenchuk, Ukraine

Lviv Polytechnic National University, Lviv, Ukraine

Technical University of Sofia, Bulgaria

15⁴⁵-16⁰⁰ *Oleksandr Shapoval, Iurii Savchenko, Nataliia Kitsel, Kostiantyn Bas, Oleksandr Hrushko. Optimization of Metal Structure Influence on the Quality of Multilayer Waveguides*

Kremenchuk Mykhailo Ostrohradskyi National University, Kremenchuk, Ukraine

University of Customs and Finance, Dnipro, Ukraine

Kremenchuk Flight College of Kharkiv, National University of Internal Affairs, Kremenchuk, Ukraine

Dnipro University of Technology, Dnipro, Ukraine

University for Continuing Education Krems (Danube University Krems) Wiener Neustadt, Austria

16⁰⁰-16¹⁵ *Oleg Kravchenko, Valerii Fedoreiko, Andrii Avramenko, Mykola Rutylo, Vitalii Homan*. Enhancement of Combustion Processes of Nonstandardized Biomass in a Jet-Vortex Heat Generator Using Numerical Methods
Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine
Ternopil Volodymyr Hnatiuk National Pedagogical University, Ternopil, Ukraine

16¹⁵-16³⁰ *Dmytro Kotenko and Mykola Zipunnikov*. Modeling of a constant pressure regulator for alkaline electrolyzers
Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine

16³⁰-16⁴⁵ *Illia Petukhov, Oleksii Lysytsia, Taras Mykhailenko and Artem Kovalov*. Specific Aspects of Modeling the Chill-Down Process of Cryogenic Hydrogen Systems
National Aerospace University “Kharkiv Aviation Institute”, Kharkiv, Ukraine

Day 2: October 21, 2025, Tuesday

10⁰⁰-13⁰⁰ Session 3 Dynamics and Strength of Power Equipment

Chair: Denis Kriutchenko, Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine

10⁰⁰-10¹⁵ *Oleksii Milenin, Elena Velikoivanenko, Galina Rozynka and Oleksii Makhnenko*. Numerical Assessment of Structural Integrity of Welded Absorbing Elements in VVER-1000 Control and Protection System
E.O. Paton Electric Welding Institute of the NAS of Ukraine, Kyiv, Ukraine

10¹⁵-10³⁰ *Oksana Klochko, Oleg Trishevskiy, Mariia Bilinska, Ivan Rybalko and Evgeniya Deryabkina*. Model Analysis of Metal Degradation Processes in Tubing Pipes in Service
State Biotechnological University, Kharkiv, Ukraine
Jagiellonian University, Kraków, Poland

10³⁰-10⁴⁵ *Igor Melnyk, Serhii Tuhai, Olga Demyanchenko and Andriy Luntovskyy*. Advanced Means for Computer Simulation of Aerodynamic Control of High-Voltage Glow Discharge Electron Gun Current
Department of Electronic Devices and Systems, Electronic Faculty, National Technical University of Ukraine “Igor Sikorsky Kyiv Polytechnic Institute”, Kyiv, Ukraine

Institute of Applied Mathematics and Fundamental Sciences of the National University
"Lviv Polytechnic", Lviv, Ukraine

BA Dresden, Saxon Study Academy, University of Cooperative Education,
Dresden, Germany

10⁴⁵-11⁰⁰ *Denys Tkachenko, Vadym Garin, Oleksiy Pavlenko, Olga Shypul and Vitalii Myntiuk*. Numerical Simulation of a Mine Explosion Impact on the Gas-Detonation Demining Device

National Aerospace University "Kharkiv Aviation Institute", Kharkiv, Ukraine

11⁰⁰-11¹⁵ *Holm Altenbach, Dmytro Breslavsky, Andrii Khoroshun, Alyona Senko, Oksana Tatarinova*. Creep-Damage Modeling of Turbine Blades with Consideration of Wear and Stress Corrosion Cracking

Otto-von-Guericke-Universität Magdeburg, Germany

National Technical University "Kharkiv Polytechnic Institute", Kharkiv, Ukraine

11¹⁵-11³⁰ *Oleg Polevoy, Dmytro Redchyts, Svitlana Moiseienko, Serhii Shevchenko*. Numerical Simulation of Heat and Mass Transfer Influence on 2D Shock Wave Interactions with Supersonic Turbulent Boundary Layer

Institute of Transport Systems and Technologies of the NAS of Ukraine, Dnipro, Ukraine

11³⁰-11⁴⁵ *Volodymyr Kukhar, Khrystyna Malii, Sergiu Mazuru, Natalia Hrudkina and Eleonora Butenko*. Identification of Early Degradation Mechanisms in Zinc Coating on Cold-Formed Steel Sections Through Analysis of the Production–Storage Chain

Technical University "Metinvest Polytechnics" LLC, Zaporizhzhia, Ukraine

Technical University of Moldova, Chişinău, Republic of Moldova

Pryazovskyi State Technical University, Dnipro, Ukraine

11⁴⁵-12⁰⁰ *Kyryl Degtyariov, Konstantin Vandyshv, Denis Kriutchenko, Marina Chugay*. Fatigue Life Assessment of Power Machinery Components via Finite and Boundary Element Methods

Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine

Delft University of Technology, Delft, Netherlands

12⁰⁰-12¹⁵ *Neelam Choudhary, Vasyl Gnitko, Andry Kolodiazhnyi, Denis Kriutchenko and Elena Strelnikova*. Sloshing Dynamics and Stability of Fuel Tanks under Short-Duration High-Intensity Loads

School of Artificial Intelligence, Bennett University, Greater Noida, India

Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine

V.N. Karazin Kharkiv National University, Kharkiv, Ukraine

Kharkiv National University of Radio Electronics, Kharkiv, Ukraine

12¹⁵-12³⁰ *Andrii Chuhaï, Yuriy Stoyan, Georgiy Yaskov, Tatyana Romanova, Carlos Gustavo Martínez Gomez. Packing of Cylindrical Nanostructures with Orientation Constraints: A Unified Geometric Model*

Anatolii Pidhorniy Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine

Simon Kuznets Kharkiv National University of Economics, Kharkiv, Ukraine

Kharkiv National University of Radio Electronics, Kharkiv, Ukraine

University of Leeds, Maurice Keyworth Building, Leeds, UK

Faculty of Mechanical and Electrical Engineering, Autonomous University of Nuevo Leon, Monterrey, Mexico

12³⁰-12⁴⁵ *Vasyl Gnitko, Kyryl Degtyariov, Marina Chugay, Alexander Steinwolf. Tuned Liquid Damper for Mitigation of Structural Vibrations*

Anatolii Pidhorniy Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine

AST Consulting Ltd., Auckland, New Zealand

12⁴⁵-13⁰⁰ *Maryna Chernobryvko, Konstantin Avramov. Dynamic of ring-stiffened conical thin-walled structure interacting with supersonic flow*

Anatolii Pidhorniy Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine

Department of Aircraft Strength, National Aerospace University “KhAI”, Kharkiv, Ukraine

Department of Technical Systems, Kharkiv National University of Radio Electronics, Kharkov, Ukraine

13⁰⁰-14⁰⁰ Lunch

14⁰⁰-17¹⁵ Session 4 Dynamics and Strength of Power Equipment

Chair: Elena Strelnikova, Anatolii Pidhorniy Institute of Power Machines and Systems of the NAS of Ukraine

14⁰⁰-14¹⁵ *Maryna Shevtsova, Oleksii Vambol, Tetyana Nabokina, Andrii Kondratiev. Effect of Nanodiamond and Nanographite Fillers on the Dielectric Characteristics of Polymer Composites*

Vilnius Gediminas Technical University, Vilnius, Lithuania

Lviv Polytechnic National University, Lviv, Ukraine

National Aerospace University “Kharkiv Aviation Institute”, Kharkiv, Ukraine

O.M. Beketov National University of Urban Economy in Kharkiv, Ukraine

14¹⁵-14³⁰ *Sergiy Yepifanov, Oleksii Bondarenko*. Analysis of the Accuracy of Estimating the Dynamic Parameters of Gas Turbine Engines from Experimental Data

National Aerospace University “Kharkiv Aviation Institute”, Kharkiv, Ukraine

14³⁰-14⁴⁵ *Lidiya Kurpa, Tetyana Shmatko, Jan Awrejcewicz*. Free vibration analysis of an auxetic honeycomb sandwich shallow shell with an arbitrary planform resting on Pasternak elastic foundation

Department of Applied Mathematics, National Polytechnic University “KhPI”, Kharkiv, Ukraine

Department of Higher Mathematics, National Polytechnic University “KhPI”, Kharkiv, Ukraine

Department of Automation, Biomechanics and Mechatronics, Lodz University of Technology, Lodz, Poland

14⁴⁵-15⁰⁰ *Sergei Panteikov, Elena Leshchenko*. Development of Extended-Life Lance Tips: Symmetrical Cooling of Zones Behind the Nozzles

Dniprovsky State Technical University, Kamianske, Ukraine

15⁰⁰-15¹⁵ *Elena Panteikova, Sergei Panteikov and Elena Leshchenko*. Improving the Operational Safety of Tip Structures for Top-Blown Converter Lances

Private Joint–Stock Company “KAMET–STAL”, Kamianske, Ukraine

Dniprovsky State Technical University, Kamianske, Ukraine

15¹⁵-15³⁰ *Mykola M. Tkachuk, Andriy Grabovskiy, Oleh Loznyi, Mykola A. Tkachuk*. Modified Kalker Principle for Contact Analysis Between Complex-Profile Bodies with Non-Linear Surface Layers

National Technical University “Kharkiv Polytechnic Institute”, Kharkiv, Ukraine

Örebro University, Fakultetsgatan 1, Örebro, Sweden

15³⁰-15⁴⁵ *Francisco Monticeli*. Effect of Fibre Bridging on Delamination Resistance of Hybrid Carbon–Glass/Epoxy Laminates

Department of Aerospace Structures and Materials, Faculty of Aerospace Engineering, Delft University of Technology, Delft, the Netherlands

15⁴⁵-16⁰⁰ *Maksym Kunitsyn, Anatoly Usov, Yuriy Zaychyk and Yulia Sikirash*. Determinative Approach to Analysis of the Influence of Thermomechanical Phenomena on the Quality of Working Surfaces of Parts in Finishing Operations

Odessa Polytechnic National University, Odessa, Ukraine

16⁰⁰-16¹⁵ *Roman Uvarov*. Efficient Geometric Modeling and Visualization of Heat Transfer Domains Using R-functions and JavaScript
Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine

16¹⁵-16³⁰ *Oleh Derkach*. Modelling of Effective Electroelastic and Dissipative Properties of Layered Piezocomposites
G.S. Pisarenko Institute for Problems of Strength of the NAS of Ukraine, Department of Oscillations and Vibrational Reliability, Kyiv, Ukraine

16³⁰-16⁴⁵ *Natalia Smetankina, Anatolii Vasiliev and Wei Han*. Strength Analysis of Nuclear Power Plant Protective Elements During Airplane Crash
Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine
International Center of Future Science, Jinlin University, Road Huojv, P. R. of China

16⁴⁵-17⁰⁰ *Pavlo Hontarovskiy, Nataliia Garmash, Iryna Melezhyk, Tetiana Protasova, Kateryna Ugrimova*. Investigation of Crack Kinetics Under Multi-Mode Cyclic Loading
Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine
Simon Kuznets Kharkiv National University of Economics, Kharkiv, Ukraine

17⁰⁰-17¹⁵ *Sergiy Ugrimov, Volodimir Yareshchenko, Olexander Yareshchenko and Ihor Derevianko*. Investigation of the Dynamic Properties of Materials under High Rate Strain Conditions
Anatolii Pidhornyi Institute of Power Machines and Systems of the NAS of Ukraine, Kharkiv, Ukraine
Yuzhnoye State Design Office, Dnipro, Ukraine

17¹⁵-17³⁰ Closing Ceremony