

COMAT 2026

The 11th International Conference on
Advanced Composite Materials Engineering

PROGRAMME

20

YEARS OF COMAT | 2006–2026

Celebrating Two Decades



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The 11th International Conference on Advanced Composite Materials Engineering

PROGRAMME

22–23 October 2026 | Braşov

Thursday, 22 October 2026	
09:00–09:30	Registration and welcome coffee
09:30–10:00	Opening ceremony Prof. Maria Luminiţa SCUTARU - Head of Mechanical Engineering Department Prof. Ioan Călin ROŞCA - Dean of Mechanical Engineering Faculty Presentation of COMAT 20th anniversary
10:00–10:30	Plenary lecture 1 Dan ELIEZER Materials Performance in Hydrogen Environments: Theory and Application.
10:30–11:00	Plenary lecture 2 Irina ARNĂUTU & Adriana SAVIN COTTON YARNS TWISTED WITH COPPER USED AS ELECTROMAGNETIC SHIELDING – NONDESTRUCTIVE ANALYSIS OF STRUCTURE
11:00–11:30	Plenary lecture 3 Polidor BRATU & Andrei TUDOR LEAF-SPRING MECHANICAL OSCILLATOR FOR TESTING SEISMIC PROTECTION DEVICES
11:30–12:00	Plenary Lecture 4 Peter BENCS INVESTIGATION OF THE POTENTIAL FOR NATURAL GAS SUBSTITUTION WITH RENEWABLE GASES IN THE APPLICATION OF THERMAL ENERGY SYSTEMS
12:00–12:30	Plenary lecture 5 Andrei VASILESCU Remembering an Eminent Scientist: Professor Petre P. Teodorescu
12:30–14:00	Lunch break



14:00–15:30	Parallel oral sessions Session A — Room U I6 Session B — Room U I7
14:30–17:00	Poster session
15:30–16:15	Coffee break and poster discussions
16:15–17:45	Parallel oral sessions Session C — Room U I6 Session D — Room U I7
17:45–18:00	Conclusions and closing of the scientific sessions Joint session - Room U I6
19:30	Conference Dinner

Friday, 23 October 2026

10:00–12:30	Laboratory visits and research networking Optional activity
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Thursday 22 October 2026

Oral Session A

14:00–15:30 | Room UI 6

Topic: **Mechanical Behaviour, Structural Dynamics and Additive Manufacturing**

Chair: Assoc.Prof. Mihaela Violeta MUNTEANU

Time and presentations	
14:00–14:15	ITERATIVE DESIGN AND EXPERIMENTAL PERFORMANCE EVALUATION OF A 12-DOF OPEN-SOURCE QUADRUPEL ROBOT Savaniu I. M. ^{*1} , Frâncu C. ¹ , Şerban I. D. ¹
14:15–14:30	FATIGUE ANALYSIS OF THE CONTACT BETWEEN THE MOVABLE RING AND THE SEAT OF A HIGH-PERFORMANCE SPHERICAL VALVE Băcescu N. ^{*1} , Praisach Z.I. ¹ , Mecking K. ²
14:30–14:45	EVALUATION OF DYNAMIC AND MECHANICAL CHARACTERISTICS OF ANTI-SEISMIC DEVICES AND ELASTOMERIC BEARINGS USING A MULTIFUNCTIONAL SYSTEM DEVELOPED UNDER CONTRACT 32 PTE / 2025 Bratu P. ^{1,3} , Vasile O. ^{2,3} , Ghinea A. ³
14:45–15:00	EFFECT OF HOT ACETONE VAPOR TREATMENT DURATION ON THE TENSILE PROPERTIES OF FDM-PRINTED ABS SPECIMENS Turiac R.R. ¹ , Korka Z.I. ^{*1} , Cojocaru V. ² , Magda M. ¹
15:00–15:15	DESIGN AND IMPLEMENTATION OF A HYBRID PROOF-OF-CONCEPT MODEL FOR THE KINEMATIC ANALYSIS OF AN INTERNAL COMBUSTION ENGINE WITH VARIABLE VALVE TIMING Rusu C.M. ^{1*} , Itu C. ¹
15:15–15:30	CORRELATIONS BETWEEN TENSILE, FLEXURAL AND COMPRESSIVE BEHAVIOUR OF CROSS-PLY AND QUASI-ISOTROPIC AUTOCLAVED FLAX BIO-EPOXY COMPOSITES FROM BIAXIAL MATERIALS Savin A. ^{*1} , Bergant Z. ^{*2} , Bencze A. ³ , Mititelu I. ¹ , Chlada M. ⁴ , Šturm R. ² , Tugui C. ⁵



Thursday 22 October 2026

Oral Session B

14:00–15:30 | Room UI7

Topic: **Modelling and Experimental Assessment of Mechanical and Mechatronic Systems**

Chair: Assoc.Prof. Maria Violeta GUIMAN

Time and presentations	
14:00–14:15	A BEAM-BASED MODAL FRAMEWORK FOR VIBRATION ANALYSIS OF PRINTED CIRCUIT BOARDS WITH ATTACHED COMPONENTS Aman A.T. ¹ Tufisi C.* ¹ , Nedelcu A.P. ¹ , Gillich G.R. ^{1,2}
14:15–14:30	DIGITAL EVALUATION OF COMPACTION PERFORMANCE Debeleac C.N. ¹
14:30–14:45	TIME-DEPENDENT EFFECTS OF HOT ACETONE VAPOR EXPOSURE ON THE TENSILE STRENGTH AND SHORE D HARDNESS OF FDM-PRINTED ABS PARTS Turiac R.R. ¹ , Korka Z.I.* ¹ , Cojocaru V. ² , Magda M. ¹
14:45–15:00	ANALYSIS OF A PREDICTIVE MODEL FOR ACOUSTIC ABSORPTION IN SOUND ABSORBING MATERIALS Grosu A.M. ¹ , Vasile O. ¹ , Zlatoianu S.A. ¹ , Scorţea J. ¹
15:00–15:15	THE INFLUENCE OF DAMAGE SEVERITY ON A CONTINUOUS BEAM WITH A MID-SPAN HINGE REGARDING DYNAMIC BEHAVIOR Stan P.T.* ¹ , Praisach Z.I. ²
15:15–15:30	OPTIMIZATION ASSESSMENT OF A SINGLE-AISLE AIRCRAFT FLOOR CROSSBEAM Rîncioagă E.A. ¹ , Ionetecu M.M. ¹ , Constantin G.B. ¹ , Cherdivar A. ¹ , Bencze A.* ¹



Thursday 22 October 2026

Oral Session C

16:15–17:45 | Room UI 6

Topic: **Computational Mechanics, Structural Optimisation and Engineering Applications**

Chair: Eng. Casian RUSU

Time and presentations	
16:15–16:30	BRAKING ENERGY RECOVERY. FLYWHEEL OPTIMIZATION Dimache M.A. ¹ , Radu S. ^{*2} , Scutaru M.L. ¹
16:30–16:45	EXPERIMENTAL-NUMERICAL ASSESSMENT OF FDM-PRINTED PLA AND PETG SHELF BRACKETS Făgădău M.M. ¹ , Scutaru M.L. ^{*1} , Teodorescu-Drăghicescu H. ¹
16:45–17:00	THREE-POINT BENDING BEHAVIOR OF FDM-PRINTED TOUGH PLA–TPU MULTILAYER STRUCTURES Cojocaru V. ^{*1} , Tufiş C. ¹ , Turiac R.R. ²
17:00–17:15	ARTIFICIAL INTELLIGENCE-BASED ESTIMATION OF NATURAL FREQUENCIES IN DISCRETELY SUPPORTED PLATES Popescu Ş. ¹ , Mălin T.C. ^{*1} , Tufiş C. ¹ , Negrea B.M. ¹ , Nedelcu A.P. ¹ , Gillich G.R. ^{1,2}
17:15–17:30	DESIGN OF A PASSIVE KNEE EXOSKELETON MANUFACTURED BY 3D PRINTING Posea-Cîrstea A. ¹ , Călin Itu C. ^{1*}
17:30–17:45	NUMERICAL ANALYSIS OF THE ROLE OF AIRBAGS IN AUTOMOTIVE PASSIVE SAFETY Scripcariu E.C. ¹ , Itu C. ¹



Thursday 22 October 2026

Oral Session D

16:15–17:45 | Room UI 7

Topic: **Advanced Manufacturing, Aerodynamics and Transport Safety**

Chair: Eng. Maria Mădălina FĂGĂDĂU

Time and presentations	
16:15–16:30	BOUNDARY LAYER TRANSITION PARAMETER ESTIMATION IN XFLR5: A CALIBRATION METHODOLOGY FOR N_{CRIT} BASED ON WIND TUNNEL TURBULENCE AND SURFACE ROUGHNESS Prisăcariu V. ^{*1}
16:30–16:45	METHODS FOR ANALYZING ACOUSTIC PARAMETERS INSIDE PREMISES Zlatoianu S.A. ¹ , Vasile O. ¹ , Grosu A.M. ¹ , Scorţea J. ¹
16:45–17:00	COMPARATIVE STRUCTURAL ANALYSIS OF SOUND-ABSORBING PANELS USED IN ROAD TRAFFIC NOISE BARRIERS Scorţea J. ^{*1} , Zlatoianu S.A. ¹ , Vasile O. ¹ , Grosu A.M. ¹
17:00–17:15	MODAL ANALYSIS OF LINEAR VISCOELASTIC DYNAMIC SYSTEMS WITH DISCRETELY VARIABLE STIFFNESS UNDER HARMONIC EXCITATION Bratu P. ¹ , Munteanu L. ² , Niţu C. ² , Maxim V. ² , Muşat A. ² , Călin M. ²
17:15–17:30	EXTENDED ANALYSIS OF THE INTERNAL STRUCTURE OF PARTS MANUFACTURED FROM 316L STEEL USING SLM AND AI-ASSISTED METHODS Buican G.R. ^{*1}
17:30–17:40	INTERACTIVE TOOL FOR BOUNDARY LAYER TRANSITION AND DRAG ESTIMATION: COUPLED MODELLING OF TURBULENCE AND SURFACE ROUGHNESS EFFECTS IN XFLR5 Prisăcariu V. ^{*1}
17:40–17:50	LASER POWDER BED FUSION OF 316L STAINLESS STEEL: PROCESS–STRUCTURE–PROPERTY RELATIONSHIPS AND IMPLICATIONS FOR AEROSPACE APPLICATIONS Buican G.R. ^{*1}
17:50–18:00	OPTIMIZATION OF INJECTION MOLDING PARAMETERS FOR SURFACE DEFECT REDUCTION IN PC/ABS AUTO COMPONENTS: A COMPARATIVE - USING VIRGIN AND RECYCLED MATERIALS Sterpu (Pufu) G.L. ^{1,2} , Munteanu M.V. ^{*1} , Nedelcu A. ²
18:00–18:10	PASSIVE CREW PROTECTION SYSTEMS Bolohan C. ¹ , Itu C. ^{1*}
18:10–18:20	MATHEMATICAL MODEL FOR TWO-DIMENSIONAL MECHANICAL SYSTEMS WITH VOIDS Popescu R.G. ¹ , Scutaru M.L. ^{*1} , Mihălcică M. ¹
18:20–18:30	DESIGN, MANUFACTURING, AND ASSEMBLY STRATEGIES FOR LARGE -SCALE COMPONENTS IN INTERNAL COMBUSTION ENGINE PROTOTYPING USING FDM TECHNOLOGIES Rusu C.M. ^{1*} , Itu C. ¹



Thursday 22 October 2026

Poster Session (parallel with oral sessions)

14:30 – 17:00 | Auditorium

Topic: **Materials and Mechanical Systems: Modelling, Dynamics and Acoustics**

Poster presentations

P01	3D CAD MODELING OF AN ANCHOR WINCH USING SIEMENS NX Mocanu M. ¹ , Bazarea D. ² , Florea Ş. ² , Drăgan N. ^{1,3*} , Vasile O. ²
P02	CAD MODELING, NUMERICAL AND EXPERIMENTAL MODAL ANALYSIS OF A REINFORCED CONCRETE BRIDGE WITH VISCOUS-ELASTIC NEOPRENE SUPPORT DEVICES Bazarea D. ¹ , Florea Ş. ¹ , Mocanu M. ² , Drăgan N. ^{*2,3} , Vasile O. ¹
P03	CAD MODELING AND DYNAMIC ANALYSIS OF REINFORCED CONCRETE PLATFORM FROM ELI-NP MAGURELE-ROMANIA Florea Ş. ¹ , Bazarea D. ¹ , Mocanu M. ² , Drăgan N. ^{*2,3*} , Vasile O. ¹
P04	ON FRACTIONAL CALCULUS APPLICATION FOR BEHAVIORAL CHARACTERIZATION OF ELASTOMERIC VIBRATION ISOLATORS Năstac S.M. ^{*1,2}
P05	FOAM-FORMED CELLULOSE-BASED MATERIALS FOR NOISE MITIGATION PANELS - COMPUTATIONAL ACOUSTICS APPROACHES Năstac S.M. ^{*1,2} , Guiman M.V. ² , Nechita P. ¹
P06	INVESTIGATIONS REGARDING THE SPECIFIC MODAL RESPONSE OF COMPOSITES WITH SPECIAL REINFORCEMENT INCLUSIONS Carp I. ¹ , Scutaru M.L. ¹ , Năstac S.M. ^{*2,1}
P07	THE INFLUENCE OF THE AGE OF VIOLIN MATERIALS ON THE OPERATIONAL ACOUSTIC CHARACTERIZATION OF A CONCERT HALL Guiman M. V. ¹ , Năstac S. M. ^{*2,1} , Stanciu M. D. ¹
P08	SPECIFIC ASPECTS OF THE MODAL RESPONSE OF AN OLD PIANO SOUNDBOARD Năstac S.M. ^{*1,2} , Dinulică F. ³ , Guiman M.V. ² , Stanciu M.D. ²
P09	MULTIFUNCTIONAL DYNAMIC TEST RIG FOR SEISMIC PROTECTION DEVICES DEVELOPED AT ICECON BUCHAREST Bratu P. ¹ , Vasile O. ² , Popovici A. ³ , Frâncu C. ⁴
P10	EVALUATION OF LRB SEISMIC ISOLATORS USING A COMBINED NUMERICAL-EXPERIMENTAL METHOD ON THE MULTIFUNCTIONAL DYNAMIC TEST RIG Bratu P. ¹ , Vasile O. ² , Drăgan N. ³ , Niţu C. ⁴ , Muşat A. ⁴ , Maxim V. ⁴
P11	BOUC-WEN BILINEAR RHEOLOGICAL MODEL FOR ELASTOMERIC SEISMIC ISOLATORS Bratu P. ¹ , Drăgan N. ² , Mitu A.N. ³ , Niţu C. ³ , Tudor A. ³ , Maxim V. ³ , Călin M. ³



P12	MODAL ANALYSIS OF VIBRATORY COMPACTORS FOR FOUNDATION AND ROADWORKS USING ARTIFICIAL INTELLIGENCE Bratu P. ¹ , Debeleac C. ² , Dobrescu D. ² , Iliescu M. ³ , Niţu C. ³
P13	THE IMPACT OF SHOCKS TRANSMITTED TO THE HUMAN BODY DURING CONSTRUCTION PROCESSES Niţu C. ¹ , Iliescu M. ²
P14	SOUNDPROOFING THE CONSTRUCTION MACHINERY OPERATOR'S CABIN WITH SOUND-ABSORBING MATERIALS Niţu C. ¹ , Iliescu M. ¹ , Ciuncanu A. ²
P15	PSYCHOSENSORY EFFECTS ON THE OPERATOR IN THE CAB OF CONSTRUCTION MACHINERY Ciuncanu A. ¹
P16	DYNAMIC BEHAVIOR OF THE AIR VENTILATION AND AIR CONDITIONING DUCTWORK IN TURBULENT AIRFLOW REGIME Ion D. ^{1,2} , Cotoban A.C. ¹ , Bratu P. ²
P17	INFLUENCE OF TWO-PHASE FLOW IN BRANCHED PIPING SYSTEMS Cotoban A.C. ¹ , Ion D. ²

Notes

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