30th International Conference on Hydraulics and Pneumatics



HERVEX 2026

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Conference Programme

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

HERVEX 2026

Conference Programme

Thursday, November 19, 2026

09^{00}-10^{00}	Registration of participants
10^{00}-10^{30}	Opening ceremony - Welcome speeches
10^{30}-10^{40}	INOE 2000 - The National R&D Institute for Optoelectronics - at its 30th celebration *Speaker:* **Simona Donțu**, PhD.– Chair of the Scientific Council of INOE 2000
10^{40}-12^{00}	**Invited lectures (I)** **Chairmen:** C. Dumitrescu, P. Śliwiński
10^{40}-11^{00}	*Keynote Lecture*: **"Newest Trends in Fluid Power"** *(video presentation)* *Speaker:* **Katharina Schmitz**, PhD., Prof. – Director at RWTH Aachen University - Institute for Fluid Power Drives and Systems (ifas) Aachen, Germany
11^{00}-11^{20}	*Keynote Lecture*: **"The Synergy of Online Engineering and Education in Fluid Power Systems"** [N. Vasiliu, D. Vasiliu, M.D. Bontoș, G.C. Vasiliu, P.C. Irimia, R.C. Puhalschi] *Speaker:* **Nicolae Vasiliu**, PhD. – Emeritus Professor at National University of Science and Technology POLITEHNICA Bucharest, Romania
11^{20}-11^{40}	*Keynote Lecture*: **"When Technology Is Ready but the Organization Is Not: The Missing Link in Innovation Implementation"** *Speaker:* **Joanna Martusewicz**, PhD. – Professor at Wrocław University of Economics and Business, Poland
11^{40}-12^{00}	*Keynote Lecture*: **"The Interplay Between Biology and Engineering in Industrial Bioreactors: Challenges in Process Monitoring and Control"** *Speaker:* **Marcin Łukaszewicz**, PhD. – Professor at Wrocław University of Economics and Business, Poland
12^{00}-12^{15}	**Coffee break**
12^{15}-14^{00}	**Invited lectures (II)** **Chairmen:** G. Matache, B. Grămescu
12^{15}-12^{30}	*Keynote Lecture*: **"LES Romania: Connecting Innovation with Business — Building Romania's Technology Transfer Ecosystem"** *Speaker:* **Alexandru Marin**, Univ. Prof. Habil. PhD, Eng. – Professor at National University of Science and Technology POLITEHNICA Bucharest, Romania

12^{30}-13^{00}	*Keynote Lecture*: **"Domestic Renewable Energy Systems: Design of a Novel Helical Vertical Axis Wind Turbine Using Experimental and Numerical (CFD) Air Dynamic Flow Analysis, with Emphasis on Surface Coatings, Material Degradation and Energy Storage Chemistry"** [A. Gavrus, A. M. Borș] *Speaker:* **Adinel Gavrus**, PhD. – Professor at INSA Rennes, France
13^{00}-13^{20}	*Keynote Lecture*: **"Satellite Mechanism Manufactured by DMLS – Challenges"** *Speaker:* **Paweł Śliwiński**, PhD. – Professor at Gdansk University of Technology, Poland
13^{20}-13^{40}	*Keynote Lecture*: **"Research on Pressure Distribution along the Fluid Flow Path in a Gear Pump"** *Speaker:* **Ryszard Jasinski**, PhD. – Professor at Gdansk University of Technology, Poland
13^{40}-14^{00}	**Design of a Fluid Power System for Increased Handling of Vehicles** **Horia Abăitancei**[1], Sebastian Radu[1] [1]Transilvania University of Brașov
14^{00}-15^{00}	**LUNCH**
15^{00}-16^{00}	***Research and Industry***: News from companies in the field **BEIA Consult International S.R.L.** **TERRA România Utilaje de Construcții S.R.L.** **HIAROM Invest S.R.L.** **CTE Solution - Utilaje Specializate S.R.L.**
16^{00}-18^{30}	**Regular paper session** [presenting author – in **bold** typeface] **Chairmen:** A. Gavrus, Al. V. Rădulescu
16^{00}-16^{15}	**Preliminary study regarding the identification of microplastics in the Black Sea fauna** **Marius Gabriel Cioroiu**[1], Gabriel Popa[1] [1]National University of Science and Technology POLITEHNICA Bucharest
16^{15}-16^{30}	**Preliminary study of effects of seawater magnetization** **Marius Gabriel Cioroiu**[1], Gabriel Popa[1] [1]National University of Science and Technology POLITEHNICA Bucharest
16^{30}-16^{45}	**Energy autonomy and environmental monitoring potential of a low-cost open-source quadruped robot** **Ioan Damian Șerban**[1], Ioan Mihail Savaniu[1], Cătălin Frâncu[1] [1]Technical University of Civil Engineering Bucharest (UTCB)
16^{45}-17^{00}	**FEM analysis of the thermo-mechanical behavior of the brake disc - pad assembly during passenger car braking** **Cristina Țărțăleanu**[1], Gheorghe Voicu[1], Paula Tudor[1], Gabriel-Alexandru Constantin[1], Ion Sărăcin[2] [1]National University of Science and Technology POLITEHNICA Bucharest [2]University of Craiova
17^{00}-17^{15}	**Dough dividing and moulding in bread-making. State of the art, current issues and research directions** **Ana-Maria Feticu**[1], Gheorghe Voicu[1], Mariana-Gabriela Munteanu[1] [1]National University of Science and Technology POLITEHNICA Bucharest
17^{15}-17^{30}	**Profilometric analysis of textured surfaces for improving tribological behavior** **Geanina-Mihaela Andronache (Mateescu)**[1], Alexandru Valentin Rădulescu[1], Alina-Maria Stoica[1], Marilena Stoica[1], Nicolae-Alexandru Stoica[1], Andreea Mirela Stan (Teleașă)[1] [1]National University of Science and Technology POLITEHNICA Bucharest

17^{30}-17^{45}	**Variable speed hydraulic coupling** Marian Blejan[1], Carmen-Anca Safta[2], **Robert Blejan**[1] [1]National Institute of Research & Development for Optoelectronics – Subsidiary Hydraulics and Pneumatics Research Institute (INOE 2000 – IHP) [2]National University of Science and Technology POLITEHNICA Bucharest
17^{45}-18^{00}	**Tri-pole cluster of counter-rotating Lenz-2 vertical-axis wind turbines on a single mast: rotor aerodynamics, mutual interaction and expected field operation** **Adrian Pandele**[1,2], Dragoş M. Preda[1,3], Bogdan O. Duran[1,3], Gheorghe Voicu[1] [1]National University of Science and Technology POLITEHNICA Bucharest [2]ARROW [3]ROLIX IMPEX
18^{00}-18^{15}	**A double barrier against salt-karst geohazards: density stratification and bio-hydraulic sealing of the lake bottom at Baia Baciului (Slanic Prahova, Romania)** Adriana-Mariana Borș[1], **Iustina Popescu**[2], Adinel Gavrus[3], Nicoleta Mirela Marin[4] [1]National Institute of Research & Development for Optoelectronics – Subsidiary Hydraulics and Pneumatics Research Institute (INOE 2000 – IHP) [2]Geological Institute of Romania IGR Bucharest [3]National Institute of Applied Sciences of Rennes, INSA Rennes [4]National Research and Development Institute for Industrial Ecology ECOIND
18^{15}-18^{30}	**Experimental analysis of the hydraulic and energy parameters of an autonomous pumping system for mobile irrigation** **Dragoş Mihail Preda**[1,2] [1]National University of Science and Technology POLITEHNICA Bucharest, [2]ROLIX IMPEX

Friday, November 20, 2026

09^{00}-11^{00}	**Paper session and workshops** [presenting author – in **bold** typeface] **Chairmen:** G. Matache, J. Martusewicz
09^{00}-09^{15}	**Preliminary sizing methodology for a biomass-fired hot-air generator based on the TLUD principle for the ECOHOTSIS prototype** Andrei Ionel Pătruț[1], Gabriel Agache[1], Ioan Pavel[2], **Gabriela Matache**[2], Alexandru-Polifron Chiriță[2], Ana-Maria Popescu[2], Ioana Ilie[2] [1]CALORIS GROUP S.R.L, Bucharest [2]National Institute of Research & Development for Optoelectronics – Subsidiary Hydraulics and Pneumatics Research Institute (INOE 2000 – IHP)
09^{15}-09^{45}	**Project Workshop:** Ecological hot air generator system based on the TLUD principle (PN-IV-P7-7.1-PTE-2024-0035, Contract no. 48PTE/2025) **Chairmen:** PhD. **Gabriela Matache,** Dipl.Eng. **Andrei Ionel Pătruț**
09^{45}-10^{00}	**Fully autonomous, ultra-efficient, continuous-operation dryer with zero net emissions** **Gheorghe Șovăială**[1], Radu Iulian Rădoi[1], Gabriela Matache[1], Alexandru Polifron Chiriță[1], Ioan Pavel[1], Alina-Iolanda Popescu[1] [1]National Institute of Research & Development for Optoelectronics – Subsidiary Hydraulics and Pneumatics Research Institute (INOE 2000 – IHP)
10^{00}-10^{30}	**Project Workshop:** Dryer with ultra-efficient continuous operation, totally autonomous, with zero net emissions (PN-IV-P7-7.1-PTE-2024-0039, Contract no. 28PTE/2025) – *End-of-project workshop* **Chairmen:** PhD. **Gheorghe Șovăială,** Dipl.Eng. **Andrei Ionel Pătruț**
10^{30}-10^{45}	**Mobile hydraulic power unit used in the event of hydraulic equipment breakdowns** Ioan Lepădatu[1], Liliana Dumitrescu[1], Alexandru-Polifron Chiriță[1], **Ștefan-Mihai Șefu**[1] [1]National Institute of Research & Development for Optoelectronics – Subsidiary Hydraulics and Pneumatics Research Institute (INOE 2000 – IHP)
10^{45}-11^{00}	**Vibro-acustic emissions of gear pumps** **Alexandru-Polifron Chiriță**[1], Ștefan-Mihai Șefu[1], Florian-Andrei Scarlat[1] [1]National Institute of Research & Development for Optoelectronics – Subsidiary Hydraulics and Pneumatics Research Institute (INOE 2000 – IHP)
11^{00}-11^{15}	**Coffee break**
11^{15}-13^{00}	**Paper session, invited lecture and panel** [presenting author – in **bold** typeface] **Chairmen:** R. Rădoi, M. Łukaszewicz
11^{15}-11^{30}	**Energy efficiency in railway traction through the use of permanent magnet synchronous motors (PMSM)** **Ionuț-Alexandru Sofrone**[1], Valentin-Mihai Mancaș[1], Gabriel Popa[1] [1]National University of Science and Technology POLITEHNICA Bucharest
11^{30}-11^{45}	**Direct-drive electric motor drive solutions in urban rail transport** **Valentin-Mihai Mancaș**[1], Ionuț-Alexandru Sofrone[1], Gabriel Popa[1] [1]National University of Science and Technology POLITEHNICA Bucharest
11^{45}-12^{00}	**Performance analysis of a conventional hydraulic directional control valve actuated by a mini-servovalve for applications involving controlled vibrations** **Radu Iulian Rădoi**[1], Gabriela Matache[1], Ioan Pavel[1] [1]National Institute of Research & Development for Optoelectronics – Subsidiary Hydraulics and Pneumatics Research Institute (INOE 2000 – IHP)

12^{00}-12^{15}	**Composite Materials in Fluid Power Systems: Current Applications and Future Prospects** *(video presentation)* **Alexander Skvorchevsky**[1] [1]Innovation Academy of University College Dublin, The Republic of Ireland
12^{15}-12^{40}	**Invited lecture** *Keynote Lecture*: **"The Role of CETOP Education Recommendations in Closing the Skills Gap in Fluid Power"** [Krzysztof Kędzia, Jarosław Prokopowicz] *Speaker:* **Krzysztof Kędzia**, PhD. – Professor at Wrocław University of Science and Technology, Poland; CETOP Vice-President for Education
12^{40}-13^{00}	***Panel – "30 Years of Research and Development at INOE 2000-IHP"; Achievements and Perspectives*** **Chairmen:** PhD. **Cătălin DUMITRESCU**
13^{00}-13^{15}	Concluding remarks and closing of the conference

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