



**INTERNATIONAL CONFERENCE on
Hydraulics, Pneumatics,
Sealing Elements, Precision Mechanics,
Tools, Specific Electronic Equipment
& Mechatronics**

HERVEX

**| November 8-10, 2023 |
| Baile Govora, ROMANIA |**

**Hydraulics
and
Pneumatics**

**20
23**

**International
Conference**



**HERVEX 1993 - HERVEX 2023
A milestone moment:
CELEBRATING 30 YEARS
TOGETHER!**

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Conference Programme



International Conference on Hydraulics, Pneumatics,
Sealing Elements, Precision Mechanics, Tools, Specific
Electronic Equipment & Mechatronics

| BAILE GOVORA |
| 8 – 10 NOVEMBER |

HERVEX 2023

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CELEBRATING 30 YEARS TOGETHER!



Conference Programme

Wednesday, November 8, 2023

15⁰⁰-16⁰⁰	Registration of participants
16⁰⁰-16³⁰	Opening ceremony - Welcome speeches
16³⁰-17⁰⁰	"30 YEARS of HERVEX" - Celebration speeches (<i>Speakers: Gheorghe Rizoiu</i> – General Director of Valcea Chamber of Commerce and Industry; <i>Petrin Drumea</i> , PhD. - INOE 2000 – IHP Bucharest) <i>Tribute speech: "Personalities of the field participating in HERVEX over the years"</i> (<i>Speaker: Gabriela Matache</i> , PhD. - INOE 2000 – IHP Bucharest)
17⁰⁰-17³⁰	<i>Keynote Lecture: "Current State of Fluid Power in CETOP Statistics"</i> (<i>Speaker: Krzysztof Kędzia</i> , PhD. – Professor at Wrocław University of Science and Technology, Poland)
17³⁰-17⁴⁵	Coffee break
17⁴⁵-18¹⁵	<i>Keynote Lecture: "Electrification and Digital Transformation - Chances and Challenges for Fluid Power Technology"</i> (<i>video presentation</i>) (<i>Speaker: Katharina Schmitz</i> , PhD., Prof. – Director at RWTH Aachen University - Institute for Fluid Power Drives and Systems (ifas) Aachen, Germany)
18¹⁵-19⁰⁰	<i>Keynote Lecture: "Important Research and Technology Achievements of 2023 at INOE 2000 – IHP: The <Water Collector>, part of the Ivan Patzaichin Memorial Assembly; Test stand of low-head hydro turbines"</i> (<i>Speaker: Cătălin Dumitrescu</i> , PhD. – Director at INOE 2000 – IHP Bucharest)
19⁰⁰-20⁰⁰	DINNER

Thursday, November 9, 2023

09⁰⁰-10¹⁵	<p>1st Regular paper session</p> <p>BIOTECHNOLOGY, BIOMECHANICS; WORKING FLUIDS AND HIGH PRESSURE HYDRAULICS</p> <p>Chairmen: Prof. PhD. Krzysztof KĘDZIA, PhD. Cătălin VIȚELARU</p>
09⁰⁰-09¹⁵	<p>Measuring Catalase Activity in Li Treated Aquatic Plant Tissues Anamaria Iulia Török, Eniko Kovacs, Erika Andrea Levei INCDO-INOE 2000, Research Institute for Analytical Instrumentation</p>
09¹⁵-09³⁰	<p>Comparative Study of Non-Invasive Methods Used for Measuring the Human Joint Angles and Joint's Range of Motion in Static and Dynamic Conditions Cristian Radu Badea, Paul-Nicolae Ancuța, Sorin Ionuț Badea, Florentina Badea The National Institute of Research and Development in Mechatronics and Measurement Technique (INCDMTM)</p>
09³⁰-09⁴⁵	<p>Analysis of Working Fluids and the Influence of Their Properties on the Characteristics of Hydraulic Drive Systems (HDS) Liliana Dumitrescu, Adriana-Mariana Borș, Ștefan Șefu, Kamil SzeWERda National Institute of Research & Development for Optoelectronics/INOE 2000, Subsidiary Hydraulics and Pneumatics Research Institute/IHP</p>
09⁴⁵-10⁰⁰	<p>Comparative Thermal Analysis of Hydraulic Oils Andreea Mirela Teleașă, Sorin Cănanău, Cătălin Dumitrescu, Alexandru Valentin Rădulescu, Alina Maria Stoica, Geanina Mihaela Mateescu National University of Science and Technology POLITEHNICA Bucharest</p>
10⁰⁰-10¹⁵	<p>Method and Means of Measuring the Pulsating Flowrates of Oscillating Hydraulic Pressure Intensifiers Teodor Costinel Popescu, Alexandru-Polifron Chiriță, Krzysztof Nieśpiałowski, Ana-Maria Carla Popescu National Institute of Research & Development for Optoelectronics/INOE 2000, Subsidiary Hydraulics and Pneumatics Research Institute/IHP</p>
10¹⁵-10³⁰	<p>Coffee break</p>
10³⁰-12⁰⁰	<p>2nd Regular paper session</p> <p>TRIBOLOGY, MATERIALS SCIENCE AND ADVANCED TECHNOLOGIES</p> <p>Chairmen: Prof. PhD. Adinel GAVRUS, PhD. Gabriela MATACHE</p>
10³⁰-10⁴⁵	<p>Impact Velocity Control of Hopkinson Bar Mechatronics System Using Driving Robust Pressure, Numerical Calibration Strain Wave Measurement and Inverse Analysis Adinel Gavrus Institut National des Sciences Appliquées de Rennes/INSA Rennes, France</p>
10⁴⁵-11⁰⁰	<p>Fundamentals and Applications of Cold Spray Technology Wojciech Żórawski, Rafał Chatys, Medard Makrenek Kielce University of Technology, Poland</p>
11⁰⁰-11¹⁵	<p>HiPIMS Deposition of Micrometer Thick DLC Coatings for Industrial Applications Cătălin Vițelaru, Anca Constantina Pârău, Adrian Emil Kiss, Mihaela Dinu, Lidia Ruxandra Constantin, Iulian Pană, Arcadie Sobetkii, Tomas Kubart National Institute of Research & Development for Optoelectronics/INOE 2000</p>

11¹⁵-11³⁰	Cold Sprayed Ti-6Al-4V Coatings on Hydraulic Components Wojciech Żórawski , Medard Makrenek, Dominika Soboń Kielce University of Technology, Poland
11³⁰-11⁴⁵	Aspects of the Use of AI (Artificial Intelligence) Technology in Construction Equipment Management Mihail Savaniu , Oana Tonciu, Radu Panaitescu-Liess, Cristina Sescu-Gal, Magdalena Culcea, Anca Sasu Technical University of Civil Engineering Bucharest (UTCB)
11⁴⁵-12⁰⁰	Neural Network Controller for Fault detection and Monitoring of a Closed-Loop Compact Hydraulic Direct Drive Servomechanism Alexandru-Polifron Chiriță , Bogdan-Alexandru Tudor National Institute of Research & Development for Optoelectronics/INOE 2000, Subsidiary Hydraulics and Pneumatics Research Institute/IHP
12⁰⁰-12¹⁵	Coffee break
12¹⁵-13⁴⁵	3rd Regular paper session HYDRAULIC DRIVE COMPONENTS AND SYSTEMS Chairmen: Prof. PhD. Nicușor BAROIU, Prof. PhD. Daniel-Vasile BANYAI
12¹⁵-12³⁰	Optimal Design and CFD Verification of Axial Flow Fan Chan Lee , Hyun Seok Ko, Sang Yeol Lee, Sang Ho Yang University of Suwon, South Korea
12³⁰-12⁴⁵	Determinant of the Variability of the Load Cycle of a Multi-Source Hydrostatic Drive System Krzysztof Kędzia Wrocław University of Science and Technology, Poland
12⁴⁵-13⁰⁰	CFD Tools, Reverse Engineering, 3D Measuring and Artificial Neural Networks in Axial Piston Pumps Study Nicușor Baroiu , Viorel Păunoiu, Virgil Gabriel Teodor, Georgiana-Alexandra Moroșanu, Marius Geru "Dunărea de Jos" University of Galați
13⁰⁰-13¹⁵	Experimental Analysis of an Open/Closed Hydraulic System Ionela Mihaela Baciu , Mihai Avram, Bogdan Grănescu, Victor Constantin National University of Science and Technology POLITEHNICA Bucharest
13¹⁵-13³⁰	Multifunctional Mobile Robotic Platform for Educational Purposes Cătălin Frâncu , Ion David, Cristina Sescu-Gal Technical University of Civil Engineering Bucharest (UTCB)
13³⁰-13⁴⁵	Implementing the Functionality of Electrohydraulic Actuated Machines by Programmable Logic Controller Programmed Using Finite-State Machine Robert Blejan , Marian Blejan, Alexandru Ionescu National Institute of Research & Development for Optoelectronics/INOE 2000, Subsidiary Hydraulics and Pneumatics Research Institute/IHP
13⁴⁵-14⁴⁵	LUNCH

14⁴⁵-15³⁰	Research and Industry: News from companies in the field HIAROM INVEST S.R.L. – Ozana Desagă CALORIS GROUP S.R.L. – Andrei-Ionel Pătruț SANIMED INTERNATIONAL IMPEX S.R.L. – Marian Angheloiu
15³⁰-15⁴⁵	Coffee break
15⁴⁵-17⁰⁰	4th Regular paper session ENVIRONMENT AND RENEWABLE ENERGY. MISCELLANEOUS Chairmen: PhD. Radu-Iulian RĂDOI, PhD. Adriana Mariana BORȘ
15⁴⁵-16⁰⁰	Research into Freon-Free Ecological Compressed Air Cooling and Conditioning Processes Florin Teișanu , Constantin Chelan, Marinela Butoi, Daniela Iovan, Daniel Ocoleanu, Cristian-Eugeniu Sălceanu, Ancuța Mihaela Aciu, Cristina Maria Nițu, Claudiu Nicola, Marcel Nicola, Mihai Teișanu National Institute for Research, Development and Testing in Electrical Engineering ICMET Craiova
16⁰⁰-16¹⁵	Performance Evaluation of Hydrokinetic Rotors Using Custom Made On-Site Testing System Rareș-Andrei Chihaiia , Gabriela Cîrciumaru, Andreea El-Leathey, Alexandru-Ionel Constantin, Corina Băbuțanu, Constantin Dumitru National Institute for Research and Development in Electrical Engineering ICPE-CA
16¹⁵-16³⁰	Hydraulics and Pneumatics for a Sustainable Soil Remediation in the Context of the New EU Soil Strategy Iustina Popescu Boajă , Anca Margareta Isac Geological Institute of Romania – IGR
16³⁰-16⁴⁵	The Importance of Maintenance in Hydraulic Drive Systems for Microhydropower Plants: A Comparative Analysis Daniel-Vasile Banyai Technical University of Cluj-Napoca
16⁴⁵-17⁰⁰	Fruit and Vegetable Drying Machine with Energy Independence Ioan Pavel, Gheorghe Șovăială , Gabriela Matache, Valentin Barbu, Kati Pavel, Ana-Maria Popescu National Institute of Research & Development for Optoelectronics/INOE 2000, Subsidiary Hydraulics and Pneumatics Research Institute/IHP
17⁰⁰-17¹⁵	Experimental Research on a Clamping Device Adrian Constantin Hanganu "Gheorghe Asachi" Technical University of Iași
17¹⁵-17³⁰	Coffee break
17³⁰-19⁰⁰	Panel – "Opportunities for partnerships - Project calls" * European funds * Centers of Excellence. Intelligent Hydraulics * RIS3 (Research and Innovation Smart Specialisation Strategy) Chairmen: PhD. Petrin DRUMEA, Prof. PhD. Dan OPRUȚA
19⁰⁰-21³⁰	GALA DINNER

Friday, November 10, 2023

09⁰⁰-09²⁵	Project Workshop: Air-water heat pump with solar energy input and waste heat recovery / Pompă de căldură aer-apă cu aport de energie solară și recuperare de căldură reziduală (SMIS 156488) Chairman: PhD. Radu-Iulian RĂDOI
09²⁵-09⁵⁰	Project Workshop: Efficient high-pressure pumping units with minibooster type intensifiers / Unități de pompare eficientă la înaltă presiune cu amplificatoare tip minibooster (PN 23 05, PN 23 05 02 02, Faza 16) Chairman: PhD. Teodor Costinel POPESCU
10⁰⁰-12⁰⁰	Visit to The National Research and Development Institute for Cryogenic and Isotopic Technologies – ICSI Ramnicu Valcea (<i>optional</i>)
12⁰⁰-12³⁰	Concluding remarks and closing of the conference
12³⁰-13⁰⁰	Leisure time
13⁰⁰-14⁰⁰	LUNCH

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Thank you!



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