



Day 2, June 19, 2025

Day 2, June 19 09:00 - 09:45	Plenary Lecture Dynamic Stability of Structures under Multi-Hazards – Prof. J. Deng, <i>Lakehead University, Thunder Bay, Ontario, Canada</i> (10ICSSM- Deng) Room: 611 FME, Chair: Prof. Vladimir Dragović
09:45 - 10:00	Short technical break
Day 2, June 19 10:00 - 10:45	Plenary Lecture Strain-gradient crystal plasticity models for predicting microstructure, length-scale, and strain path sensitive deformation behavior of polycrystalline metals – M. Knezevic, <i>University of New Hampshire, USA</i> , (10ICSSM- Knezevic) Room: 611 FME, Chair: Prof. Marina Trajković Milanković
10:45 - 11:15	Coffee Break
11:15 - 12:45	Parallel Sessions
Day 2, June 19 11:15 - 12:45	Session B, Room: FME 608 A Chairs: <i>Madjarevic D, Faculty of Technical Science, University of Novi Sad, Serbia</i>

4 papers (15 min + 3 min for comments every):

- B.4 - **Numerical solutions of compressible gas flow in microtube in the continuum regime** – *Guranov I, Milicev S., Stevanovic N.* ([10ICSSM - Guranov et al. - B](#))
- B.5 - **Magnetohydrodynamic (MHD) flow and heat transfer of electrically conducting micropolar fluid in a parallel plate channel with induced magnetic field** – *Kocic M., Stamenkovic Z., Bogdanovic Jovanovic J., Petrovic J., Nikodijevic Djordjevic M.* ([10ICSSM - Kocić et al. - B](#))
- B.6 - **A macroscopic multi-temperature model with transport properties in comparison with kinetic models in the context of binary mixtures** – *Madjarevic D.* ([10ICSSM - Madjarevic - B](#))
- B.7 - **On the modelling of korteweg fluids** – *Matic Z., Simic S.* ([10ICSSM - Matic and Simic - B](#))

Day 2, June 19 11:15 - 12:45	Session C, Room: FME 608 B Chairs: <i>Dunic V, Faculty of Engineering, University of Kragujevac, Serbia</i>
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4 papers (15 min + 5 min for comments every):



- C.1 - **Phase-field modeling of concrete: numerical simulation and experimental verification –** *Dunic V., Zivkovic M., Rakic D., Milovanovic V.* ([10ICSSM - Dunic et al. - C](#))
- C.2 - **Prediction of free-edge stresses in composite laminates using full-layerwise-theory-based finite elements –** *Jocic E., Zivkovic M., Marjanovic M.* ([10ICSSM - Jocic et al. - C](#))
- C.3 - **An estimate of penetration depth of rigid rods through materials susceptible to microcracking: Part 1 – theory –** *Mastilovic S.* ([10ICSSM - Mastilovic - C-1](#))
- C.4. - **An estimate of penetration depth of rigid rods through materials susceptible to microcracking: Part 2 – validation and parameter sensitivity –** *Mastilovic S.* ([10ICSSM - Mastilovic - C-2](#))

Day 2, June 19 11:15 - 12:45	Session D, Room: FME 607 A Chairs: <i>Lazarevic M.</i> , Faculty of Mechanical Engineering, University of Belgrade, Serbia and <i>Pavlovic I.</i> , Faculty of Mechanical Engineering, University of Niš, Serbia
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4 papers (15 min + 5 min for comments every):

- D.4. - **Trapezoidal control for prevention of unwanted vibrations of mechanical systems –** *Formalskii A., Selyutskiy Y.* ([10ICSSM - Formalskii and Selyutskiy - D](#))
- D.5. - **Motion analysis of a vibratory conveyor's trough during its operation –** *Ilic U., Lazarevic M., Veg E., Despotovic Z.* ([10ICSSM - Ilic - D](#))
- D.6. - **PSO-based resonant controller for trajectory tracking of robot manipulator –** *Mandic P., Lazarevic M., Sekara T.* ([10ICSSM - Mandic et al-D](#))
- D.12 - **Motion control of a copter with a slung load partially filled with liquid –** *Selyutskiy Y., Lokshin B., Holub A.* ([10ICSSM - Selyutskiy et al. - D](#))

Day 2, June 19 11:15 - 13:05	Session M1, Room: FME 607 B Chairs: <i>Paunović S.</i> , MISASA, Belgrade, Serbia and <i>Liang Y.</i> , College of Mechanics and Engineering Science, Hohai University, Nanjing, China
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5 papers (15 min + 5 min for comments every):

- M.1.1 - **An overview of coupled mechanical problems including contact phenomena solved by FEA –** *Atanasovska I.* ([10ICSSM - Atanasovska - M1](#))
- M.1.3 - **Machine-learning-based optimization design of combined seismic metamaterials –** *Fu Z., Ding Y., Chen H.* ([10ICSSM - Fu et al.- M1](#))
- M.1.8 - **Upscaling anomalous transport in fractured media using fractional advection-dispersion equation model –** *Sun H.G.* ([10ICSSM - Sun - M1](#))
- M.1.5 - **Simulation of thermal field in mass concrete structures with cooling pipes by the localized meshless method –** *Lin J., Hong Y.X.* ([10ICSSM - Lin and Hong- M1](#))
- M.1.9- **Data-driven diffusion law for multiscale dynamics in granular materials via an improved deep physical symbolic regression–** *Yan S., Liang Y.* ([10ICSSM - Yan and Liang - M1](#))

Day 2, June 19 12:45 - 14:00	Buffet lunch (At the lobby area of sixth floor FME)
13:15-14:00	Sponsor's Presentation (At the lobby area of sixth floor FME)



	Prager Elektronik, Wolkersdorf, Austria https://www.prager-elektronik.at/en/
Day 2, June 19 14:00 - 14:45	Plenary Lecture Global Nonlinear Dynamics in the Analysis and Safety of Multistable Dynamical Systems – P. B. Gonçalves, <i>Pontifical Catholic University of Rio de Janeiro, Brasil</i> (10ICSSM- Gonçalve) <i>Room:</i> 611 FME, <i>Chair:</i> Dr Andelka Hedrik
14:50 - 16:10	Parallel Sessions
Day 2, June 19 14:50 - 16:10	Session B, Room: FME 608 A Chairs: <i>Petrovic J, Faculty of Mechanical Engineering, University of Niš, Serbia</i> and <i>Kocic M, Faculty of Mechanical Engineering, University of Niš, Serbia</i>

4 papers (15 min + 5 min for comments every):

- B.10 - **Particle dynamics in inertial microfluidics: review of forces and channel design principles** – *Oluski N., Zivkov A., Kozomora V., Bukurov M., Tasin S.* ([10ICSSM - Oluski et al. - B](#))
- B.11 - **EMHD convection of a trihybrid nanofluid through a porous medium in a vertical channel with thermal radiation** – *Petrovic J., Nikodijevic Djordjevic M., Kocic M., Bogdanovic Jovanovic J., Stamenkovic Z.* ([10ICSSM - Petrovic et al-B](#))
- B.12 - **Stability analysis of the generalized washburn equation** – *Rapajic I., Simic S.* ([10ICSSM - Rapajic and Simic - B](#))
- B.14 - **Numerical simulation of isothermal rarefied gas flow between two plates** – *Vulicevic P., Milicev S., Stevanovic N.* ([10ICSSM - Vulicevic et al. - B](#))

Day 2, June 19 14:50 - 16:10	Session C, Room: FME 608 B Chairs: <i>Tomovic A, Faculty of Mechanical Engineering, University of Belgrade, Serbia</i> and <i>Pavlovic I, Faculty of Mechanical Engineering, University of Niš, Serbia</i>
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4 papers (15 min + 5 min for comments every):

- C.6 - **Energy based fatigue damage model** – *Perovic Z., Coric S., Koprivica M.* ([10ICSSM - Perovic et al. - C](#))
- C.7 - **Vibration characteristics of 3D printed stepped cantilever beam** – *Pjevic M., Tomovic A., Veg M., Zoric N., Popovic M.* ([10ICSSM - Pjevic et al. - C](#))
- C.8 - **Vibration characteristics of an optimized cantilever beam** – *Tomovic A., Pjevic M., Veg M., Obradovic A., Mitrovic Z.* ([10ICSSM - Tomovic et al. - C](#))
- C.9 - **Predictive reanalysis in structural dynamics** – *Trisovic N., Mankovits T., Petrovic A.* ([10ICSSM - Trisovic et al. - C](#))

Day 2, June 19 14:50 - 16:10	Session D, Room: FME 607 A Chairs: <i>Simic V, Institute for Information Technologies, University of Kragujevac, Serbia</i>
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4 papers (15 min + 5 min for comments every):

- D.11 - **Truss structure optimization using particle swarm optimization with direct FEM coupling** – *Ristic O., Trisovic N.* ([10ICSSM - Ristic and Trisovic - D](#))
- D.8 - **Data-driven nonlinear modelling of recycled aggregate concrete-filled steel tube columns** – *Nikolic J., Tosic N., Kostic S.* ([10ICSSM - Nikolic et al. - D](#))



- D.9 - Design and experimental verification of the composite blade of the main rotor of an unmanned helicopter – Radulovic R., Milic M. ([10ICSSM - Radulovic and Milic - D](#))
- D.17 - ILC-MPC controller for robotic manipulators based on the ultra-local model – Zivkovic N., Lazarevic M., Vidakovic J., Mandic P. ([10ICSSM - Zivkovic et al. - D](#))

Day 2, June 19 14:50 - 16:10	Session M2, Room: FME 607 B Chairs: Svorcan J., Faculty of Mechanical Engineering, University of Belgrade, Belgrade, Serbia and Semlitsch B., Institute of Energy Systems and Thermodynamics, TU Wien, Vienna, Austria
Day 2, June 19 14:50 - 15:30	Invited lecture M.2.4 - Approaching a modified swarm intelligence in hydraulic optimization of an inline pump, Xingcheng Gan, <i>Coauthors: Prof. Ji Pei, Assoc. Prof. Wenji Wang, Prof. Jia Chen and Prof. Shouqi Yuan, National Research Center of Pumps, Jinagsu University, China</i> (10ICSSM - Gan - M2)

2 papers (15 min + 5 min for comments every):

- M.2.6 - LES for modelling wind flow in urban block: accuracy, challenges and applications – Kostadinovic Vranesovic K., Jockovic M., Glumac A. ([10ICSSM - Kostadinovic Vranesovic et al. - M2](#))
- M.2.11 - Transient simulation on internal flow characteristics and pressure pulsation of variable speed Francis turbines during acceleration process – Wang W., Liu S., Pei J. ([10ICSSM - Wang et al. - M2](#))

16:10 - 16:20	Short technical break
16:20 - 17:20	Parallel Sessions
Day 2, June 19 16:20- 17:20	Session A, Room: FME 608 A Chairs: Spasic D, Faculty of Technical Science, University of Novi Sad, Serbia

3 papers (15 min + 5 min for comments every):

- A.5 - New rheological discrete dynamic systems of the fractional type rheological oscillator or creeper type: An overview of author's new research results – Stevanovic Hedrik K. ([10ICSSM - Hedrik \(Stevanovic\) - A](#))
- A.4 - Magnetic flows on spheres – Dragovic V., Gajic B., Jovanovic B. ([10ICSSM - Dragovic et al. - A](#))
- A.6 - A simple engineers-friendly method for non-holonomic systems – Spasic D. ([10ICSSM - Spasic - A](#))

Day 2, June 19 16:20 - 17:20	Session D, Room: FME 607 A Chairs: Trisovic N, Faculty of Mechanical Engineering, University of Belgrade, Serbia
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3 papers (15 min + 5 min for comments every):

- D.7. - Computational modeling of drug transport from drug coated ballons (DCB) – Milosevic M., Milicevic B., Simic V., Nikolic A., Filipovic N., Kojic M. ([10ICSSM - Milosevic et al. - D](#))
- D.13 - Computational modeling and parametric study of circulating tumor cells motion through capillaries and interaction with non/ thrombin activated platelets – Simic V., Milosevic M., Nikolic A., Ning S., Leonard F., Liu X., Kojic M. ([10ICSSM - Simic et al. - D](#))
- D.14 - Kinematics modeling of compliant and extensible stewart-like platform – Tanaskovic N., Lazarevic M., Krkljes D. ([10ICSSM - Tanaskovic et al. - D](#))

Day 2, June 19	Session M4, Room: FME 608 B Chairs: Nesic N., University of Pristina in Kosovska Mitrovica, Faculty of Technical Sciences,
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16:20 - 17:20

Serbia

3 papers (15 min + 5 min for comments every):

- M.4.3 - **A novel finite time stability analysis of a class nonlinear fractional order multi-state time delay systems: a new gronwall - bellman inequality approach** – Lazarevic M., Pisl S., Radojevic D. ([10ICSSM - Lazarevic et al. - M4](#))
- M.4.8 - **The influence of the radius of curvature on the forced oscillations of an elastically coupled system of two doubly curved shallow nano-shells** – Stamenkovic Atanasov M., Simonovic J., Pavlovic I. ([10ICSSM - Stamenkovic Atanasov et al. - M4](#))
- M.4.9 - **Convergence of analytical-numerical algorithm for inverse kinematics of Niro One robot** – Todorovic V., Nesic N., Jovic S. ([10ICSSM - Todorovic et al. - M4](#))

Day 2, June 19

Session M3, Room: FME 607 B

16:20 - 17:20

Chairs: Dosaev M., Institute of Mechanics of Lomonosov Moscow State University, Russia

3 papers (15 min + 5 min for comments every):

- M.3.7 - **A tailed robot on three supports** – Klimina L. ([10ICSSM - Klimina - M3](#))
- M.3.8 - **A numerical study of the Belousov-Zhabotinsky reaction network** – Macesic S., Ivanovic Sasic A., Cupic Z. ([10ICSSM - Macesic et al. - M3](#))
- M.3.9 - **Biomechatronic system for monitoring eating behaviour** – Magomedov M., Magomedov R. ([10ICSSM - Magomedov and Magomedov - M3](#))

17:20 - 17:50	Coffee Break (At the lobby area of sixth floor FME)
Day 2, June 19 17:50 - 19:00	SSM Annual and Election Assembly Room: 611 FME
Day 2, June 19 17:50 - 19:00	Sightseeing tour Walk and Guided Tourof Niš Fortress
Day 2, June 19 19:30 - 22:00	Gala Dinner (The banquet hall at New City Hotel & Restaurant in Niš)