



## **CONFERENCE PROGRAM**

| <b>DAY 1 (10.09.2026.) – Room 102</b><br><a href="https://zoom.us/j/95575436471?pwd=IQMdiqGvsA9Zqyevzte7uyMLaFKYDr.1">https://zoom.us/j/95575436471?pwd=IQMdiqGvsA9Zqyevzte7uyMLaFKYDr.1</a> |                                                                           |                                                                                                                                                                                                                                   |
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| 09:30 – 10:00                                                                                                                                                                                | <b>Opening Ceremony</b>                                                   |                                                                                                                                                                                                                                   |
| 10:00 – 11:30                                                                                                                                                                                | <b>Plenary Session (Chairs: Rui Zhu, Miha Brojan)</b>                     |                                                                                                                                                                                                                                   |
|                                                                                                                                                                                              | 10:00 – 10:30                                                             | Vesna Mišković-Stanković - MATHEMATICAL MODELLING OF DIFFUSION PROCESSES IN SOFT BIOMATERIALS                                                                                                                                     |
|                                                                                                                                                                                              | 10:30 – 11:00                                                             | Hermann G. Matthies and Adnan Ibrahimbegović - SYNERGY OF MECHANICS AND STOCHASTICS AT MULTIPLE SCALES                                                                                                                            |
|                                                                                                                                                                                              | 11:00 – 11:30                                                             | Daniel Balzani - MODELING OF ADAPTIVE AND ACTIVE MECHANISMS IN ARTERIES FOR THE SIMULATION OF PHARMACO-MECHANICAL INTERACTIONS                                                                                                    |
| 11:30 – 11:50                                                                                                                                                                                | <b>Invited Lectures (Chairs: Vesna Mišković-Stanković, Miha Brojan)</b>   |                                                                                                                                                                                                                                   |
|                                                                                                                                                                                              | 11:30 – 11:50                                                             | Marija Nefovska-Danilović - FRAMEWORK FOR VIBRATION ANALYSIS OF PLATES AND SHELLS BASED ON DYNAMIC STIFFNESS METHOD                                                                                                               |
| 11:50 – 12:15                                                                                                                                                                                | <b>Coffee Break</b>                                                       |                                                                                                                                                                                                                                   |
| 12:15 – 13:30                                                                                                                                                                                | <b>General Session (Chairs: Saša Kenjereš, Marija Nefovska-Danilović)</b> |                                                                                                                                                                                                                                   |
|                                                                                                                                                                                              | 12:15 – 12:30                                                             | Stefano Disca, Vincenzo Coscia - DISCRETE AND CONTINUOUS CHAOS FOR NON-CONSERVATIVE NONLINEAR COUPLED OSCILLATORS                                                                                                                 |
|                                                                                                                                                                                              | 12:30 – 12:45                                                             | Eva Zupan, Dejan Zupan - DYNAMICS OF THREE-DIMENSIONAL BEAMS WITH CONSERVATION PROPERTIES                                                                                                                                         |
|                                                                                                                                                                                              | 12:45 – 13:00                                                             | Christian Zehetner, Christian Reisinger, Simon Mayr - LARGE DEFORMATIONS OF NONLINEAR ELASTIC CANTILEVERS – EFFICIENT SOLUTIONS OF BEAM THEORY WITH FOCUS ON REAL-TIME CAPABILITY                                                 |
|                                                                                                                                                                                              | 13:00 – 13:15                                                             | Miha Brojan, Matej Bogataj, Andrej Košmrlj - STABILITY OF IMPERFECT SHELLS-EFFECTIVELY PLATES                                                                                                                                     |
|                                                                                                                                                                                              | 13:15 – 13:30                                                             | Sidorov V.N., M. V. Shitikova, Badina E.S., Klimushkin D.O. - ASSESSMENT OF ENERGY DISSIPATION IN THE ELEMENTS OF BAR STRUCTURES MODELLED WITH TIMOSHENKO APPROACH DURING NUMERICAL ANALYSIS OF THEIR RESISTANCE TO DYNAMIC LOADS |
| 13:30 – 14:30                                                                                                                                                                                | <b>Lunch Break</b>                                                        |                                                                                                                                                                                                                                   |



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| 14:30 – 15:00 | <b>Plenary Session (Chairs: Jelena Svorcan)</b>                     |                                                                                                                                                                                                |
|               | 14:30 – 15:00                                                       | Draga Pihler-Puzovic - WHEN MATERIALS BEND THE RULES: BUCKLING RESPONSE OF SLENDER STRUCTURES BORN OF CONSTITUTIVE NONLINEARITIES (online)                                                     |
| 15:15 – 16:30 | <b>General Session (Chairs: Christian Zehetner, Srboljub Simić)</b> |                                                                                                                                                                                                |
|               | 15:15 – 15:30                                                       | Saša Kenjereš, Frederieke Backelandt, Jonathan van der Meer, Ruipeng Xu - A DETACHED-EDDY SIMULATION STUDY OF TURBULENT AEROSOL DYNAMICS IN A DRY POWDER INHALER                               |
|               | 15:30 – 15:45                                                       | Isidora Rapajić, Srboljub Simić - LYAPUNOV-BASED STABILITY ANALYSIS OF AN EXTENDED WASHBURN'S MODEL                                                                                            |
|               | 15:45 – 16:00                                                       | G. Hasson, S. Støle-Hentschel, T. Vrećica, V. Shrira, and Y. Toledo - RETRIEVAL OF OCEAN SURFACE CURRENTS AND VERTICAL SHEAR FROM HF RADAR-OBSERVATIONS                                        |
|               | 16:00 – 16:15                                                       | Milan M. Raković, Darko R. Radenković, Novica Z. Janković, Lazar M. Lečić, Đorđe S. Čantrak - APPLICATION OF A LASER DOPPLER ANEMOMETRY (LDA) SYSTEM FOR MEASUREMENTS IN TWO-PHASE BUBBLY FLOW |
|               | 16:15 – 16:30                                                       | Sara Julian-Bernat, Victor Roda-Casanova, Raul Martinez-Cuenca - FINITE ELEMENT ANALYSIS OF NODE FORCES IN AQUACULTURE NETS UNDER ENVIRONMENTAL                                                |
| 16:30 – 17:00 | <b>Break</b>                                                        |                                                                                                                                                                                                |
| 17:00 – 18.15 | <b>General Session (Chairs: Teodor Vrećica, Milan Raković)</b>      |                                                                                                                                                                                                |
|               | 17:00 – 17:15                                                       | Enej Istenič, Miha Brojan - THIN FILM FLOWS ON FLAT AND CYLINDRICAL SURFACES DURING CHEMICALLY INDUCED SOLIDIFICATION                                                                          |
|               | 17:15 – 17:30                                                       | Luka Đermanović, Lazar Lečić, Novica Janković, Đorđe Čantrak - PRESSURE MEASUREMENT ON THE AXIAL FAN CASING                                                                                    |
|               | 17:30 – 17:45                                                       | Urh Štampihar Jazbec, Enej Istenič, Miha Brojan - STABILITY OF TAYLOR-COUETTE FLOW DURING PHASE TRANSITION                                                                                     |
|               | 17:45 – 18:00                                                       | Anjali Bhardwaj, Dharmendra Tripathi - MATHEMATICAL MODELING OF HYBRID CARREAU NANOFLUID FLOW DRIVEN BY MEMBRANE PUMPING WITH SLIP AND ROUGH SURFACES                                          |
|               | 18:00 – 18:15                                                       | Santosh Kumar Rai, Nikhil Vivek Shrivastava, Farjana Siddiqua - THERMAL-HYDRAULIC AND STABILITY CHARACTERISTICS OF A CLOSED SUPERCRITICAL WATER NATURAL CIRCULATION LOOP                       |

| <b>DAY 1 (10.09.2026.) – Room 301f</b><br><a href="https://zoom.us/j/93082323865?pwd=aH4hsOCXKiqfRpjaaUxZ5ZOQFLskeY.1">https://zoom.us/j/93082323865?pwd=aH4hsOCXKiqfRpjaaUxZ5ZOQFLskeY.1</a> |                                                                                                                                                                                                              |
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| 12:15 – 13:30                                                                                                                                                                                 | <b>Poster session (Room 301f)</b>                                                                                                                                                                            |
|                                                                                                                                                                                               | David Hernández-Figueirido, Victor Roda Casanova, Reda Sadik El Ghoufairi- DESIGN AND OPTIMIZATION OF TAPERED POLES USING NON-CONVENTIONAL MATERIALS: STRUCTURAL ASSESMENT AND COST-BASED DECISION FRAMEWORK |
|                                                                                                                                                                                               | Hammoudi Abderazek, Chahrazad Adiche, Amine Hamdi and Ivana Atanasovska - MULTI-OBJECTIVE AI-DRIVEN OF GEARBOX DESIGN                                                                                        |
|                                                                                                                                                                                               | T.V. Yakovleva, N. Gamaunov, A.V. Krysko, V.A. Krysko - SOME ISSUES IN MACHINE LEARNING ANALYSIS OF PATIENTS EXPOSED TO RADIATION                                                                            |
|                                                                                                                                                                                               | Marija Stamenković Atanasov, Julijana Simonović - FREE VIBRATION OF ELASTICALLY COUPLED CURVED STRUCTURES                                                                                                    |
|                                                                                                                                                                                               | Kozin V.A., Zhigalov M.V., Krysko V.A. - CHAOTIC DYNAMICS OF VISCOELASTIC FLEXIBLE PLATES RECTANGLE IN PLANE                                                                                                 |
|                                                                                                                                                                                               | Nikola Vorkapic, Branko Kokotovic, Sasa Zivanovic - MATHEMATICAL MODELLING OF TOOL HOLDER DYNAMICS IN INTERNAL TURNING OPERATIONS                                                                            |
|                                                                                                                                                                                               | Ahmed Draï, Benaoumeur Aour - ANALYTICAL ANALYSIS OF VIBRATION BEHAVIOR OF BIDIRECTIONAL COATED NANOBAMS MADE OF FUNCTIONALLY GRADED MATERIALS                                                               |
|                                                                                                                                                                                               | Ivana Cvetkovic, Draga Pihler-Puzovic, Snezana Milicev, Davorka Jandrljic- LINEAR STABILITY OF GAS-LIQUID DISPLACEMENT IN A SOFT RADIAL HELE-SHAW CELL                                                       |
|                                                                                                                                                                                               | Vaso Manojlović, Marko Trifunović, Karlo Raić, Hongqiang Liu, Xing Han - MICRO-SCALE PELLET REDUCTION WITH MACHINE LEARNING MODELING FOR MULTISCALE HYDROGEN METALLURGY                                      |
|                                                                                                                                                                                               | Milica Milić Janković, Radoslav Radulović - DYNAMIC ANALYSIS OF THE STRUCTURAL BEHAVIOR OF A COMPOSITE PROPELLER                                                                                             |
|                                                                                                                                                                                               | Ivana Atanasovska, Dejan Momčilović - NATURE-INSPIRED STRESS-RELIEVING SHAPES IN MACHINE DESIGN BASED ON ADAPTIVE TREE GROWTH                                                                                |
|                                                                                                                                                                                               | Nevena Marković, Katarina Slavković, Marina Trajković-Milenković, Mihajlo Tošić - NUMERICAL ANALYSIS OF STRESS-STRAIN BEHAVIOR OF DNP-Cu IN COLD FORMING PROCESS                                             |
|                                                                                                                                                                                               | Jovana Čvorić, Gvozden Jovanović, Vaso Manojlović, Dejan Momčilović, Alen Delić - INFLUENCE OF GREEN SAND THERMOPHYSICAL PROPERTIES ON SIMULATION OF DEFECTS DURING DUCTILE IRON CASTING                     |
|                                                                                                                                                                                               | L. Kotbia, H. Abderazek, M. Alima, L. Aabrina, B. Aihem, G. Azzeddine, H. Hamza, R. Wissem - VALORIZATION OF CLAYS IN THE PRODUCTION OF DENTAL CERAMICS: CHARACTERIZATION AND SINTERING                      |
|                                                                                                                                                                                               | Katarina Slavković, Nevena Marković and Marina Trajković Milenković - A MULTISCALE NUMERICAL APPROACH FOR MODELING CURTAIN WALL SYSTEMS AND THEIR STRUCTURAL INTERACTION                                     |
|                                                                                                                                                                                               | Pavle Ljubojević, Milan Jakovljević, Andrija Eraković, Tatjana Lazović - ANALYTICAL MODELING OF PRELOADED BOLTED JOINTS UNDER COMBINED TENSILE-SHEAR LOADING                                                 |

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|               | Misa Stojicevic, Ivana Cvetkovic, Aleksandar Đorđević, Branislav Popkonstantinovic -<br>DYNAMIC CHARACTERISTICS OF CLOCK PENDULUM COUPLED WITH<br>GRAVITY ESCAPEMENT MECHANISM |                                                                                                                                                                                                                                           |
|               | Bratislav Stojiljković, Miloš Lazarević, Svetislav Marković, Dejan Momčilović -<br>NIKOLA TESLA SENSE OF BEAUTY – FOUNTAIN PATENT                                              |                                                                                                                                                                                                                                           |
| 13:30 – 14:30 | <b>Lunch Break</b>                                                                                                                                                             |                                                                                                                                                                                                                                           |
| 15:30 – 16:30 | <b>General Session (Chairs: Marina Shitikova, Vladimir Dunić)</b>                                                                                                              |                                                                                                                                                                                                                                           |
|               | 15:30 – 15:45                                                                                                                                                                  | Vladimir Dunić, Miroslav Živković - THERMO-MECHANICAL<br>PHASE-FIELD DAMAGE MODELING IN SHAPE MEMORY<br>ALLOYS                                                                                                                            |
|               | 15:45 – 16:00                                                                                                                                                                  | Ajith Kuriakose Mani, Arjun P Manoj, Cherian Joseph, Eldin Mathew<br>Heaven Reji, and Sivasubramaniyan Palaniswamy - MECHANICAL<br>RESPONSE AND REINFORCEMENT EFFECTS IN RAMIE<br>FIBER-REINFORCED STYRENE BUTADIENE RUBBER<br>COMPOSITES |
|               | 16:00 – 16:15                                                                                                                                                                  | Jelena Djoković, Milan Grozdanović, Dejan Tanikić - INFLUENCE<br>OF VIBRATION MODE ON THE SCREENING EFFICIENCY OF<br>VIBROSIEVES                                                                                                          |
|               | 16:15 – 16:30                                                                                                                                                                  | Marina Shitikova, Konstantin Modestov - FRACTIONAL<br>CALCULUS MODELLING OF VISCOELASTIC AUXETICS                                                                                                                                         |
| 16:30 – 17:00 | <b>Break</b>                                                                                                                                                                   |                                                                                                                                                                                                                                           |
| 17:00 – 18:15 | <b>General Session (Chairs: Dejan Zupan, Regina Saitova)</b>                                                                                                                   |                                                                                                                                                                                                                                           |
|               | 17:00 – 17:15                                                                                                                                                                  | Marko Trifunović, Karlo Raić, Vaso Manojlović, Hongqiang Liu,<br>Xing Han - MACRO-SCALE SIMULATION OF PELLET FLOW<br>AND MULTI-GAS BEHAVIOR IN A HYDROGEN-BASED<br>SHAFT FURNACE                                                          |
|               | 17:15 – 17:30                                                                                                                                                                  | Zagorka Matić, Srboljub Simić - ON THE GENERALIZED<br>MAXWELL-STEFAN MODEL WITH THERMAL DIFFUSION                                                                                                                                         |
|               | 17:30 – 17:45                                                                                                                                                                  | S. Saiyan, M. Shitikova - APPLICATION OF THE BEAM THEORY<br>FOR DETERMINING THE EFFECTIVE ORTHOTROPIC<br>MECHANICAL PROPERTIES OF AUXETIC METAMATERIALS                                                                                   |
|               | 17:45 – 18:00                                                                                                                                                                  | Regina Saitova, A. Arutyunyan - MODELING HIGH-<br>TEMPERATURE CREEP OF METALS UNDER EXTERNAL<br>INFLUENCES                                                                                                                                |
|               | 18:00 – 18:15                                                                                                                                                                  | Chengzhang Zhang, Taijia Guo and Zhiqiang Yang - A NOVEL<br>MULTISCALE PHYSICS INFORMED NEURAL NETWORK<br>FRACTURE MODEL FOR BRITTLE MATERIALS BASED ON<br>TWO-SCALE ASYMPTOTIC HOMOGENIZATION                                            |

| <b>DAY 1 (10.09.2026.) – Room – MSANU Library on the 3rd floor</b><br><a href="https://zoom.us/j/93499316164?pwd=UPIV6X3Sk5xFWt9d5zJ98mDYg6aNJ2.1">https://zoom.us/j/93499316164?pwd=UPIV6X3Sk5xFWt9d5zJ98mDYg6aNJ2.1</a> |                                                                      |                                                                                                                                                                                       |
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| 12:15 – 13:15                                                                                                                                                                                                             | <b>General Session (Chairs: Hugo A.F.A. Santos, Marina Cetkovic)</b> |                                                                                                                                                                                       |
|                                                                                                                                                                                                                           | 12:15 – 12:30                                                        | Miloš Pešić, Vladimir Dunić, Vladimir Milovanović, Miroslav Živković - CONVERGENCE OF A CENTRAL DIFFERENCE APPROXIMATION TO THE ONE-DIMENSIONAL WAVE EQUATION IN EXPLICIT DYNAMICS    |
|                                                                                                                                                                                                                           | 12:30 – 12:45                                                        | Marko Gogic - FINITE ELEMENT APPROXIMATION OF NONLOCAL ELLIPTIC PROBLEMS DRIVEN BY SYMMETRIC LÉVY OPERATORS                                                                           |
|                                                                                                                                                                                                                           | 12:45 – 13:00                                                        | Marina Cetkovic - FREE vibrations OF POROUS FGP PLATES on Elastic Foundation USING LAYER WISE FINITE ELEMENT                                                                          |
|                                                                                                                                                                                                                           | 13:00 – 13:15                                                        | Hugo A.F.A. Santos - FINITE ELEMENT ANALYSIS OF FUNCTIONALLY GRADED NON-UNIFORM CURVED BEAMS                                                                                          |
| 13:30 – 14:30                                                                                                                                                                                                             | <b>Lunch Break</b>                                                   |                                                                                                                                                                                       |
| 15:30 - 16.30                                                                                                                                                                                                             | <b>General Session (Chairs: Goran Pavlović, Stepa Paunović)</b>      |                                                                                                                                                                                       |
|                                                                                                                                                                                                                           | 15:30 – 15:45                                                        | Goran Pavlović, Mile Savković, Marko Todorović, Nebojša Zdravković, Goran Marković - PARETO-BASED MULTI-OBJECTIVE OPTIMIZATION OF AN END 4 CARRIAGE FOR DOUBLE-GIRDER OVERHEAD CRANES |
|                                                                                                                                                                                                                           | 15:45 – 16:00                                                        | Wei Li, Drazan Kozak - APPLICATION OF THE GA-GRBFNN ALGORITHM TO RELIABILITY PERFORMANCE OF A KIND OF STOCHASTIC DYNAMICAL SYSTEM                                                     |
|                                                                                                                                                                                                                           | 16:00 – 16:15                                                        | Nekri Mounira, Chahrazad Adiche, Hammoudi Abderazek - A DUAL-MARKET MIXED-INTEGER OPTIMIZATION MODEL FOR BATTERY SCHEDULING WITH EXCLUSIVE MARKET PARTICIPATION                       |
|                                                                                                                                                                                                                           | 16:15 – 16:30                                                        | Salima Kouici, Chahrazad Adiche, Hammoudi Abderazek - OPTIMIZED CYBERSECURITY INVESTMENT FOR INDUSTRY 4.0 USING ISO 27002 COMPLIANCE                                                  |
| 16:30 – 17:00                                                                                                                                                                                                             | <b>Break</b>                                                         |                                                                                                                                                                                       |
| 17:00 – 18:15                                                                                                                                                                                                             | <b>General Session (Chairs: Dragan Milošević, Stepa Paunović)</b>    |                                                                                                                                                                                       |
|                                                                                                                                                                                                                           | 17:00 – 17:15                                                        | Mustapha Faraji - LITHIUM-ION BATTERY THERMAL MANAGEMENT USING PHASE CHANGE MATERIALS FOR HEAT STORAGE: A NUMERICAL STUDY                                                             |
|                                                                                                                                                                                                                           | 17:15 – 17:30                                                        | Lu Silong - RESEARCH AND PARAMETER IDENTIFICATION OF SMALL GENERATOR CHARGING PROCESS                                                                                                 |
|                                                                                                                                                                                                                           | 17:30 – 17:45                                                        | Boxiang Ma, Linzhe Du, Jian Sun - HYBRID NEURAL NETWORKS BASED INVERSE DESIGN OF INHOMOGENEOUS TETRACHIRAL HONEYCOMB FOR MULTIPLE FUNCTIONS                                           |
|                                                                                                                                                                                                                           | 17:45 – 18:00                                                        | Dragan Milošević - ARTIFICIAL INTELLIGENCE AS AN INTEGRATIVE LAYER IN MODELLING CHESS TRAINING                                                                                        |
|                                                                                                                                                                                                                           | 18:00 – 18:15                                                        | M. Oubida, Z. El Maskauoi, I. El Hantati - A NON-INTRUSIVE GA-FE COUPLING FRAMEWORK FOR DISCRETE STRUCTURAL OPTIMIZATION OF STEEL STRUCTURES                                          |

| DAY 2 (11.09.2026.) – Room 102                                                                                                                      |                                                                                                                                   |                                                                                                                                                                                               |
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| <a href="https://zoom.us/j/95575436471?pwd=1QMdiqGvsA9Zqvevzte7uvMLaEKYDr.1">https://zoom.us/j/95575436471?pwd=1QMdiqGvsA9Zqvevzte7uvMLaEKYDr.1</a> |                                                                                                                                   |                                                                                                                                                                                               |
| 09:30 – 10:00                                                                                                                                       | <b>Plenary Session (Chairs: Heiko Topol, Milan Cajić)</b>                                                                         |                                                                                                                                                                                               |
|                                                                                                                                                     | 09:30 – 10:00                                                                                                                     | Rui Zhu, Xiao Wang, Jianlei Zhao, Ivana Kovacic - NONLINEAR METASTRUCTURES FOR LOW-FREQUENCY BROADBAND VIBRATION ISOLATIONS                                                                   |
| 10:00 – 10:40                                                                                                                                       | <b>Invited Lectures (Chairs: Heiko Topol, Milan Cajić)</b>                                                                        |                                                                                                                                                                                               |
|                                                                                                                                                     | 10:00 – 10:20                                                                                                                     | David Lehký - MACHINE LEARNING-AIDED RELIABILITY-BASED OPTIMIZATION AND ASSESSMENT OF STRUCTURES                                                                                              |
|                                                                                                                                                     | 10:20 – 10:40                                                                                                                     | Svetoslav Nikolov - APPLICATIONS AND DYNAMICS OF GYROSCOPE (online)                                                                                                                           |
| 10:40 – 11:10                                                                                                                                       | <b>Coffee Break</b>                                                                                                               |                                                                                                                                                                                               |
| 11:10 – 12:25                                                                                                                                       | <b>Special Session – Advances in Gear Technology and Power Transmission (Chairs: Victor Roda-Casanova, Santosh Patil)</b>         |                                                                                                                                                                                               |
|                                                                                                                                                     | 11:10 – 11:25                                                                                                                     | J. Sanchez-Espiga - MODELLING AND ADVANCED SENSING IN PLANETARY GEAR LOAD SHARING: FROM THEORY TO INDUSTRIAL APPLICATIONS - <b>Invited lecture</b>                                            |
|                                                                                                                                                     | 11:25 – 11:40                                                                                                                     | Victor Roda-Casanova, Carlos M.C.G. Fernandes - CALCULATION OF THE FACE LOAD FACTOR IN SPUR AND HELICAL GEARS LOCATED IN INTERMEDIATE SHAFTS                                                  |
|                                                                                                                                                     | 11:40 – 11:55                                                                                                                     | Mohit Jain and Santosh Patil - STUDY ON VISION-BASED AND UNCONVENTIONAL EXPERIMENTAL TECHNIQUES FOR PERFORMANCE ANALYSIS OF COMPOSITE POLYMER GEARS                                           |
|                                                                                                                                                     | 11:55 – 12:10                                                                                                                     | Mohit Jain and Santosh Patil - COMPARATIVE PERFORMANCE STUDIES OF DIFFERENT FIBER REINFORCED COMPOSITE POLYMER GEARS                                                                          |
|                                                                                                                                                     | 12:10 – 12:25                                                                                                                     | Christos Kalligeros, Panagiotis Vidakis, Vasilios Sarlis, Christos Papalexis, Ioannis Kalogeris, Vasilios Spitas - EXPERIMENTAL INVESTIGATION OF WEAR PERFORMANCE OF 3D-PRINTED POLYMER GEARS |
| 12:30 – 12:45                                                                                                                                       | <b>Sponsor presentation - Mathematics, MDPI Journal</b>                                                                           |                                                                                                                                                                                               |
| 13:00 – 14:00                                                                                                                                       | <b>Lunch Break</b>                                                                                                                |                                                                                                                                                                                               |
| 14:00 – 14:45                                                                                                                                       | <b>Guided downtown walking tour (in English)<br/>– from the Mathematical Institute to the Faculty of Mechanical Engineering –</b> |                                                                                                                                                                                               |

| DAY 2 (11.09.2026.) – Room 301f                                                                                                                       |                                                                    |                                                                                                                                                     |
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| <a href="https://zoom.us/j/93082323865?pwd=aH4hsQCXKiqfRpjiaaUxZ5ZOQFLskeY.1">https://zoom.us/j/93082323865?pwd=aH4hsQCXKiqfRpjiaaUxZ5ZOQFLskeY.1</a> |                                                                    |                                                                                                                                                     |
| 11:00 – 12:00                                                                                                                                         | <b>General Session (Chairs: Aleksandar Tomović, Nikola Mirkov)</b> |                                                                                                                                                     |
|                                                                                                                                                       | 11:00 – 11:15                                                      | Belić Nada, Ristanović Milan, Lazarević Mihailo - MADGWICK SENSOR FUSION APPROACH FOR QUATERNION-BASED ORIENTATION ESTIMATION ON EMBEDDED PLATFORMS |
|                                                                                                                                                       | 11:15 – 11:30                                                      | Nikola Nešić, Vuk Todorović, Nenad Vesić - ROBOT INVERSE KINEMATICS USING SUBPROBLEM DECOMPOSITION                                                  |



3rd International Conference on Mathematical  
Modelling in Mechanics and Engineering  
Mathematical Institute SANU, 10-12. September, 2026.



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|               | 11:30 – 11:45                                                                                                             | Nemanja Tanasković, Mihailo Lazarević, Damir Krklješ -<br>KINEMATIC MODELLING AND BÉZIER-BASED<br>TRAJECTORY GENERATION FOR A SECTOR-DRIVEN<br>COMPLIANT ROBOTIC MECHANISM |
|               | 11:45 – 12:00                                                                                                             | Uroš Ilić, Mihailo Lazarević, Emil Veg, Željko Despotović -<br>DYNAMIC MODELLING OF COMPOSITE LEAF SPRINGS IN<br>VIBRATORY CONVEYORS                                       |
|               | 12:00 – 12:15                                                                                                             | Stefano Disca - ON A CROSS COUPLING OF RULKOV NEURAL<br>MAPS                                                                                                               |
| 12:15 – 13:00 | Poster session (Room 301f)                                                                                                |                                                                                                                                                                            |
| 13:00 – 14:00 | Lunch Break                                                                                                               |                                                                                                                                                                            |
| 14:00 – 14:45 | Guided downtown walking tour (in English)<br>– from the Mathematical Institute to the Faculty of Mechanical Engineering – |                                                                                                                                                                            |

| DAY 2 (11.09.2026.) – Faculty of Mechanical Engineering – Room 514<br><a href="https://zoom.us/j/94621912699?pwd=aEMs4YUSODRDDVDI0MqAVqgpLd3PcB.1">https://zoom.us/j/94621912699?pwd=aEMs4YUSODRDDVDI0MqAVqgpLd3PcB.1</a> |                                                      |                                                                                                                                                                   |
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| 15:00 – 16:30                                                                                                                                                                                                             | Lab tour – Faculty of Mechanical Engineering –       |                                                                                                                                                                   |
| 16:30 – 17:00                                                                                                                                                                                                             | Break                                                |                                                                                                                                                                   |
| 17:00 – 18:45                                                                                                                                                                                                             | General Session (Chairs: Danilo Karličić, Bojan Čas) |                                                                                                                                                                   |
|                                                                                                                                                                                                                           | 17:00 – 17:15                                        | Jan Zavodnik, Miha Brojan, Antonio DeSimone - ENVELOPE<br>SURFACE DESCRIPTION OF BRAIDED MESH-SHELLS                                                              |
|                                                                                                                                                                                                                           | 17:15 – 17:30                                        | Sidorov V.N., Klimushkin D.O. - BUCKLING OF FRAME<br>STRUCTURES UNDER DYNAMIC LOADS, TAKING INTO<br>ACCOUNT INERTIAL COMPONENTS OF INTERNAL FORCES<br>IN ELEMENTS |
|                                                                                                                                                                                                                           | 17:30 – 17:45                                        | Katarina Slavković, Ivana Djurišić, Nenad Vesić - MECHANICAL<br>AND GEOMETRIC APPROACHES TO ALMOST GEODESIC<br>GROWTH OF THE THIRD TYPE                           |
|                                                                                                                                                                                                                           | 17:45 – 18:00                                        | Peter Kočman, Bojan Čas - ON THE ANALYTICAL<br>MODELLING OF THE INELASTIC BUCKLING LOAD OF<br>FRAMES                                                              |
|                                                                                                                                                                                                                           | 18:00 – 18:15                                        | Sidorov V.N., Badina E.S., Tsarev R.O.- NONLOCAL APPROACH<br>TO NUMERICAL MODELLING OF PLANE FRAME<br>VIBRATIONS                                                  |
|                                                                                                                                                                                                                           | 18:15 – 18:30                                        | Jaka Tušek, Luka Porenta, Boštjan Brank, Miha Brojan - THIN-<br>WALLED SUPERELASTIC NI-TI TUBES FOR<br>ELASTOCALORIC APPLICATIONS                                 |
|                                                                                                                                                                                                                           | 18:30 – 18:45                                        | Nevena Rosić, Milan Cajić, Danilo Karličić, Mihailo Lazarević -<br>NATURAL FREQUENCY SPECTRA OF QUASIPERIODIC<br>STRUCTURES WITH ELASTIC AND RIGID SEGMENTS       |
| 19:30 –                                                                                                                                                                                                                   | Conference dinner                                    |                                                                                                                                                                   |



| DAY 3 (12.09.2026.) – Room 102                                                                                                                      |                                                                        |                                                                                                                                                                                            |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <a href="https://zoom.us/j/95575436471?pwd=1QMdiqGvsA9Zqyevzte7uvMLaFKYDr.1">https://zoom.us/j/95575436471?pwd=1QMdiqGvsA9Zqyevzte7uvMLaFKYDr.1</a> |                                                                        |                                                                                                                                                                                            |
| 09:30 – 10:00                                                                                                                                       | <b>Plenary Session (Chairs: Hermann Matthies, Roberto Palma)</b>       |                                                                                                                                                                                            |
|                                                                                                                                                     | 09:30 – 10:00                                                          | Heiko Topol- INSTABILITIES OF RESIDUALLY STRESSED TUBULAR STRUCTURES WITH MATERIAL VOLUME CHANGES: BULGING AND BEYOND                                                                      |
| 10:00 – 10:40                                                                                                                                       | <b>Invited Lectures (Chairs: Hermann Matthies, Roberto Palma)</b>      |                                                                                                                                                                                            |
|                                                                                                                                                     | 10:00 – 10:20                                                          | Roberto Palma - A COSSERAT-SPIN CONTINUUM FRAMEWORK FOR MICROSTRUCTURED MATERIALS: MODELLING AND APPLICATIONS                                                                              |
|                                                                                                                                                     | 10:20 – 10:40                                                          | Aleksandar Tomović - APPLICATION OF SNMIP FOR VIBRATION ANALYSIS OF 3D PRINTED BEAMS                                                                                                       |
| 10:40 – 11:00                                                                                                                                       | <b>Break</b>                                                           |                                                                                                                                                                                            |
| 11:00 – 12:00                                                                                                                                       | <b>General session (Chairs: Mihailo P. Lazarević, Milan Šekularac)</b> |                                                                                                                                                                                            |
|                                                                                                                                                     | 11:00 – 11:15                                                          | Ivan Tomanović, Srđan Belošević, Aleksandar Milićević, Nenad Crnomarković, Andrijana Stojanović - STRATEGIES FOR IMPLEMENTATION OF EFFICIENT DOMAIN BOUNDARIES IN FULLY PARALLEL CFD CODES |
|                                                                                                                                                     | 11:15 – 11:30                                                          | Milan Šekularac, Vidosava Vilotijević- ON A CFD APPROACH FOR MIXED CONVECTION HEAT TRANSFER REGIME                                                                                         |
|                                                                                                                                                     | 11:30 – 11:45                                                          | Jelena Svorcan, Toni Ivanov, Milan Rakić and Marija Baltić - ESTIMATION OF THE AERODYNAMIC BENEFITS OF A WAVY UPPER SURFACE OF NACA 0012 AIRFOIL AT LOW REYNOLDS NUMBER                    |
|                                                                                                                                                     | 11:45 – 12:00                                                          | Alexander Kuzmin - INSTABILITY OF TRANSONIC FLOW OVER NASA AIRFOILS WITH A DEPLOYED SPOILER                                                                                                |
| 12:00 – 13:15                                                                                                                                       | <b>General session (Chairs: Ivan Tomanović, Nikola Mirkov)</b>         |                                                                                                                                                                                            |
|                                                                                                                                                     | 12:00 – 12:15                                                          | Nikola Mirkov, Svetlana Konstantinova - A SYNTHETIC PHOTOPLETHYSMOGRAPHY WAVEFORM GENERATION WITH ADVANCED MODELLING OF MICRO-BIOMECHANICS EFFECTS                                         |
|                                                                                                                                                     | 12:15 – 12:30                                                          | Nenad Vesić, Ivana Djurišić and Andjelka Hedrih - LINEAR CONFORM MODEL OF CELLULAR GROWTH                                                                                                  |
|                                                                                                                                                     | 12:30 – 12:45                                                          | Ivana Djurišić, Ognjen Stefanović and Nenad Vesić - CELL ELECTRICITY CAUSED BY CHANGE IN GEOMETRY                                                                                          |
|                                                                                                                                                     | 12:45 – 13:00                                                          | Ashvani Kumar and Dharmendra Tripathi - ANALYSIS OF PERISTALTIC FLOW OF COUPLE STRESS FLUID IN TUMOR-AFFECTED MICROCHANNELS                                                                |
|                                                                                                                                                     | 13:00 – 13:15                                                          | Purnima Mishra, Dharmendra Tripathi and Kusum Sharma - PERISTALTIC TRANSPORT THROUGH TUMOR-OBSTRUCTION MODULATED BY DARCY-BRINKMANN EFFECT OF POROUS MEDIA                                 |



|               |                                                                                                                      |
|---------------|----------------------------------------------------------------------------------------------------------------------|
| 13:15 – 13:30 | Ivana Atanasovska - PROMOTION OF ICME2024 SPECIAL JOURNAL ISSUE AND ANNOUNCEMENT OF THE ICME2026 PARTNER JOURNALS*** |
| 13:30 – 14:00 | <b>Closing Ceremony</b>                                                                                              |

| <b>DAY 3 (12.09.2026.) – Room 301f</b><br><a href="https://zoom.us/j/93082323865?pwd=aH4hsOCXKiqfRpjaaUxZ5ZOQFLskeY.1">https://zoom.us/j/93082323865?pwd=aH4hsOCXKiqfRpjaaUxZ5ZOQFLskeY.1</a> |                                                                                                                                      |                                                                                                                                                                                                   |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11:00 – 13:00                                                                                                                                                                                 | <b>Special Session – Mathematical modeling of multibody systems interacting with medium (Chairs: Marat Dosaev, Yuriy Selyutskiy)</b> |                                                                                                                                                                                                   |
|                                                                                                                                                                                               | 11:00 – 11:15                                                                                                                        | N. A. Oryol, O. Yu. Cherkasov - THE DUBINS PROBLEM WITH PENALTY ON CONTROL COSTS                                                                                                                  |
|                                                                                                                                                                                               | 11:15 – 11:30                                                                                                                        | Aleksei Lozovoi, Alexey Tikhonov - ON THE MODIFIED METHOD OF COMPLEX AUTONOMIZATION                                                                                                               |
|                                                                                                                                                                                               | 11:30 – 11:45                                                                                                                        | M. Z. Dosaev - ON SELECTION OF PARAMETERS OF A VIBRO ROBOT                                                                                                                                        |
|                                                                                                                                                                                               | 11:45 – 12:00                                                                                                                        | Yury Selyutskiy, Andrei Holub, Boris Lokshin, Valery Zudov, Aleksandar Obradović - STABILIZATION OF RECTILINEAR FLIGHT OF A QUADROTOR WITH A SLUNG LOAD                                           |
|                                                                                                                                                                                               | 12:00 – 12:15                                                                                                                        | Ivan V. Alpatov - PHENOMENOLOGICAL APPROACH TO HUMAN CHEST DEFORMATION MODELING                                                                                                                   |
|                                                                                                                                                                                               | 12:15 – 12:30                                                                                                                        | Mikhail Garbuz, Liubov Klimina, Vitaly Samsonov - DYNAMIC OF THE WIND POWERED PLANTIGRADE MACHINE                                                                                                 |
|                                                                                                                                                                                               | 12:30 – 12:45                                                                                                                        | Dunchenkin P.V., Krysko A.V., Zhigalov M.V., Krysko V.A. - COMPARATIVE ANALYSIS OF CLASSICAL (RAMP) AND NEURAL NETWORK METHODS OF TOPOLOGICAL OPTIMIZATION IN THE DESIGN OF MULTILAYER STRUCTURES |
|                                                                                                                                                                                               | 12:45 – 13:00                                                                                                                        | Magomed Magomedov, Gairbek Magomedov - ACTIVE COMPENSATION OF ILLUSORY ROLL IN THE TsF-7 CENTRIFUGE USING A CASCADED PID CONTROLLER AND GALVANIC VESTIBULAR STIMULATION                           |
| 13:30 – 14:00                                                                                                                                                                                 | <b>Closing Ceremony – Room 102</b>                                                                                                   |                                                                                                                                                                                                   |

\*\*\*This presentation will include the promotion of the Special Issue „*Mathematical Methods and Numerical Simulations in Engineering Mechanics*“, Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science (ISSN 0954-4062), Volume 240, Issue 15, August 2026, which included the article “*Tribute to Academician Vladan D. Đorđević (1938–2022)*”, *Nevena D. Stevanović and Snežana S. Milićev*, and selected articles from the ICME2024 conference.



3rd International Conference on Mathematical  
Modelling in Mechanics and Engineering  
Mathematical Institute SANU, 10-12. September, 2026.



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## **SVECOM doo, Preduzeće za inženjering, spoljni u unutrašnji promet, Ustanička 128a/III, Beograd**

Kompanija SVECOM DOO BEOGRAD osnovana je 1991. godine u Beogradu sa aktivnostima u oblasti energetike, rudarstva, ekologije, gasne detekcije i drugim granama industrije.

Ukupan broj zaposlenih je oko 30 od čega je 25 u stalnom odnosu, dok je 5-6 eksperata angažovano na raznim projektima. Najveći broj zaposlenih su inženjeri različitih profila, zatim ekonomisti i menadžeri.

U oblasti energetike sa češkim partnerima **ZVVZ** kao i **PSP** realizovali smo isporuku i ugradnju elektrofiltera na TE Kostolac, TE Ugljevik, kao i isporuku i ugradnju drobiličnih postrojenja u REIK Kolubara i Kostolac.

U oblasti rudarstva u saradnji sa jednim od najvećih svjetskih proizvođača specijalnih čeličnih konstrukcija **ArcelorMittal** i **Liberty Ostrava** (Češka) opremamo rudnike sa podzemnom eksploatacijom čeličnim lučnim profilima (rudarska podgrada).

U oblasti gasne detekcije saradjujemo sa kompanijama **Teledyne-Oldham Simtronics** Francuska vodećim svjetskim proizvođačem stabilnih sistema gasne detekcije za industriju, **Trolex** Engleska-vodećim svjetskim proizvođačem stabilnih sistema za detekciju gasova u rudnicima sa podzemnom eksploatacijom kao i sa **Industrial Scientific** USA. Vodećim svjetskim proizvođačem u oblasti mobilnih gasnih detektora.

Oblast delovanja je detekcija eksplozivnih i toksičnih gasova u rudnicima sa podzemnom eksploatacijom, industrijskim postrojenjima, čeličnanama, pogonima za proizvodnju veštačkog đubriva kao i skladištima tečnog naftnog gasa.

Iz oblasti gasne detekcije posedujemo sertifikat o akreditaciji izdat od ATS a kao i rešenje MUP a koji nam omogućava kontrolisanje instalacija posebnih sistema za detekciju eksplozivnih i zapaljivih gasova.



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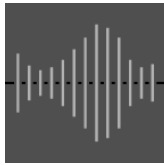
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*acoustics*

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### **„Prof. Vladan Djordjevic“ award**

- Authors aged up to 35 with contributions in the field of fluid mechanics presented in person are eligible for the „Prof. Vladan Djordjevic“ award for young scientists. The laureate of the award will be announced at the conference's closing ceremony.

### **„Outstanding presentation award“ (sponsored by Journal Acoustics, MDPI)**

- Authors aged up to 35 whose contributions are presented in person are eligible for the „Outstanding presentation award“ for young scientists. The laureate of the award will be announced at the conference's closing ceremony.

### **"Special Session 2 - The best contribution awards"**

- The contributions presented in the SS2 are eligible for the special discount on publication charges at the Special Issue „Advances in Gear Transmission Systems: Design, Dynamics, and Applications“, *Journal Machines* (ISSN 2075-1702) - The SS2 Chairs will be responsible for selecting and proceeding.