

SCIENTIFIC PROGRAM OF THE INTERNATIONAL CONFERENCE ON COMPUTER METHODS IN MECHANICS CMM-2025

TUESDAY, 08.07.2025

8.00-9.00, Registration

9.00-9.40, Conference Opening, Aula Major, Chairman: Marcin Kamiński

9.40-10.25, Plenary lecture, Aula Major, Chairman: George Stefanou, Marcin Kamiński

Pol D. Spanos, Hybrid analytical-numerical Monte Carlo approaches for stochastic response determination of systems endowed with fractional derivative elements

10.25-11.10, Plenary lecture, Aula Major, Chairman: Wojciech Sumelka, Mieczysław Kuczma

Christian Hellmich, Raphael Scharf, Ali Razgordanisharahi, Maximilian Sorgner, Bernd Moritz, Thomas Pilgerstorfer, Markus Brantner, Bernhard Pichler. Refinement of hybrid analyses reveals unexpected load-carrying mechanisms of NATM- and TBM-driven tunnels

11.10-11.40, Coffee break

11.40-13.40, Parallel sessions

	Aula Major	Chairs: Marek Lefik, Marek Wojciechowski	Arena Magica	Chairs: Eduardo Toledo, Marcin Kamiński	Aula Minor	Chairs: Anna Al Sabouni-Zawadzka, Jacek Szafran	Aula 1.05	Chairs: Agnieszka Tomaszewska, Piotr Kowalczyk
		Applications of AI for numerical modeling of engineering materials 1		Probabilistic methods and reliability assessment 1		Mechanics in Engineering Problems 1		Numerical modeling in biomechanics 1
11:40	156	KEYNOTE LECTURE: Leonard Ziemiański, Bartosz Miller Neural network-based surrogate modeling for multi-objective optimization of shell structures	23	KEYNOTE LECTURE: Rafał Bredow, Marcin Kamiński Dynamic reliability assessment of steel and steel-aluminum telecommunication skeletal towers based on relative entropy concept	36	KEYNOTE LECTURE: Nicholas Fantuzzi, Dimitra Tsimpli, Francesco Fabbrocino Data-driven self-healing concrete model and analysis	47	KEYNOTE LECTURE: Katarzyna Szepietowska, Wiktoria Korbut, Aleksandra Kondrusik, Zuzanna Iwicka, Julia Niemierko, Mateusz Zamkowski, Maciej Śmietański, Statistical shape model of the healthy abdominal wall towards finite element modelling including geometrical variability
12:00	30	Amirhossein Davarpanah T.G., Marcin Koniorczyk Evolutionary programming techniques for modeling the behavior of concrete containing RCA at high temperatures	54	Anna Jabłonka, Radosław Iwankiewicz Dynamical systems under parametric stochastic impulse process excitations. Equations for response probability density and moments	27	Monika Chuda-Kowalska, Michał Malendowski, Zbigniew Pozorski Experimental and numerical analysis of the effect of facing perforation on the mechanical properties of sandwich panels	71	Piotr Kowalczyk Parametric analysis of cancellous bone damage

12:20	33	Łukasz Domagalski , Izabela Kowalczyk Application of machine learning models in predicting vibration frequencies of variable thickness plates	64	Marcin Kamiński, Rafał L. Ossowski Application of Shannon entropy to uncertainty quantification in time-dependent reaction-diffusion problems using the stochastic finite difference method	28	Hyunseung Chung, Hyo-Gyoung Kwak Approximation of pressure-impulse diagram of RC beams exposed to blast loading based on a section analysis approach	101	Michał Nowak, Jan Polak, Kamil Sędkak Structural optimization principles as a base for trabecular bone stimulation algorithms development
12:40	45	Artur Góral, Marek Lefik Interpretation of the pile static load test using artificial neural networks	102	Paulina Obara, Urszula Radoń Influence of the initial prestress level on the reliability index of Geiger domes	31	Arkadiusz Denisiewicz, Tomasz Socha, Krzysztof Kula, Wojciech Błażejowski, Marek Wyjadłowski Numerical determination of the load-bearing capacity of a perforated thin-walled beam in a structural system with a chipboards	124	Anna Skorupa, Alicja Piasecka-Belkhat Determination of diffusion coefficient during cryopreservation of selected biological tissues
13:00	60	Mateusz Jocz , Marek Lefik Artificial neural networks in the recognition of geotechnical parameters	95	Mauricio A. Misraji, Marcos A. Valdebenito, Matthias G.R. Faes Importance line sampling for reliability estimation in stochastic linear dynamics	26	Zhen Pei Chow Evaluation of simplified finite element models for predicting impact response of thin composite plates	115	Alicja Piasecka-Belkhat Application of the boundary element method to numerical modelling of heat transfer in cryopreservation
13:20			53	Noman Jabbar, Wojciech Sumelka, Paulina Stempin Parametric analysis of stochastic space-fractional truss model	38	Sergiy Fialko Nonlinear dynamic analysis of building structures subjected to extremal loading	61	Antoni John, Henryk Bąkowski, Paweł Dudek Design and strength analysis of a low-cost ambulance stretcher

13.40-14.45, Lunch and coffee break

14.45-15.30, Plenary lecture, Aula Major, Chairman: Christian Hellmich, Witold Cecot

Alberto Corigliano, Andrea Manzoni, Luca Rosafalco, Matteo Torzoni. Computing for mechanics and mechanics for computing

15.30-16.45, Parallel sessions

	Aula Major	Chairs: Witold Cecot, Mieczysław Kuczma	Arena Magica	Chairs: Eduardo Toledo, Marcin Kamiński	Aula Minor	Chairs: Zbigniew Pozorski, Tomasz Krykowski	Aula 1.05	Chairs: Agnieszka Tomaszewska, Piotr Kowalczyk
		Minisymposium in Honor of Prof. Janusz Orkisz's 90th Birthday: Advances in Meshless Methods 1		Probabilistic methods and reliability assessment 2		Mechanics in Engineering Problems 2		Numerical modeling in biomechanics 2
15:30	59	KEYNOTE LECTURE: Irena Jaworska On MFD as part of the meshless methods	44	Lucas P Gouveia, Eduardo Toledo Lima Junior Probabilistic assessment of tubular collapse using ultrasonic inspection data and nonlinear finite element analysis	62	Michał Jukowski, Ewa Błazik-Borowa, Jarosław Bęc The influence of the velocity and mass of moving body on the dynamic response of the beam	151	Jolanta M. Wołowicz, Ryszard Wojnar Epithelial structure and hexatic phase

15:50	93	Sławomir Milewski Identification of heat source for inverse thermal problems using the Monte Carlo method with finite difference-based random walks	65	Marcin Kamiński, Łukasz Supeł Stochastic Finite Difference Method-based computations of the critical moments in steel structures	52	Safdar Iqbal, Marcin Kamiski Uncertainty quantification of mechanical property of 2D Hexagonal cellular solid: by Analytical and Finite Element method approach	137	Anita Gryko, Piotr Prochor Numerical analysis of the effect of an orthopaedic scaffold biodegradation on the long bone healing process
16:10	89	Jacek Magiera Analysis of stability of an iterative a posteriori estimation of experimental data error by the physically based global method approximation	34	Grzegorz Dziatkiewicz First-order uncertainty propagation analysis of specific figures of merit for 1-3 magneto-electroelastic two-phase composites using isofield micromechanical models and complex variable step method	73	Damian Kozanecki, Artur Wirowski, Martyna Rabenda Analytical and numerical assessment of bidirectionally sinusoidal corrugated steel shells under selected support and load conditions	46	Jakub Krzysztof Grabski Metaheuristic and meshless methods applied for tumor localization
16:30	57	Jan Jaśkowiec, Artur Krowiak Meshless least-squares collocation method with boundary constraints	129	Damian Sokołowski, Marcin Kamiński Structural safety analysis of corrugated web beam subjected to structural static load and corrosion using relative entropy approach	74	Marcin Krajewski The numerical analysis and experimental tests of the connection stiffness between selected steel sections	141	Agnieszka Tomaszewska, Milena Drozdowska, Piotr Aschenbrenner Resonant frequency of a muscle as an indicator of its functional status

16.50-17.10, Coffee break

17.10-18.40, Parallel sessions

	Aula Major	Chairs: Irena Jaworska, Sławomir Milewski	Arena Magica	Chairs: Tomasz Sokół, Wacław Kuś	Aula Minor	Chairs: Ryszard Walentyński, Jerzy Podgórski		
		Minisymposium in Honor of Prof. Janusz Orkisz's 90th Birthday: Advances in Meshless Methods 2		Structural optimization, theory and numerical methods 1		Mechanics in Engineering Problems 3		
17:10	42	Maciej Głowacki, Janusz Orkisz Dedicated evolutionary algorithms and MFDM applied to chosen large optimization problems of mechanics	29	Tadeusz Chyży The algorithms to automatic designing of truss structures	77	Tomasz Krykowski Application of FEM to assess the load-bearing capacity of reinforced concrete structures subjected to corrosion and cyclic loads		
17:30	83	Artur Lax, Sławomir Milewski Selected examples of steel frame and truss optimization of varying complexity aided by a pattern-based approach	49	Andrzej Myśliński Phase field topology optimization of finite strain viscoplastic structures in contact	138	Alireza Tabrizikahou, Mieczysław Kuczma Numerical simulation and experimental investigation of concrete prestressed with iron-based shape memory alloy (Fe-SMA) short fibers		

17:50	100	Marcin Nowak, Paweł Szeptyński, Sandra Musiał, Michał Maj Application of the virtual fields method for hyperelastic characterization of polymers under nonhomogeneous deformation	70	Izabela Kowalczyk, Łukasz Domagalski Genetic algorithm optimization of truss towers in terms of dynamics properties	126	Przemysław Smela Numerical analysis of cryogenic tank exposed to the influence of the earthquake		
18:10	78	Mieczysław Kuczma Statics and dynamics of shape memory alloy octet-truss lattice structures	72	Damian Kowalski Stress-biased topology optimization using artificial neural networks	113	Jan Pelczynski, Kamila Martyniuk-Sienkiewicz, Anna Al Sabouni-Zawadzka Numerical modeling of a prestressed tensegrity core in a sandwich panel		
18:30	25	Witold Cecot, Marek Klimczak, Marta Oleksy Application of the discontinuous Petrov-Galerkin (DPG) methodology in the meshless methods			142	Ako Umar Abdulaziz The use of advanced numerical methods to analyze underground structures in complex geometrical and boundary conditions		

19.00-21.00, Tramway city trip (19.15 - 21.00)

WEDNESDAY, 09.07.2025

8.00-9.00, Registration

9.00-9.45, Plenary lecture, Aula Major, Chairman: Marek Lefik

Nicholas Fantuzzi, Meral Tuna, Patrizia Trovalusci, Mechanical homogenization and optimization of porous 3D printable composites for biomedical applications

9.45-10.30, Plenary lecture, Aula Major, Chairman: Pol Spanos, Marcin Kamiński

George Stefanou, Random field modeling of the mechanical properties of heterogeneous materials based on their microstructure

10.30-11.00, Coffee break

11.00-13.00, Parallel sessions

Aula 1.05	Chairs: Marek Galewski, Anna Ochal	Arena Magica	Chairs: Robert Cichowicz, Marcin Koniorczyk	Aula Major	Chairs: Tomasz Sokół, Wacław Kuś	Aula Minor	Chairs: Ewa Błazik-Borowa, Nicholas Fantuzzi
	Variational and monotone methods with applications in mechanics		Computer methods in heat and mass transfer 1		Structural optimization, theory and numerical methods 2		Mechanics in Engineering Problems 4

11:00	16	KEYNOTE LECTURE: Piotr Bartman-Szwarc, Anna Ochal, Meir Shillor, Ken Kuttler Dynamic membrane obstacle problems with the damped normal compliance condition	90	KEYNOTE LECTURE: Ewa Majchrzak, Bohdan Mochnacki Formulation of the boundary-initial conditions supplementing the energy equation with delay times	98	KEYNOTE LECTURE: Wacław Kuś Bio and quantum inspired evolutionary algorithms in optimization of structures	145	Ryszard Walentyński, Robert Cybulski, Henryk Myrcik Numerical study of doubly-corrugated thin-walled steel panels
11:20	17	Krzysztof Bartosz Vanishing viscosity method for a noncoercive hyperbolic differential hemivariational inequality	35	Grzegorz Dziatkiewicz, Adam Długosz Optimization of thermal metamaterials for the desired heat flux distribution	127	Przemysław Sobczak, Tomasz Sokół Hilbertian descent directions for level-set method in plane structural shape optimization problems	152	Qingxia Yue, Qingru Liu Finite elements based numerical investigation of a novel slit-damped web-type plate and its application in Frame Structure Retrofitting
11:40	19	Michał Beldziński An analogue of the smallness condition for uniformly monotone operators	20	Jakub Bobrowski, Artur Gutkowski, Marcin Łęcki Numerical study of heat transfer in microchannel heat exchangers	130	Tomasz Sokół, Tomasz Lewiński Longitudinal distortions of bars in truss layout optimization	154	Maciej Zawistowski, Arkadiusz Poteralski Optimization of mechanical properties of multiphase materials with auxetic phase
12:00	68	Igor Kossowski Evolution equations with generalized fractional Laplacian	106	Iman A.N. Omrani, Marcin Koniorczyk, Marta Choińska Colombel, Patrycja Duży Improved random hierarchical capillary bundle model for simulating the gas permeability of porous media	140	Katarzyna Tajs-Zielińska Periodic topology optimization including design-dependent loads	116	Arkadiusz Poteralski, Maciej Zawistowski Mechanical testing of auxetic structures strength and deformation
12:20	88	Barbara Łupińska, Tatiana Odziejewicz, Ewa Schmeidel On solutions to the boundary value problem with ψ -derivative	133	Tomasz Stręk Computational modelling of heat sink with cellular core	94	Bartosz Miller, Leonard Ziemiański Advanced multi-fidelity FEM-model based optimization of dynamic and cost parameters in composite shell structures	117	Zbigniew Pozorski, Jolanta Pozorska, Annalena Schardt On the influence of support conditions on the structural behavior of sandwich panels subjected to thermal actions
12:40	107	Urszula Ostaszewska, Małgorzata Zdanowicz, Ewa Schmeidel Asymptotic behavior of solutions to difference equations of Volterra type with p -Laplacian	149	Julia Wiśniewska Phase change materials in passive solutions for maintaining thermal comfort in buildings	81	Maksym Grzywiński Jaya algorithm for design optimization of truss tower structures	134	Jacek Szafran Reinforcements of the steel structural members – computational aspects
13:00	112	Ewa Pawłuszewicz, Mohammad Reza Molaei, Adrian Kawecki Aspects of the equations of	21	Jakub Bobrowski, Krzysztof Sobczak Numerical investigation and improvement of solar vehicle aerodynamics			41	Wojciech Gilewski, Adam Zawadzki, Maciej Kołodziejczak, Anna Al Sabouni-Zawadzka Evaluation of a class of 2D graded

	rigid body motion depending on the time scale						cellular metamaterials fabricated using 3D printing
13:20	63	Michał Jureczka Application of Graph Neural Networks to model reduction in contact mechanics simulations					

13.00-14.30, Lunch and Coffee

14.30-15.30, Sponsor's presentation - TOYA: "Zagrozenia cybernetyczne - czlowiek i sprzet", Aula Major, Chairman: Marcin Kamiński

15.30-16.15, Witold Kąkol, An Introduction to NAFEMS Activities, Aula Major, Chairman: Wojciech Sumelka

16.15-17.30, Coffee break, panel discussions, CMM-2025 Organizing Committee Meeting

17.30-18.30, Public lecture, prof. dr hab. inż. Anna Fabijańska "When Artificial Intelligence Becomes an Engineer – From Learning to Applications in the Engineering of Tomorrow", Aula Major, Chairman: Marcin Kamiński, Marek Lefik

18.30-20.00, PACM meeting, Aula Major



THURSDAY, 10.07.2025

8.00-9.00, Registration

9.00-9.45, Plenary lecture, Aula Major, Chairman: Witold Cecot

Chongmin Song. A scaled boundary finite element framework for fully automated computational engineering analysis

9.45-10.30, Plenary lecture, Aula Major, Chairman: Dariusz Gawin, Alberto Corigliano

Jerzy Rojek. Multiscale and multiphysics modelling of powder metallurgy processes using the discrete element method

10.30-11.00, Coffee break

11.00-13.00, Parallel sessions

	Arena Magica	Chairs: Eduardo Toledo, Marcin Kamiński	Aula 1.05	Chairs: Jacek Szafran	Aula Minor	Chairs: Wacław Kuś, Jerzy Rojek	Aula Major	Chairs: Marek Wojciechowski, Marek Lefik
		Probabilistic methods and reliability assessment 3		Experimental and computational mechanics		Computational mechanics 1		Applications of AI for numerical modeling of engineering materials 2
11:00	155	KEYNOTE LECTURE: Zbigniew Zembaty Peak factor in non-stationary random vibrations	55	Iwona Jankowiak Modeling of pull-off test of FRP strip bonded to concrete surface by means of different numerical approaches	58	KEYNOTE LECTURE: Jan Jaśkowiec, Piotr Pluciński Advances in orthogonalized finite element method	150	KEYNOTE LECTURE: Marek Wojciechowski Surrogate modeling of the unsteady heat conduction problem using artificial neural networks to determine the shape of the jet-grouting column

11:20	132	Michał Strąkowski, Marcin Kamiński On the relative entropy as a measure of structural reliability of an I-profile beam in fire conditions	51	Bogusław Hościło, Andrzej Werner, Piotr Mrozek, Krzysztof Molski, Robert Latoś 3D scanning methodology of painting path: a case study in preparing a numerical model of an object with minor height variations	40	Mihiretu Gezahagn Ganta, Marta Kurek Effect of corrosion on multi-axial fatigue performance of maraging steel produced by laser powder bed fusion (LPBF)	43	Tomasz Godlewski, Łukasz Wodzyński, Leszek Chomacki Application of chosen artificial tools for assessment of georisk caused by underground constructions in urban space
11:40	136	Danuta Szeliga, Jakub Foryś, Natalia Jazdzewska, Jan Kusiak, Rafał Nadolski, Piotr Oprocha, Maciej Pietrzyk, Paweł Potorski, Łukasz Rauch Stochastic phase transformation model: Identification, verification and application to the evaluation of the uncertainty of the process parameters	79	Krzysztof Kula, Arkadiusz Denisiewicz, Tomasz Socha, Cristiane Lopes, Bruno Pedrosa, Grzegorz Lesiuk, Paweł Zielonka, Szymon Duda, Hermes Carvalho, José Correia Numerical and experimental development of glass/carbon/basalt hybrid FRP rebars for reinforced-concrete beams under bending	48	Piotr Grześ, Michał Kuciej FE modeling of temperature, thermal stresses and wear in the 2Bgu tread brake	84	Marek Lefik, Marek Wojciechowski Reduced model of a foundation on a weak soil reinforced with rigid inclusions, numerically defined using a complex artificial neural network
12:00	147	Hanna Weber, Radosław Iwankiewicz Non-linear stochastic vibrations of the guy line in the three-cable guyed tower model under seismic excitation	114	Zbigniew Perkowski, Mariusz Czabak Defect detection in timber composite I-beams based on the measurement error distribution normality tests for deflection local linear approximation	32	Yared D. Desta, Paweł Olejnik A comprehensive review of the complex interplay between friction-induced vibration and acoustics	110	Cezary Pałczyński Anomaly classification in mechanical systems using dual-branch neural networks and wavelet transform
12:20	13	Andrew Angus, Mustafa Okumus, Łukasz Figiel Bayesian approach to probabilistic modelling of mass transport in composite materials	120	Ali Raza, Chengfang Yuan Numerical and experimental investigation of durability and microstructural performance of sustainable 3D-printed engineered cementitious composites with Yellow River Sand	80	Krzysztof Kurowski, Cezary Mazurek, Tomasz Pecyna, Piotr Rydlichowski Reshaping the future with quantum technologies in computing and networking	125	Marek Stoński Data-driven design space exploration with conditional variational autoencoder for design of steel structures
12:40	118	Maciej Przychodzki, Marcin Kamiński Random eigen vibrations of multilayered viscoelastic beams modeled using zig-zag theory	122	Mir Sayad Shah Investigating the rheological and strength performance of low cost reactive powder concrete	69	Andrzej Koszewnik, Krzysztof Kamil Żur Modelling and analysis of active vibration control of collocated and non-collocated structures with contact and contactless sensors	146	Zhihui Wang, Roberto Cudmani Validating data-driven geo-constitutive models through initial boundary value problems

13.00-14.30, Lunch and coffee break

14.30-15.15, Plenary lecture, Chairman: George Stefanou, Marcin Kamiński

Michael Beer. Aleatory and epistemic uncertainties in engineering analysis

15.15-16.30, Parallel sessions

	Arena Magica	Chairs: Stanisław Stupkiewicz, Jerzy Rojek	Aula 1.05	Chairs: Jarosław Jędrzyak, Piotr Ostrowski	Aula Minor	Chairs: Michał Guminiak	Aula Major	Chairs: Marek Wojciechowski, Marek Lefik
		Computational mechanics 2		Modelling of micro-structured media 1		Applications of the Boundary Element Method for mathematics and mechanics 1		Applications of AI for numerical modeling of engineering materials 3
15:15	76	KEYNOTE LECTURE: Jaroslav Kruis, Aleš Jíra, Jan Vorel Numerical simulations of 3D printed structures based on alloy of titanium with betastructure	37	Piotr Fedeliński Investigation of the effect of stiffening by nanotubes on the dynamic response of nanocomposites	14	KEYNOTE LECTURE: Tadeusz Burczyński Applications of the Boundary Element Method for mathematics and mechanics	148	Marcin Wierszycki, Jakub Michalski Using LSTM-based surrogate models for efficient material calibration in finite element simulations
15:35	67	Anna Knitter-Piątkowska, Michał Guminiak Theory and application of Discrete Wavelet Transform for selected structural mechanics problems	56	Piotr Jankowski, Krzysztof Kamil Żur Coupled vibration of nanocomposite beam with discontinuities	24	Nikhil Arora, Martin Schanz Parameter choices for a time domain boundary element formulation based on the generalized convolution quadrature method	39	Tomasz Gajewski, Jakub K. Grabski, Damian Mrówczyński, Aram Cornaggia, Tomasz Garbowski Determination of material and structural properties of corrugated board in manufacturing and processing
15:55	85	Nicolas G. Leiva, Ricardo Herrera, Rafael Ruiz Exploring fluid-membrane interaction on highly flexible containers under hydrostatic pressure	103	Witold Ogierman Prediction of the effective behavior of composites with discontinuous reinforcement using data-driven mean-field homogenization	50	Michał Guminiak, Marcin Kamiński Random buckling analysis of thin plates considering internal constraints by the Boundary Element Method	92	Jakub Matkowski, Mateusz Żurawski, Robert Zalewski Artificial intelligence for real-time control of adaptive impact damper
16:15	86	Agnieszka Lenartowicz, Maciej Przychodzki, Michał Guminiak Eigenvibrations of plates resting on viscoelastic constraints considering its optimal placement and description by fractional derivatives	104	Witold Ogierman, Iwona Pokorska, Tadeusz Burczyński Computational homogenization of cement paste: influence of microstructure model parameters on mechanical properties	66	Marcin Kamiński, Arkadiusz Tomczyk On the AI-based implementation of the Stochastic Boundary Element Method		

16.30-17.00, Coffee break

17.00-18.30, Parallel sessions

	Arena Magic a	Chairs: Jerzy Pamin	Aula 1.05	Chairs: Jarosław Jędrzyak, Piotr Ostrowski	Aula Minor	Chairs: Michał Guminiak	Aula Major	Chairs: Łukasz Figiel
		Computational mechanics 3		Modelling of micro-structured media 2		Applications of the Boundary Element Method for mathematics and mechanics 1		Computational mechanics 4
17:00	87	Magdalena Łasecka-Plura Laplace-based interval analysis of frequency response function in systems with viscoelastic elements	109	Piotr Ostrowski, Ewelina Kubacka, Barbara Tomczyk On the effect of laminate microstructure layout on the unidirectional heat wave propagation and duration	75	KEYNOTE LECTURE: Thomas Kramer, Benjamin Marussig, Martin Schanz A higher order isogeometric boundary element method in the time domain	128	Agnieszka Sobierańska, Balbina Wcisło Numerical modeling of aluminium alloy using large strain thermo-elasto-plasticity at different temperatures
17:20	91	Jakub Marczak Dynamics of sandwich plates with honeycomb core	121	Miroslav Repka, Ladislav Sator Multiphysical effects in micro/nano structures in energy harvesting devices	119	Jacek Ptaszny Application of FMBEM to the numerical/mean-field homogenization of 3D composite materials	141	Piotr Tarasiuk, Krzysztof Kamil Żur, Andrzej Koszewnik Numerical vibration analysis of an active cantilever beam with collocated and non-collocated sensors and actuators
17:40	96	Hojjat Mousavisogolitappeh, Aneta Ustrzycka, Stanisław Stupkiewicz Anisotropic effects on radiation-induced embrittlement in Fe-Ni-Cr alloys: a molecular dynamics study	15	Marek Barski, Krzysztof Kamil Żur, Victor Giurgiutiu Guided waves in carbon-based polymer composites	82	Vibudha Lakshmi Keshava, Martin Schanz Partial integration based regularization in BEM for 3D elastostatic problems: The role of line integrals	135	Krzysztof Szajek, Wojciech Sumelka A comparative study of space-fractional truss and spring-mass model with variable stiffness
18:00	12	Hasan Al-Rifaie, Nima Movahedi, Teik-Cheng Lim Near-zero Poisson's ratio metamaterials: a hybrid approach enhancing crashworthiness	131	Paulina Stempin, Wojciech Sumelka Space-fractional finite element approach for size-dependent frame structures			99	Jakub Nowak, Rafał Radecki, Wiesław J. Staszewski Crack-wave interaction in ultrasonic shear horizontal wave propagation – modelling based on hysteresis and numerical parallel processing
18:20	123	Mateusz Sitko, Łukasz Madej Parallel computing performance for cellular automata models						

19.30-23.00, Conference dinner

FRIDAY, 11.07.2025

8.00-9.00, Registration

9.00-9.45, Plenary lecture, Aula Major, Chairman: Marek Lefik, Mieczysław Kuczma

Chenfeng Li. Heterogeneous materials: characterization, reconstruction, simulation, and application

9.45-10.30, Plenary lecture, Aula Major, Chairman: Marcin Kamiński

Vladimir Sladek, Jan Sladek. Modelling and numerical treatment of scale effects in nanoscopic structures

10.30-11.00, Coffee break

11.00-10.45, Plenary lecture, Aula Major, Chairman: Mieczysław Kuczma, Marcin Kamiński

Dariusz Gawin, Marcin Koniorczyk, Francesco Pesavento, Bernhard A. Schrefler. Non-equilibrium modeling of some physico-chemical processes in concrete elements in variable environmental conditions

11.45-12.30, Parallel sessions

	Aula Major	Chairs: Michał Guminiak	Aula Minor	Chairs: Jan Jaśkowiec	Arena Magica	Chairs: Marcin Kamiński		
		Computational mechanics 5		Computational mechanics 6		Computational mechanics 7		
11:45	105	Paweł Olejnik, Yared D. Desta, Marcin Mydlowski Estimation of energy losses in a driven table-beam dynamical system with stick-slip friction	138	KEYNOTE LECTURE: Paulina Świątkiewicz, Zdzisław Więckowski Reissner-Mindlin plate bending theory in multiply connected domains by the equilibrium finite element method	97	Marzena Mucha, Lars Rose, Balbina Wcisto, Andreas Menzel, Jerzy Pamin Modelling of propagative instabilities using an Estrin-McCormick extension of large strain thermo-visco-plasticity		
12:05	111	Jerzy Pamin, Balbina Wcisto, Marzena Mucha, Andreas Menzel Regularization options for finite strain softening thermo-plasticity	144	Muhammad Umer, Paweł Olejnik Challenges and solutions of approximate analytical methods for nonlinear systems	18	Błażej Bartoszewicz, Krzysztof Kamil Żur Numerical and experimental stationary vibroacoustic analysis of a cracked shaft		
12:25	157	Weronika Zwolińska-Faryj, Kinga Nalepka, Błażej Skoczeń, Rafał Schmidt, Elwira Schmidt, Robert Chulist The impact of phase transformation on crack propagation in austenitic stainless steels at cryogenic temperatures	153	Monika Zaczyńska, Mehdi Bohlooly Fotovat Impact of extension-bending coupling on the stability of thin-walled composite laminates	22	Piotr Bońkowski Experimental analysis of response-based stiffness identification using axis rotation measurements		

12.30-13.30, Tutorial on Quantum Computing

13.30-13.50, S. Ardakani & C. Collert, A Game-Based Approach to Teaching Statics

13.50-15.00, Conference closing

15.00-16.00, Lunch and coffee break