

CONFERENCE PROGRAM

THE 12th INTERNATIONAL CONFERENCE ON ADVANCED CONCEPTS IN
MECHANICAL ENGINEERING

ACME 2026

JUNE 4 – 5, 2026
IAȘI, ROMANIA



Organized by:



FACULTY OF MECHANICAL ENGINEERING
“GHEORGHE ASACHI” TECHNICAL UNIVERSITY OF IAȘI
and
ROMANIAN ACADEMY OF TECHNICAL SCIENCES



Under the aegis of:

ROMANIAN MINISTRY OF EDUCATION
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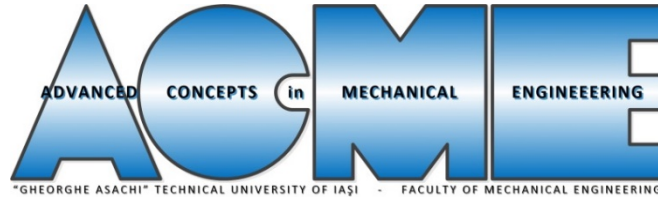
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CONFERENCE PROGRAM OUTLINE

Thursday, June 4th, 2026

- 09:00 – 09:30 Participants Registration (TUIASI Conference Room)
- 09:30 – 10:00 Welcome, Conference Opening Ceremony
- 10:00 – 11:30 Plenary Session (TUIASI Conference Room)
- 1. Embodied Mechanical Intelligence: From Physics-Based Modelling to Intelligent Motion and Control**
Teresa Zielińska – Warsaw University of Technology, Warsaw, Poland
 - 2. A Novel Paradigm for Mechatronic Systems Design**
José Machado – University of Minho, Portugal
- 12:00 – 13:00 Lunch Break (TUIASI Restaurant)
- 13:30 – 16:00 Sections Session
- 16:00 – 16:15 Coffee Break
- 16:15 – 18:30 Sections Session
- 19:00 Dinner (TUIASI Restaurant)

Friday, June 5th, 2026

- 07:30 – 12:00 Trip to Cricova, Republic of Moldova
- 12:00 – 15:00 Visit of Cricova winery and Lunch
- 15:00 – 16:30 Trip to Orhei, Republic of Moldova
- 16:30 – 18:00 Break
- 18:00 – 19:00 "History of wine", CHATEAU VARTELY winery
- 19:00 – "The secrets of technique - memories from the future" (CHATEAU VARTELY Restaurant)

Saturday, June 6th, 2026

- 10:00 – Trip to Iasi

NOTE: All times are Eastern European Summer Time (EEST)

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Session ACME-01: Machine Design. Tribology

Thursday, June 4th, 2026, IMMR Department, Room M3

Chairpersons: *Prof. Viorel PALEU* and *Prof. Marcelin BENCHEA*

No.	ACME code	Title of the papers and authors	Hours
1	56	Experimental Analysis of Glass-Glass Friction in Dry and Lubricated Regimes Chiriac Bogdan, Dumitraşcu Alina-Corina, Chiriac Elana Adelina, Olaru Dumitru	13.30 - 13.45
2	27	Comparative Study of Tribological Characteristics for PLA, PETG, and ABS in Additive Manufacturing Paul Ciudin, Marius Pustan, Florin Popișter, Mihai Dragomir	13.45 - 14.00
3	85	Influence of the Balls Number on the Friction Torque in Miniature Ball Bearings Denis Cojocaru, Vlad Cârlescu, Alina-Corina Dumitrascu, Andrei Zaharia, Dumitru Olaru	14.00 - 14.15
4	19	Stresses and Displacements in Mobile Transversal Coupling Cornel Cătălin Gavrilă, Mihai Tiberiu Lateș	14.15 - 14.30
5	28	Tribological Behaviour of FFF-Printed PLA, ABS and PETG under Dry and Lubricated Conditions Using a TiO₂/Ag Nanoparticle-Additivated 10W-40 Lubricant Horea-Ștefan Goia, Corina Birleanu, Florin Popișter, Mihai Dragomir	14.30 - 14.45
6	69	Constructive-Functional Design of a Combined Rotary Tool for Drilling–Reaming Operations: A Review and Conceptual Analysis Lucian-Claudiu Grigoruta, Cristiana Bisoc (Grigoruta), George-Iulian Frigura, Catalin-Gabriel Dumitras	14.45 - 15.00
7	113	Threaded Fastener Installation Strategies Dragoș Luca, George Popa, Laura-Diana Luca, Cezara-Măriuca Gavril Oprișan, Viorel Paleu	15.00 - 15.15
8	41	Comparison Between Direct Generative Design and Automated Modeling-Assisted Generative Design Nicolae Razvan Mititelu, Vasile Ermolai, Cosmin Gabriel Gădinaru, Cristian Bisog, Marius Ionut Ripanu	15.15 - 15.30
9	84	Minimum Lubricant Film Thickness and the Lubrication Parameter in Total Lumbar Disc Prostheses Iuliana Rotaru, Cristian-George Ciobanu, Dumitru Olaru	15.30 - 15.45
10	109	Adherence Investigation of the Thin Film Coatings on Low-E Glasses by Micro-Scratch Ana Tufescu, Daniela-Lucia Chicet, Vlad Cârlescu, Marcelin Benchea, Gelu Ianuș, Gheorghe Prisecaru	15.45 - 16.00
		Cofee Break	16.00 - 16.15

11	9	Crowned Profile Influence on Raceway-Roller Contact Pressure in Tapered Roller Bearings Radu-Dumitru Aburlăciței, Spiridon Crețu, Adrian-Cristian Bujor, Marcelin Benchea	16.15 - 16.30
12	25	Contribution to Analysis of Force Distribution in Unconventional Worm Gear with Bearings Ninacs Roland, Haragâș Simion	16.30 - 16.45
13	129	Dynamic Response of a Fluid-Imbibed Porous Layer Confined in an Elastic Membrane Ionuț-Răzvan Nechita, Aurelian Fatu, Yann Henry, Traian Cicone	16.45 - 17.00
14	130	Analysis of the micro-abrasive wear behavior of an iron alloy under ambient and high-temperature conditions Andreea-Cristina Filip, Petrică Turtoi, Ionuț-Răzvan Nechita, Mihai Boțan	17.00 - 17.15

Session ACME-02_01: Materials and Surface Engineering

Thursday, June 4th, 2026, IMMR Department, Room 10

Chairpersons: *Prof. Corneliu MUNTEANU* and *Prof. Nicanor CIMPOESU*

No.	ACME code	Title of the papers and authors	Hours
1	121	Comparative Field Wear of Coated Agricultural Discs Vlad Nicolae Arsenoaia, Corneliu Munteanu, Bogdan Istrate, Fabian Cezar Lupu, Cezara Valentina Zapodeanu	13.30 - 13.45
2	45	Geometry and Kinematics of the Precessional Gearing with Multipair Convex-Concave Tooth Contact Viorel Bostan, Ion Bostan, Maxim Vaculenco, Ion Bodnariuc, Sergiu Mazuru, Valeriu Dulgheru, Alexei Toca, Nicolae Trifan, Radu Ciobanu, Oleg Ciobanu, Iulian Malcoci, Dumitru Vengher, Alina Bregnova	13.45 - 14.00
3	104	Sustainable Natural Fiber-Based Friction Materials for Automotive Brake Pads Mihaela Caftanachi, Bogdan Istrate, Corneliu Munteanu, Fabian Cezar Lupu, Ioana-Ilinca Volocaru, Valentin-Florin Dia, Alina Dumitrascu, Maria Harja	14.00 - 14.15
4	114	Morphological Analysis of METCO 136F APS Coatings on Cardan Joint Trunnions Anișoara Dascălu, Corneliu Munteanu, Cornelia Cîrlan Paleu, Bogdan Istrate, Viorel Paleu	14.15 - 14.30
5	96	The Influence of Raster Orientation on the Flexural Behavior of Some Fused Filament Fabricated Polymers Mădălin Farcaș, Ciprian-Ionuț Morăraș, Daniela-Lucia Chicet, Liviu Andrușcă, Viorel Goanță, Corneliu Munteanu	14.30 - 14.45
6	75	Evaluation of the Magnitude of the Coefficient of Friction under Abrasion Conditions, Involving Polymeric Materials Roxana Hobjălă, Alexandra Anamaria Spiridon, Marius Andrei Mihalache, Vlada Țisari, Laurențiu Slătineanu	14.45 - 15.00

7	5	Mathematical Modeling in Python for Numerical Implementation of Multipair Precessional Gear Tooth Profiles Malcoci Iulian	15.00 - 15.15
8	8	Influence of Salinity on Tribological Properties of Al₂O₃ Adelina Maria Man, Marius Pustan, Corina Birleanu, Paul Radu Pirja	15.15 - 15.30
9	18	Steel Standardization for Machine Component Design Cristina Popa, Constantin Georgescu, Sorin Cănanău, Cătălin Pîrvu, George Ghiocel Ojoc, Valentin Azamfirei, Mario Constandache, Lorena Deleanu	15.30 - 15.45
10	71	Investigation of the Plastic State in Electromagnetic Compression of Al 6060 and Cu-DHP Tubes Narcis-Nicolae Popescu, Constantin-Daniel Corodeanu, Bogdan Vîrlan, George Popa, Vlad-Ionuț Arim, Dorin Luca	15.45 - 16.00
Cofee Break			16.00 - 16.15

Session ACME-02_02: Materials and Surface Engineering

Thursday, June 4th, 2026, IMMR Department, Room 10

Chairpersons: *Prof. Bogdan ISTRATE* and *Dr. Fabian LUPU*

No.	ACME code	Title of the papers and authors	Hours
1	51	Influence of Slide Diamond Burnishing Parameters on Surface Quality of C45 (AISI 1045) Steel Parts Cosmin-Gabriel Grădinaru, Gheorghe Nağîț, Vasile Ermolai, Alexandru-Ionuț Irimia, Nicolae-Răzvan Mititelu, Vlada Țisari	16.15 - 16.30
2	68	Isothermal Curing of Bio-Based Epoxy Composites Reinforced With Carbon Fibers Larisa-Anda Stroe, Daniel-Eugeniu Crunteanu, Mihail Botan, Adriana Stefan, George Catalin Cristea	17.15 - 17.30
3	110	Real-Time Monitoring of Nd:YAG Laser Welding in Pulsed Mode Using a Pin Photodiode-Based Optoelectronic Detector Florin-Sorin Todirică, Alina Corina Dumitrașcu, Vasile Manole, Ioan Stirbu, Marius Prelipceanu, Nicanor Cimpoesu	17.30 - 17.45
4	105	Thermal spray technology for automotive brake discs – A review Ioana-Ilinca Volocar, Corneliu Munteanu, Bogdan Istrate, Fabian Cezar Lupu, Valentin-Florin Dia, Alina Dumitrascu, Andrei Dontu	17.45 - 18.00

Session ACME-03: Mechatronics. CAD. Mechanical Vibrations

Thursday, June 4th, 2026, IMMR Department, Room M4

Chairpersons: *Prof. José MENDES MACHADO* and *Prof. Prof. Valentin ZICHIL*

No.	ACME code	Title of the papers and authors	Hours
1	6	Research on Precesional Transmission Used in Submersible Mechanical Systems Bostan Ion, Vaculenco Maxim, Bodnariuc Ion, Malcoci Iulian, Trifan Nicolae	13.30 - 13.45
2	42	Dynamic Analysis of Automotive PCBs: A Combined MATLAB-ANSYS Investigation Cosmin-Iulian Bumbea, Bogdan Coman, José Mendes Machado, Carmen Bujoreanu	13.45 - 14.00
3	65	Numerical Investigation of Sound Absorption in Perforated Specimens with Variable Cavity Geometries for Urban Noise Control Chiriac Adelina Elena, Chiriac Bogdan, Bujoreanu Carmen	14.00 - 14.15
4	37	A Signal-Processing Method for Reconstructing Vibration Elongation from the Output Signal of a Coil-Based Seismic Sensor (Geophone) Mihai Constantin-Gheorghe, Bisoc (Grigoruta) Cristiana, Grigoruta Lucian-Claudiu, Filip Mihai, Agrigoroae Catalin, Horodinca Mihaita	14.15 - 14.30
5	48	A Hybrid Agentic Framework for PI Controller Design of BLDC Motors Integrating Deterministic Tuning and LLM Reasoning Radu-Victor Dumitrache, Mihai Avram, Bogdan Grămescu	14.30 - 14.45
6	40	Integration of Nuclear-Grade HEPA Filtration into Mechatronic Air Sterilization Systems Mălina-Andreea Foișor, Mihai Avram	14.45 - 15.00
7	3	Measurement-Driven Image-Space Kinematic Reconstruction of a Dual-Hydraulic Gripping Mechanism Using Homogeneous Transformation Matrices Cosmin Grigoraș, Valentin Zichil, Vlad Andrei Ciubotariu, Adrian Marius Pascu	15.00 - 15.15
8	49	The Impact of Valve Seat Design on Discharge Valve Vibrations in High-Pressure Pumps Iordache Constantin-Răzvan, Narcis-Daniel Petrea, Velniciuc Adi-Mihăiță, Dumitrașcu Alina-Corina, Bujoreanu Carmen	15.15 - 15.30
9	115	Early-Stage Knee Osteoarthritis Detection Using Vibroarthrographic Signals and a 1D Convolutional Neural Network Denisa Șmadici, Mihai Aron, Ana Tufescu, Viorel Paleu	15.30 - 15.45
10	47	Review on Suspension Systems and Vibration Control Technologies for Heavy-Duty Vehicle Seat Anita Teodor, Bujoreanu Carmen, Sachelarie Adrian, Achitei George, Achitei Lamara, Oncescu Teofil-Alin	15.45 - 16.00
		Cofee Break	16.00 - 16.15

11	43	In Situ Vehicle–Bridge Interaction Measurements on the Mircești Bridge Velniciuc Adi-Mihăiță, Bujoreanu Carmen, Iordache Răzvan-Constantin, Boacă Gheorghită	16.15 - 16.30
12	117	Diagnosis and Maintenance Methods of Mechanical and Mechatronic Systems: A Review Bogdănel Anușca, Costin Ilco, Viorel Paleu	16.30 - 16.45

Session ACME-04_1: Theory of Mechanisms and Machinery. Robotics

Thursday, June 4th, 2026, IMMR Department, Room 05 (Robotics Laboratory)

Chairpersons: *Prof. Daniel CONDURACHE* and *Prof. Valeriu DULGHERU*

No.	ACME code	Title of the papers and authors	Hours
1	50	A Constructive Solution for Increasing the Operating Speed of Cam Mechanisms. Part I: Cam Mechanisms Overviews, Design Principles and Proposed Constructive Solution Ionuț-Nicolae Stoian, Cosmin-Viorel Avram, Stelian Alaci, Ioan Doroftei, Ionuț-Cristian Romănu	13.30 - 13.45
2	53	A Constructive Solution for Increasing the Operating Speed of Cam Mechanisms. Part II: Application for a Mechanism with Rotating Cam and Translating Roller Follower Cosmin-Viorel Avram, Nicolae-Ionuț Stoian, Stelian Alaci, Florentin Buium, Ionuț-Cristian Romănu	13.45 - 14.00
3	80	A Direct Formulation for Higher-Order Motion Fields Using Multidual Homogeneous Matrices, with Application to Serial Manipulators Daniel Condurache, Mihail Cojocari	14.00 - 14.15
4	120	Kinematic Modeling and Numerical Simulation of a Small-Tooth-Difference Planetary Involute Reducer with Pin-Hole Output Coupling Ioan Doroftei, Ovidiu-Vasile Crivoi, Cristina-Magda Cazacu, Constantin Puscasu, Florentin Buium, Spiridon Cretu	14.15 - 14.30
5	93	Direct and Inverse Position Kinematics of a 2-DOF Ankle Rehabilitation Platform Based on Equivalent and Spatial Mechanisms Ioan Doroftei, Vitalie Coadă, Cristina-Magda Cazacu	14.30 - 14.45
6	94	Reduced Dynamic Modeling and Symbolic Inverse Dynamics of a 2-DOF Ankle Rehabilitation Platform Ioan Doroftei, Vitalie Coadă, Cristina-Magda Cazacu	14.45 - 15.00
7	95	Velocity and Acceleration Kinematics of a 2-DOF Ankle Rehabilitation Platform Based on Equivalent and Spatial Mechanisms Ioan Doroftei, Vitalie Coadă, Cristina-Magda Cazacu	15.00 - 15.15

8	44	Contributions to the Development of a Mechanical Gear-Based Variator Dulgheru Valeriu, Bodnariuc Ion, Ciobanu Radu, Ciobanu Oleg, Zubac Vadim	15.15 - 15.30
9	87	Dimensional Synthesis of a Wind Turbine Blade Pitch Linkage Based on Static Criteria Mircea Neagoe, Radu Gabriel Saulescu	15.30 - 15.45
10	52	Parametric Dimensional Synthesis of a Slider-Crank Mechanism for Wind Turbine Blade Pitch Control Based on the Pressure Angle Criterion Radu Gabriel Saulescu, Mircea Neagoe	15.45 - 16.00
Cofee Break			16.00 - 16.15

Session ACME-04_2: Theory of Mechanisms and Machinery. Robotics

Thursday, June 4th, 2026, IMMR Department, Room 05 (Robotics Laboratory)

Chairpersons: *Prof. Teresa ZIELINSKA* and *Prof. Erwin-Christian LOVASZ*

No.	ACME code	Title of the papers and authors	Hours
Cofee Break			16.00 - 16.15
1	29	Structural Synthesis of 2-DOF Solar Tracking Mechanisms with 3 Bodies based on Multibody System Method Visa Ion, Moldovan Macedon	16.15 - 16.30
2	66	Hierarchical Safety-Certified Control for Hexapod Locomotion: Model Predictive Control with Adaptive Fractional Sliding Mode and Constrained Reinforcement Learning Alina-Elena Lupulescu, Gheorghe Gîlcă, Luminita Georgeta Popescu, Borcoși Ilie, Ionescu Marian, Grofu Florin, Runceanu Adrian	16.30 - 16.45
3	70	Hierarchical Nonlinear Model Predictive Control for Energy-Efficient Hexapod Robot Locomotion Alina-Elena Lupulescu, Gheorghe Gîlcă, Luminita Georgeta Popescu, Borcosi Ilie, Ionescu Marian, Grofu Florin, Runceanu Adrian, Borcosi Corina-Ana	16.45 - 17.00
4	88	Active Knee Exoskeleton – Mechanical Solutions Review Mircea Munteanu, Erwin-Christian Lovasz, Robert Kristof	17.00 - 17.15
5	13	Mechanical Design and Structural Assessment of an Autonomous Beach-Cleaning Robot Paul-Radu Pirja, Corina Birleanu, Marius Pustan, Adelina Maria Man	17.15 - 17.30
6	128	Development of a Sensor-Based Measurement System for a Scaled Model Slider-Crank Spring Mechanism Used in Wheelchair Applications Ioan-Emil Popescu, Erwin-Christian Lovasz, Adelin Vasile	17.30 - 17.45

		Filimon, Cristian Pop, Robert Kristof, Alexandru Oarcea	
7	98	Closed-Form Position, Velocity, and Acceleration Kinematics of a Planar Linkage-Driven Prosthetic Finger Radu-Octavian Sandu, Ioan Doroftei	17.45 - 18.00
8	101	Symbolic Dimensional Synthesis of a Planar Linkage-Driven Prosthetic Finger Radu-Octavian Sandu, Ioan Doroftei	18.00 - 18.15
9	108	Augmented Kinematic Modeling of an H-Bot Pick-and-Place Manipulator with a Ball-Screw-Driven Vertical Axis Constantin Puscasu, Ioan Doroftei	18.15 - 18.30

Session ACME-05_1: Mechanics of Deformable Bodies

Thursday, June 4th, 2026, IMMR Department, Room 103

Chairpersons: *Prof. Paul BARSANESCU* and *Prof. Viorel GOANTA*

No.	ACME code	Title of the papers and authors	Hours
1	126	Failure Analysis of 3D-Printed PLA Components Subjected to High-Speed Torsional Tests Liviu Andrusca, Alina Corina Dumitrascu, Gheorghe Badarau, Mihai Andrusca, Petrica Procovanu	13.30 - 13.45
2	125	Influence of Deformation Rates on the Thermomechanical Response and Fracture Morphology of FDM-Printed PLA under Tensile Loading Liviu Andrușcă, Gheorghe Bădărau, Ana-Maria David, Gabriel-Petrișor Miron, Alina-Corina Dumitrașcu, Marcelin Benchea	13.45 - 14.00
3	30	Investigation of the Dynamic Characteristics and Stress-Strain State of a Polyamide Polymer Impeller Using Two-Way FSI Simulation Viorel Bostan, Andrei Petco, Dmitrii Croitor, Vadim Zubac, Nadejda Proca	14.00 - 14.15
4	83	Semi-Analytical Tooth Contact Analysis of Standard and Nonstandard Helical Gears under Assembly Errors and Shaft Misalignment Cazan Stelian, Damian Ioan, Crețu Spiridon, Blanari Igor	14.15 - 14.30
5	26	Analysis of Failure Mechanisms for Impact on Composites with Quadriaxial Glass Fiber Fabric Ioana Gabriela Chiracu, George Cătălin Cristea, Alina Cantaragiu Cioromela, Mario Constandache, George Ghiocel Ojoc, Cristina Popa, Lorena Deleanu	14.30 - 14.45
6	54	Mechanical Properties of Beech Wood Used for Furniture Design Roxana Gall, Mariana Domnica Stanciu, Horatiu Drăghicescu Teodorescu, Sara Trucsa, Robert Cristian Rebrîșorean, Adriana Savin	14.45 - 15.00

7	12	Experimental determination of fracture toughness in GFRP multilayer composites Viorel Goanță, Ciprian Ionuț Morăraș, Layth Alkisswani, Fayez Samara	15.00 - 15.15
8	59	Influence of Fiber Orientation on Fatigue Crack Growth Rates in GFRP Laminates Morăraș Ciprian Ionuț, Goanță Viorel, Layth Alkisswani, Fayez Samara	15.15 - 15.30
9	39	Mechanical Properties for Composites with Bio-Based Matrix and Reinforced with Cotton-Wool Blend Cristian Florin Paliu, Anca Loredana Deca, Marilena Manea, Cosmin Mihai Mirițoiu	15.30 - 15.45
10	60	Design and Finite Element Analysis of a Biaxial Testing Stand for Cruciform Specimens Ștefan-Alexandru Prisacariu, Igor Blanari, Paul-Doru Bârsănescu, Stelian Cazan	15.45 - 16.00
Cofee Break			16.00 - 16.15

Session ACME-05_2: Mechanics of Deformable Bodies

Thursday, June 4th, 2026, IMMR Department, Room 103

Chairpersons: *Prof. Lorena DELEANU* and *Prof. Viorel GOANTA*

No.	ACME code	Title of the papers and authors	Hours
Cofee Break			16.00 - 16.15
1	61	Conversion of Wöhler Fatigue Curves into Structural Response Signals for Defect Diagnosis Using Finite Element Analysis Adrian-Cristian Bujor, Alina-Corina Dumitrașcu, Radu-Dumitru Aburlăciței, Marcelin Benchea	16.15 - 16.30
2	97	Thermoformed versus 3D Printed Orthodontic Aligners: a Mechanical Approach Review Husam Soboh, Bianca-Elena Șopron, Mădălina Ciornei, Alina-Corina Dumitrașcu, Daniela-Lucia Chicet, Georgeta Zegan	16.30 - 16.45
3	64	Evaluation of Poisson Ratio in Glass Fiber Reinforced Polyamides for Various Fiber Orientation Nicolae Stefanoaea, Adrian-Marius Pascu, Olivia Petrascu	16.45 - 17.00
4	67	Selection of a Torsion Testing Solution for Specimens Made from Composite Materials by 3D Printing Vlada Țisari, Gheorghe Nağîț, Oana Dodun, Maxim Țisari, Grădinaru Cosmin-Gabriel, Hobjâlă Roxana, Laurențiu Slătineanu	17.00 - 17.15
5	99	Measurement of the Polyamide-Carbon Fiber Thermal Expansion Coefficient by Digital Image Correlation Method Mircea Cristian Dudescu, Theodor-Florian Zach, Cristian Vilau, Radu Stefan Chiorean	17.15 - 17.30

**Session ACME-06 and ACME-08: Automotives. Engine and Transmission.
Road Safety. Technologies in Agriculture and Food Processing**

Thursday, June 4th, 2026, IMAR Department, Room 202

Chairpersons: *Prof. Edward RAKOSI* and *Dr. Tudor ULIAN*

No.	ACME code	Title of the papers and authors	Hours
1	55	Topology Optimization and Random Vibration Fatigue Assessment of a Protective Shield for Brake Systems Apricopoaie Eugen-Ciprian, Carmen Bujoreanu	13.30 - 13.45
2	10	Experimental Research on Driving the Solenoid Valve Injector in Gasoline Direct Injection Systems. Part 1 Radu Drosescu, Denis Cojocaru	13.45 - 14.00
3	119	Experimental Research on Driving the Solenoid Valve Injector in Gasoline Direct Injection Systems. Part II Radu Drosescu, Denis Cojocaru	14.00 - 14.15
4	63	Theoretical Study of CO₂ Capture from Vehicle Exhaust Gases Ioana Ramona Grigoras, Valentin Popovici, Edward Rakosi, Tudor-Marian Ulian, Gheorghe Manolache, Alexandru-Gabriel Popa	14.15 - 14.30
5	11	Equipping Agricultural Vehicles With An Integrated Modular Sensor System For Monitoring Tire Air Pressure George Ipate, Iulian Drenea, Stefan Sorin Biris, Dana Alina Baetu, Adrian Iosif	14.30 - 14.45
6	89	About the Use of Genetic Algorithms for the Optimal Design of Technical Systems in Agriculture Andreea Alexandra Frusinoiu, Radu Nicolae Soare, Sorin Stefan Biris, Adrian Iosif	14.45 - 15.00
7	90	About the Use of Autonomous Vehicles on Agricultural Farms – A Short Review Radu-Nicolae Soare, Andreea-Alexandra Frusinoiu, Sorin-Ştefan Biriş, Edmond Maican, Neluş-Evelin Gheorghită	15.00 - 15.15
8	118	Comparative Experimental Study on the Performance of Trailed and Mounted Disc Harrows Aggregated with a 65 HP Tractor Sorin-Ştefan Biriş, Neluş-Evelin Gheorghită, Mariana Ionescu, Valentin Vlăduţ, Nicoleta Ungureanu, Constantin Lăcătuşu, Adrian Iosif, Edmond Maican	15.15 - 15.30
		Cofee Break	16.00 - 16.15

Session ACME-07: Applied Thermodynamics, Heat Transfer, and Renewable Energy. Thermal Systems.

Thursday, June 4th, 2026, IMAR Department, Room 202

Chairpersons: *Prof. Konstantinos PAPAKOSTAS* and *Prof. Horatiu POP*

No.	ACME code	Title of the papers and authors	Hours
1	35	Comparative Thermal Performance of Passive Cooling and Thermoelectric Cooling for Lithium-Ion Battery Modules Lamara Achitei, George Achitei, Daria Sachelarie, Teodor Anita, Aristotel Popescu	13.30 - 13.45
2	78	Predicting Building Thermal Mass using Machine Learning and Temperature Time-Series Marius Vasile Atanasiu, Gabriel Tcaciuc, Carmen Ema Panaite, Suchar Mihai Valentin, Georgiana Vagner	13.45 - 14.00
3	76	Enhancing Thermal Dissipation in Electronic Modules for Automotive Applications Using Coatings on Aluminum Housings Cristian Bisog, Nicolae Razvan Mititelu, Roxana Gabriela Hobjala, Mihaela Nicolau	14.00 - 14.15
4	20	Impact of Air and Electric Defrost Methods on Energetic and Exergetic Performance of Single-Stage Vapor Compression Refrigeration Systems Considering Low GWP Refrigerants Adrian Chiriac, Horatiu Pop, Valentin Apostol, Claudia Ionita, Elena Pop	14.15 - 14.30
5	23	Exergy Analysis of Two-Level Temperature Refrigeration Systems Using Low-Environmental Impact Working Fluids Ciobanu Valentin, Dima Daniel, Pop Horațiu, Apostol Valentin, Taban Daniel	14.30 - 14.45
6	82	Feasibility of an Autonomous Wind-Solar System for Power Supplying to a Dispersed Consumer Dulgheru Valeriu, Guțu Marin, Ciobanu Oleg	14.45 - 15.00
7	77	A Review of Advances in Heat Pump Technology with Emphasis on Solar Integration Sorin Jesutic, Ana-Georgiana Lupu, Bogdan Horbaniuc, Aristotel Popescu	15.00 - 15.15
8	17	Availability of Residues from Annual Crops for Energy Use in the Republic of Moldova Grigore Marian, Andrei Gudîma, Boris Nazar, Nicolae Daraduda, Alexandru Banari, Leonid Malai, Teodor Marian	15.15 - 15.30
9	22	Towards a More Precise Determination of Air-to-Water Heat Pumps' Seasonal Coefficient of Performance (SCOP) for the Greek Climatic Data Set George Mouzeviris, K Lagouvardos, G Panaras, Konstantinos Papakostas	15.30 - 15.45

10	81	Local Thermal Behavior of Workspaces: A Grey-Box Modelling Approach Gabriel-Dumitru Tcaciuc, Carmen-Ema Panaite, Ana-Georgiana Lupu, Marius-Vasile Atanasiu, Suchar Mihai Valentin, Lupu Damian	15.45 - 16.00
		Cofee Break	16.00 - 16.15

ACME Poster Session

Thursday, June 4th, 2026, IMMR Department, 1st Floor

ACME code	Title of the papers and authors	Hours	Room
124	Active and Passive Spatial Structural Groups: Classification for One Contour Viorel Nițicală, Aurelian Stefanescu, Daniel-Mircea Popescu, Viorel Vulturescu, Elisabeta Niculae, Iulian-Sorin Munteanu, Liviu-Marian Ungureanu	13.30 - 18.30	IMMR Dept. 1 st floor
123	Spatial Structural Groups: An Extension of Assur's Theory for Spatial Mechanisms Viorel Nițicală, Aurelian Stefanescu, Daniel-Mircea Popescu, Viorel Vulturescu, Elisabeta Niculae, Iulian-Sorin Munteanu, Liviu-Marian Ungureanu		
33	Cooperative Mobile Manipulation: A Structured, Non-Exhaustive Review of Design Choices, Architectures, and Reported Performance Alin-Stefan Diaconu, Ioan Doroftei		
106	A Short Review on Pneumatically Actuated Soft Grippers Cristina-Magda Cazacu, Adrian Onea, Ion Ciumeica, Ioan Doroftei, Ana-Maria Comănici		
107	A Review on Tendon-Driven Soft Robots: Mechanical Architectures, Modeling, Sensing, and Control Cristina-Magda Cazacu, Ion Ciumeica, Adrian Onea, Ioan Doroftei, Ana-Maria Comănici		
31	A Comparative Study of the Thixotropy of Biogreases A. V. Radulescu, I. Radulescu		
15	Enhanced Experimental Design for Measuring Rheological Properties of Lubricants using Variable Cone Geometries I. Radulescu, A. V. Radulescu		

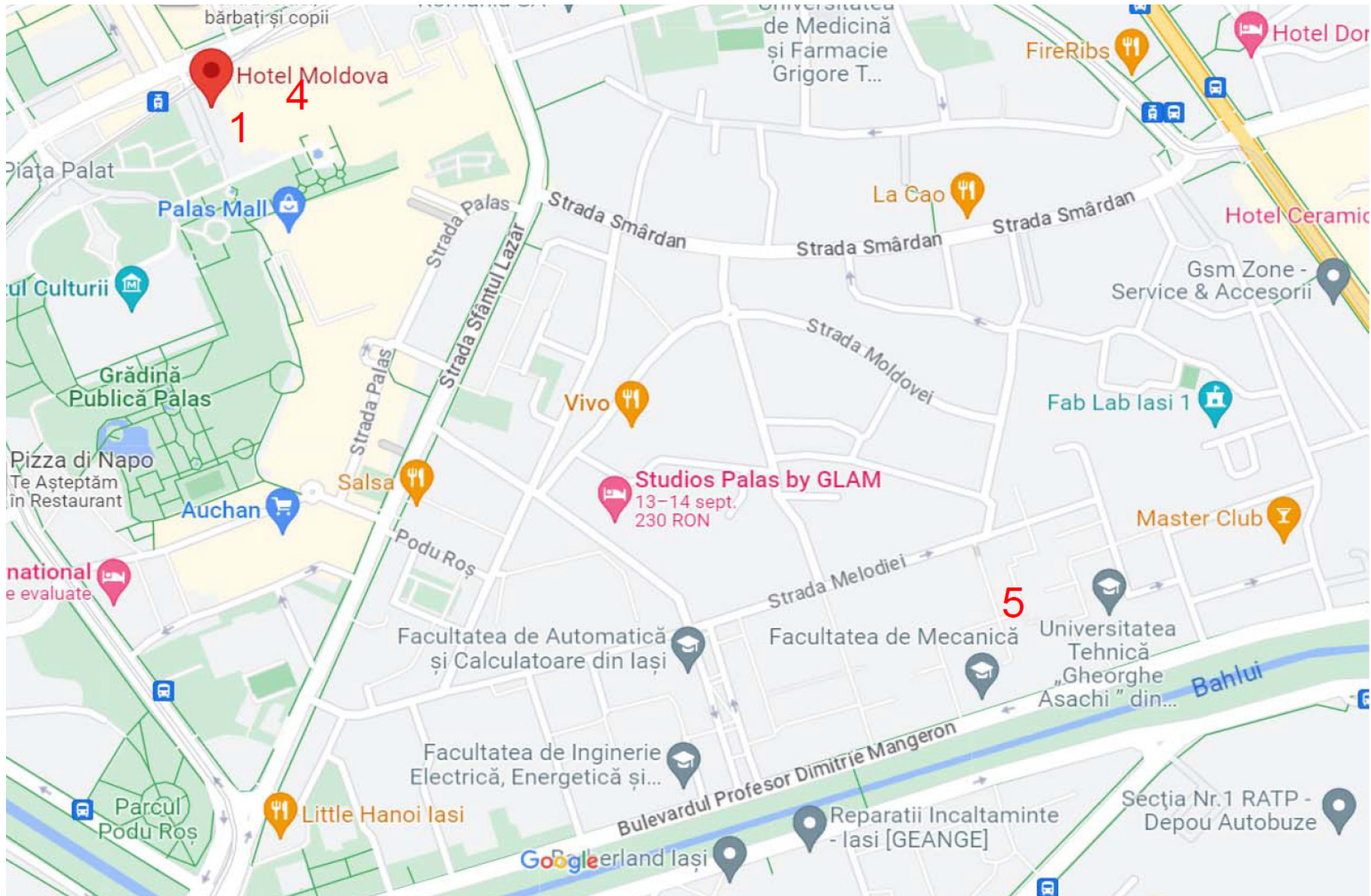
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TOPICS:

- Section 1 Machine Design. Tribology
- Section 2 Materials and Surface Engineering
- Section 3 Mechatronics. CAD. Mechanical Vibrations
- Section 4 Theory of Mechanisms and Machinery. Robotics
- Section 5 Mechanics of Deformable Bodies
- Section 6 Automotives. Engine and Transmission. Road Safety
- Section 7 Applied Thermodynamics, Heat Transfer, and Renewable Energy. Thermal Systems
- Section 8 Technologies in Agriculture and Food Processing





1 – Moldova Hotel; 4 – Ramada Hotel; 5 - IMMR Department