



11th HSTAM INTERNATIONAL CONGRESS ON MECHANICS | Scientific Program

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| Friday, May 27th | 19:00 | Registration (Hotel Lobby) |
| | 20:00 | Welcome Reception |



11th HSTAM INTERNATIONAL CONGRESS ON MECHANICS | Scientific Program

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| Saturday, May 28th | 08:00 | Registration (Conference Site) |
| | 08:30 | Opening Ceremony – (Chairmen: H. Georgiadis and V. Koumouisis) HALL A |
| | 9:00 | Keynote Lecture: J. N. Reddy, On Non-Local and Non-Classical Continuum Mechanics Theories and Applications (Chairmen: D. Beskos and A. Giannakopoulos) HALL A |
| | 9:45 | Keynote Lecture: S. Kyriakides, Propagating Instabilities in Materials (Chairmen: D. Beskos and A. Giannakopoulos) HALL A |
| | 10:30 | Coffee Break |



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|--------------------------------------|---------------|--|---|---|--|
| Saturday, May 28th | MS | Seismic Structural Mechanics – I HALL A | Advances in Boundary Elements and Meshless Methods HALL B | Rotating Machinery and Articulated Structures – I HALL C | Advances in Computational Plasticity HALL D |
| | Chairs | D. Beskos, G. Stefanou | E. Sapountzakis, G. Tsiatas | C. Provatidis, S. Natsiavas | S. Triantafyllou, M. Chatzis |
| | 11:00 | SEISMIC ANALYSIS OF RIGID CANTILEVER WALLS RETAINING POROELASTIC SOIL George Papagiannopoulos, Dimitri Beskos and Theodoros Triantafyllidis | THE VIRTUAL RECIPROCAL THEOREM IN MECHANICS AND ITS APPLICATION TO THE BOUNDARY ELEMENT METHOD John Katsikadelis | ENERGY CONVERSION WITH MULTI-AXIS INERTIAL REACTION MECHANISMS Ioannis Antoniadis, Vasilios Georgoutsos and Andreas Paradisiotis | IDENTIFICATION OF NON-SMOOTH DYNAMICS FOR ASSESSING STRUCTURAL PERFORMANCE Manolis Chatzis, Eleni Chatzi and Savvas Triantafyllou |
| | 11:20 | TRANSMISSIBILITY FUNCTION FOR BASE ISOLATION SYSTEMS WITH NONLINEAR VISCOSITY George Manolis and Athanasios Markou | A NEW BOUNDARY ELEMENT SOLUTION OF THE PLATE PROBLEM BASED ON ALMANSI REPRESENTATION OF THE BIHARMONIC EQUATION Maria Nerantzaki and John Katsikadelis | PARAMETRIC RESONANCES IN A ROTATING PENDULUM Jayaprakash K R | INFLUENCE OF LAYER THICKNESS AND DEGREE OF FILLING ON MECHANICAL PROPERTIES OF ABS 3D PRINTED ELEMENTS Agnieszka Szust and Bartosz Boharewicz |
| | 11:40 | ANISOTROPIC YIELD BEHAVIOUR OF ADOBE MASONRY Antonio Gesualdo, Antonino Iannuzzo and Michela Monaco | BIOMIMETIC SYSTEMS OPERATING AS MARINE ENERGY DEVICES IN WAVES AND SHEARED CURRENTS Konstantinos Belibassakis, Evangelos Filippas and Theodoros Gerostathis | COMPUTATIONAL ASSESSMENT OF A CYLINDRICAL TANK VEHICLE STRUCTURAL INTEGRITY Dimitrios Koulocheris and Clio Vossou | A HYSTERETIC MODEL WITH NONLINEAR KINEMATIC HARDENING LAWS FOR INELASTIC ANALYSIS OF SHELL STRUCTURES Anargyros Moysidis and Vlasis Koumousis |
| | 12:00 | ASSESSMENT OF DIFFERENT TOPOLOGIES OF THE TUNED MASS-DAMPER-INERTER (TMDI) FOR VIBRATION CONTROL OF EARTHQUAKE AND WIND EXCITED MULTI-STOrey BUILDINGS Agathoklis Giaralis, Alexandros Taflanidis and Francesco Petrini | DISTORTIONAL ANALYSIS OF BEAMS OF ARBITRARY CROSS SECTION BY BEM Ioannis Dikaros and Evangelos Sapountzakis | DESIGN OPTIMIZATION AND EXPERIMENTAL VALIDATION OF TEXTURED AND HYDROPHOBIC JOURNAL BEARINGS Georgios Kontaras, Eleftherios Koukoulopoulos and Christos Papadopoulos | STRUCTURAL DAMAGE LOCALIZATION UNDER VARYING ENVIRONMENTAL CONDITIONS Yaser Shokrani, Vasilis Dertimanis, Eleni Chatzi and Marco Savoia |
| | 12:20 | COLLAPSE MARGIN AND BEHAVIOR FACTOR EVALUATION FOR EUROCODE-DESIGNED CONCENTRIC BRACED FRAMES Stella Pirza and Dimitrios Vamvatsikos | PERFORMANCE OF ARRAYS OF WAVE ENERGY CONVERTERS OPERATING IN VARIABLE BATHYMETRY REGIONS Kostas Belibassakis, Theodoros Gerostathis and Gerassimos Athanassoulis | EXPERIMENTAL EVALUATION OF THE VERTICAL WHEEL LOADS OF A HEAVY VEHICLE VALIDATED WITH AN OPTIMIZED HALF CAR MODEL Dimitrios Koulocheris and Georgios Papaioannou | EXTENSION OF THE RSDM TO PREDICT CYCLIC ELASTOPLASTIC STATES FOR THREE DIMENSIONAL STRUCTURES Ioannis Kapogiannis and Konstantinos Spiliopoulos |



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| | 12:40 | BASE ACCELERATION ABSORPTION OF STRUCTURES USING THE KDAMPER CONCEPT Ioannis Antoniadis and Ioannis Sapountzakis | DYNAMIC ANALYSIS OF THICK LAMINATED ANISOTROPIC PLATES WITH BEM Nick Babouskos and John Katsikadelis | DYNAMICS OF MULTIBODY SYSTEMS SUBJECT TO UNILATERAL MOTION CONSTRAINTS Antonios Pournaras, Fotios Karaoulanis and Sotirios Natsiavas | HYSTERETIC SIMPLIFIED MODEL SIMULATING PLASTICITY AND FRACTURE UNDER MONOTONIC LOADING Christos Sofianos and Vlasios Koumoussis |
| | 13:00 | Lunch | | | |
| | MS | Micromechanics of Materials and Generalized Continua – I HALL A | Recent Advances in Rocking Isolation HALL B | Geomechanics – I HALL C | Instabilities in Solids and Structures HALL D |
| | Chairs | Th. Zisis, P. Gourgiotis | N. Makris | N. Gerolymos, A. Papadimitriou | S. Karamanos |
| | 14:30 | A MICROPOLAR CONTACT MODEL OF GENERALIZED COULOMB TYPE FOR INDENTATION ANALYSIS IN MICROPOLAR PLASTICITY Daniel Johannsen and Charalampos Tsakmakis | PUSHOVER RESPONSE OF STRUCTURES WITH FLEXIBLE ROCKING WALLS USING A NEW MACRO-ELEMENT FORMULATION Evangelos Avgenakis and Ioannis N. Psycharis | LIMITATIONS OF REGULAR CONTINUA AND APPLICATIONS OF COSSERAT MICROMECHANICS Panos Papanastasiou | ON THE STRUCTURAL RESPONSE OF HIGH STRENGTH STEEL PRESTRESSED TRUSSES. A NUMERICAL APPROACH. Michaela Gkantou, Marios Theofanous and Charalampos Baniotopoulos |
| | 14:50 | GENERALIZED THEORIES OF CONTINUA AS INTERNAL VARIABLE THEORIES Arkadi Berezovski | KINEMATIC BEHAVIOUR OF A 1/3 SCALE TWO SPAN SIMPLY SUPPORTED BRIDGE WITH SINGLE POST-TENSIONED ROCKING PIER Royce Liu and Alessandro Palermo | MACROELEMENT MODELING OF LATERALLY LOADED PILES Nikos Gerolymos and Orestis Papakyriakopoulos | CAPACITY CURVE OF AXIALLY COMPRESSED THIN CEMENTITIOUS CYLINDERS Apostolos Koukouselis and Euripidis Mistakidis |
| | 15:10 | MULTI-STEP HOMOGENIZATION OF THERMOELASTIC MULTI-SCALE TUBES WITH WAVY LAYERS Dimitrios Tsalis, George Chatzigeorgiou and Nicolas Charalambakis | ROCKING ISOLATION OF BUILDINGS AND BRIDGES: NUMERICAL AND PHYSICAL MODELING AND SOME NEW CONCEPTS Ioannis Anastasopoulos | A PLASTICITY MODEL FOR 1D SOIL AMPLIFICATION ANALYSIS Panagiota Tasiopoulou and Nikos Gerolymos | GENERALIZED WARPING IN FLEXURAL-TORSIONAL BUCKLING ANALYSIS OF COMPOSITE BEAMS Amalia Argyridi and Evangelos Sapountzakis |



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| Saturday, May 28th | MS | Micromechanics of Materials and Generalized Continua – I HALL A | Recent Advances in Rocking Isolation HALL B | Geomechanics – I HALL C | Instabilities in Solids and Structures HALL D |
| | 15:30 | APPLICATIONS OF THE BOUNDARY ELEMENT METHOD IN PLANE MICROPOLAR ELASTICITY. Elena Atroshchenko, Javier Videla, Jack Hale and Stephane P.A. Bordas | A PRELIMINARY STUDY OF THE ROCKING RESPONSE OF ARTIFACTS SUBJECTED TO SOUND INDUCED VIBRATIONS Manolis Chatzis and Maria Garcia Espinosa | SIMPLE CALIBRATION OF ROTATIONAL HARDENING CLAY MODEL BASED ON DILATANCY Georgios Belokas and Yannis Dafalias | INFLUENCE OF COLD-BENDING MANUFACTURING PROCESS ON THE LOCAL BUCKLING OF SPIRAL-WELDED STEEL PIPES Giannoula Chatzopoulou, Gregory C. Sarvanis, Chrysanthi I. Papadaki and Spyros A. Karamanos |
| | 15:50 | GRADIENT ELASTICITY EXPRESSED IN TERMS OF LAPLACIANS OF STRESSES AND STRAIN Carsten Broese, Charalampos Tsakmakis and Dimitrios Beskos | ISOLATION OF FREESTANDING ART OBJECTS Antonio Gesualdo, Antonino Iannuzzo and Michela Monaco | A G2 CONSTANT DISPLACEMENT DISCONTINUITY ELEMENT FOR ANALYSIS OF 3D GEOMECHANICAL AND CRACK PROBLEMS George Exadaktylos and George Xiroudakis | BEHAVIOUR OF AN OFFSHORE WIND TURBINE UNDER SEISMIC AND WIND LOADS Nikolaos Daskalakis, Kourtikakis Ioannis and Panagiotis Dakoulas |
| | 16:10 | Coffee Break | | | |
| | MS | Micromechanics of Materials and Generalized Continua – I | Recent Advances in Rocking Isolation | Optimization – I | Instabilities in Solids and Structures |
| | Chairs | C. Tsakmakis | I. Psycharis, I. Anastasopoulos | G. Stavroulakis, N. Lagaros | C. Baniotopoulos, E. Sapountzakis |
| | 16:40 | BODY WAVES IN 3-D POROELASTIC MEDIA WITH GRADIENT EFFECTS Vassilis Smyrlis, Ioannis Pegios and Sofia Papargyri-Beskou | A CONSISTENT APPLICATION OF NEWTON'S LAW OF MOTION TO MECHANICAL SYSTEMS SUBJECT TO ACATASTATIC CONSTRAINTS Sotirios Natsiavas and Elias Paraskevopoulos | COST OPTIMIZATION OF A RAFT FOUNDATION INCLUDING PILE GROUP DESIGN OPTIMIZATION AND SOIL IMPROVEMENT CONSIDERATIONS Georgios Bekas and Georgios Stavroulakis | BUCKLING CAPACITY CURVE OF A RADIALLY COMPRESSED CEMENTITIOUS SPHERE Apostolos Grammatopoulos, Apostolos Koukouselis and Euripidis Mistakidis |
| | 17:00 | INVESTIGATION OF INITIAL-BOUNDARY VALUE PROBLEMS OF GRADIENT ELASTICITY. Matina Panagoulia and Antonios Charalambopoulos | SEISMIC RESPONSE ANALYSIS OF SLENDER, FREE-STANDING COLUMNS AND THE COMPETING EFFECTS OF SIZE AND SLENDERNESS Nicos Makris and Georgios Kampas | NEAR OPTIMAL SOLUTIONS FOR STRUCTURAL DESIGN Sara Ganzerli | NUMERICAL SIMULATION OF OIL STEEL TANK STRUCTURAL BEHAVIOR UNDER FIRE CONDITIONS Daphne Pantousa |



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| Saturday, May 28th | MS | Micromechanics of Materials and Generalized Continua – I HALL A | Recent Advances in Rocking Isolation HALL B | Optimization – I HALL C | Biomechanics – I HALL D |
| | Chairs | C. Tsakmakis | I. Psycharis, I. Anastasopoulos | G. Stavroulakis, N. Lagaros | C. Massalas, D. Fotiadis |
| | 17:20 | SIZE EFFECTS IN HETEROGENEOUS COMPOSITE LAMINATES AND THEIR INFLUENCE ON THE ENERGY RELEASE RATES OF DELAMINATION Marcus Wheel | EXPERIMENTAL AND NUMERICAL INVESTIGATION OF THE RESPONSE OF RIGID SLENDER BLOCKS WITH GEOMETRICAL DEFECTS UNDER SEISMIC EXCITATION Charlie Mathey, Cyril Feau and Ioannis Politopoulos | ANALYSIS OF LARGE SPAN STRUCTURES BY APPLYING THE MBPN OPTIMAL CONTROL METHOD Spyridon Papanas, Themistoklis Nikolaidis and Charalampos Baniotopoulos | A NOVEL COMPUTATIONAL MODEL FOR PREDICTING BONE HEALING UNDER THE EFFECT OF ULTRASOUND Konstantinos N. Grivas, Maria Vavva, Dimitrios I. Fotiadis and Demosthenes Polyzos |
| | 17:40 | MICROMECHANICS OF DISLOCATIONS: J-, M-, AND L-INTEGRALS Eleni Agiasofitou and Markus Lazar | INFLUENCE OF THE FRICTION COEFFICIENT IN THE ROCKING RESPONSE OF RIGID MULTI-BLOCK COLUMNS VIA NONLINEAR FINITE ELEMENT ANALYSIS. Eirinaios Chatzillari and Konstantinos Tzaros | COMPARISON OF METAHEURISTIC ALGORITHMS FOR SIZE OPTIMIZATION OF TRUSSES Aristotelis Charalampakis | STUDIES ON STRUCTURE OF SELECTED DENTAL ALLOYS AFTER TMT Agnieszka Szust, Małgorzata Łukasiewicz and Małgorzata Rutkowska-Gorczyca |
| | 18:00 | BOUNDARY VALUE PROBLEMS IN THE THEORY OF VISCOELASTICITY OF BINARY MIXTURES Maia Svanadze | QUASI-STATIC TESTING OF A LARGE-SCALE PRE-CAST BRIDGE WITH CONTROLLED ROCKING POST-TENSIONED CONNECTIONS IN THE SUPERSTRUCTURE Zeinab Chegini and Alessandro Palermo | ASSESSING THE LOAD CARRYING CAPACITY OF RC MEMBERS THROUGH THE USE OF ARTIFICIAL NEURAL NETWORKS Afaq Ahmad, Gregoria Kotsovou, Dimitrios M. Cotsovos and Nikos D. Lagaros | ON THE MICRORHEOLOGICAL MODELLING OF RED-BLOOD-CELLS MOTION IN MICROVESSELS LINED WITH GLYCOLALYX LAYER Yannis Dimakopoulos, Stathis Mparmpoutsis and John Tsamopoulos |
| | 18:20 | MODIFIED COUPLE STRESS BUCKLING MODEL OF TWO DIFFERENT CROSS-SECTIONS DOUBLE BEAM SYSTEM Marija Stamenković and Aleksandar Atanasov | COMPARISON OF SIMULATED ANNEALING AND GENETIC ALGORITHMS FOR THE TOPOLOGY OPTIMISATION OF TRUSSES Athanassios Stamos, Emmanouil Vougioukas and Dimitra Vassilaki | A NEW METAHEURISTIC INSPIRED BY BARK BEETLES FOR SOLVING ENGINEERING PROBLEMS Nikos Kallioras, Nikos Lagaros and Dimitrios Avtzis | FINITE-DIFFERENCE TIME-DOMAIN MODELING OF ULTRASOUND WAVE PROPAGATION IN INTACT AND OSTEOPOROTIC LONG BONES Dimitrios Fotiadis |
| | 18:40 | End of Afternoon Sessions | | | |



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| Sunday, May 29th | 09:00 | Keynote Lecture: D. Bigoni, Geometry & Elasticity: Folding of a Continuum, Dripping of a Rod and Self-Oscillating Systems (Chairmen: N. Makris and G. Stavroulakis) HALL A |
| | 9:40 | Keynote Lecture: G. Kardomateas, Buckling and Wrinkling of Sandwich Composite Plates and Shells (Chairmen: N. Makris and G. Stavroulakis) HALL A |



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| Sunday, May 29th | MS | Micromechanics of Materials and Generalized Continua – II HALL A | Geomechanics – II HALL B | Analysis of Composite Structures – I HALL C | Plasticity and Damage HALL D |
| | Chairs | M. Wheel, N. Charalambakis | P. Papanastasiou, P. Dakoulas | E. Theotokoglou | A. Giannakopoulos |
| | 10:30 | CHARACTERISTICS OF SHEAR DEFORMATION IN NANO-SECTIONING OF AN AMORPHOUS THERMOPLASTIC POLYMER Fengzhen Sun, Hu Li, Henrik Lindberg, Klaus Leifer and Kristofer Gamstedt | FINITE ELEMENT MODELING OF REACTIVE FLOW IN POROUS MEDIA Polyneikis Stroggylis and Euripides Papamichos | NUMERICAL MODELING OF A COMPRESSED COMPOSITE PART EXPOSED TO FIRE FROM BOTH SIDES Roula Nahas, Georgio Rizk, Khaled Khalil, Vincent Legrand and Frédéric Jacquemin | MODELING OF VISCOPLASTIC CYCLIC BEHAVIOR OF POLYMERS Evagelia Kontou |
| | 10:50 | VARIATIONAL STATEMENT FOR DYNAMICS OF FISSURED POROELASTIC ROCKS Anna Gorgogianni and Sofia Papargyri-Beskou | MODELING HYSTERETIC BEHAVIOR OF SOILS USING BOUNDING SURFACE PLASTICITY Fotios-Iason Zygonas and Dimitrios Loukidis | EFFECT OF THE INITIAL WEAVING CONDITIONS ON PARA-ARAMID FABRICS' TENSILE PERFORMANCE Georgios Seretis, Protesilaos Kostazos, Dimitrios Manolakas and Christopher Provatidis | SHEAR SPAN LENGTH RELATION TO TENSILE PROPERTIES OF STRAIN HARDENING CEMENTITIOUS COMPOSITES Antroula Georgiou and Stavroula Pantazopoulou |
| | 11:10 | BOUNDARY VALUE PROBLEMS IN THE THEORY OF THERMOELASTICITY FOR MATERIALS WITH A DOUBLE POROSITY STRUCTURE Merab Svanadze | MODELLING THE CYCLIC BEHAVIOUR OF NATURAL CLAYS Gaetano Elia and Mohamed Rouainia | ELASTIC-PLASTIC ANALYSIS OF FUNCTIONALLY GRADED BARS UNDER TORSIONAL LOADING George Tsiatas and Nick Babouskos | MODELING THE CYCLIC BEHAVIOR OF STEEL REBARS EXHIBITING INELASTIC BUCKLING Ilias Gkimousis and Vlasias Koumousis |
| | 11:30 | Coffee Break | | | |
| | MS | Micromechanics of Materials and Generalized Continua – II HALL A | Geomechanics – II HALL B | Analysis of Composite Structures – I HALL C | Wetting and Microflows HALL D |
| | Chairs | E. Atroshchenco, N. Charalambakis | P. Papanastasiou, D. Loukidis | E. Theotokoglou | N. Pelekasis, A. Papathanasiou |
| | 12:00 | SIZE EFFECTS IN UNIDIRECTIONAL FIBER COMPOSITE PLATES IN BENDING Theodore V. Gortsas, Stephanos V. Tsinopoulos and Demosthenes Polyzos | ON THE RISK OF HYDRAULIC FRACTURING IN CO ₂ GEOLOGICAL STORAGE Panos Papanastasiou, Euripides Papamichos and Colin Atkinson | TRANSIENT THERMAL AND STRESS WAVES OF A FUNCTIONALLY GRADED LAYER UNDER A UNIFIED GENERALIZED THERMOELASTICITY THEORY Antonios M. Nikolarakis and Efstathios E. Theotokoglou | COMPUTATIONS OF WETTING TRANSITIONS ON GROOVED SURFACES George Pashos, George Kokkoris and Andreas Boudouvis |



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| | Chairs | E. Atroshchenko, N. Charalambakis | P. Papanastasiou, D. Loukidis | E. Theotokoglou | N. Pelekasis, A. Papathanasiou |
| | 12:20 | EXPERIMENTAL TESTING AND FINITE ELEMENT ANALYSIS OF NITINOL WIRES IN VARIOUS LOADING MODES Alexandros Boukis, Marcus Wheel and Robbie Brodie | EFFECTS OF FABRIC EVOLUTION OF SANDS ON THE RESPONSE OF GEOSTRUCTURES Achilleas Papadimitriou, Yannis Chaloulos and Yannis Dafalias | INFLUENCE OF SUBSTRATES MATERIALS ON VIBRATION MODES A DOUBLE-LAP BONDED JOINT Amal Zeaiter, Geroges Challita and Khaled Khalil | NUMERICAL SIMULATION OF FLAPPING FOIL PROPULSION Nikolaos Lampropoulos, Dimitrios Koubogiannis and Kostas Belibassakis |
| | 12:40 | GENERALIZATION OF THE THERMOELASTIC THEORY OF GREEN-LINDSAY FOR LINEAR MIXED NONLOCAL-GRADIENT ELASTIC MATERIALS George Tsamasfyros and S. I. Markolefas | SOIL FABRIC QUANTIFICATION USING A SCAN LINE METHOD Alexandros Theocharis, Emmanouil Vairaktaris and Yannis Dafalias | THE RADIALLY NONHOMOGENEOUS ELASTOSTATIC PROBLEM OF A SPHERICAL SHELL Efsthathios Theotokoglou and Ioannis Stampoulouglou | STUDY OF THE STATIC RESPONSE OF A COATED MICROBUBBLE UNDER THE AFM: NUMERICAL & ASYMPTOTIC ANALYSIS Alkmini Lytra and Nikos Pelekasis |
| | 13:00 | Lunch | | | |
| | MS | Seismic Structural Mechanics – II HALL A | Geomechanics – II HALL B | Multiscale Analysis and Design HALL C | Wetting and Microflows HALL D |
| | Chairs | P. Tsopeles, D. Vamvatsikos | E. Vairaktaris | V. Papadopoulos, G. Stefanou | C. Belibassakis, P. Papanicolaou |
| | 14:30 | FRAGILITY ASSESSMENT OF AN RC BRIDGE WITH STOCHASTIC SYSTEM PROPERTIES Georgios Balokas and Michalis Fragiadakis | NUMERICAL ANALYSIS OF ROCKFILL DAMS BASED ON LADE'S MODEL AND GRADIENT PLASTICITY Eleni Stavrotheodorou and Panos Dakoulas | AN EFFICIENT APPROACH FOR THE DETERMINATION OF THE APPARENT PROPERTIES AND RVE SIZE OF SPATIALLY RANDOM COMPOSITES George Stefanou and Dimitrios Savvas | WETTING STATES ON SUPERAMPHIPHOBIC SURFACES Periklis Papadopoulos, Doris Vollmer and Hans-Jürgen Butt |
| 14:50 | A CENTRIFUGE-BASED EXPERIMENTAL STUDY ON THE SOIL AND STRUCTURE INTERACTION EFFECT ON A SDOF SYSTEM Panagiotis Martakis, Damoun Taeseri, Eleni Chatzi and Jan Laue | ANALYTICAL INVESTIGATION OF GEO-COMPOSITES: MECHANICAL INTERACTION Sousana Tastani and Anastasios Kotsoglou | STABILITY INVESTIGATION OF SINGLE BOLTED MEMBERS FROM COLD-FORMED ANGLE SECTIONS WITH RANDOM IMPERFECTIONS Zacharias Fasoulakis, Ioannis Raftoyiannis, Tassos Avraam and Vissarion Papadopoulos | DROPLET MOBILITY ON ROUGH SUBSTRATES: EFFECT OF THE AMBIENT PHASE Vasileios Charitatos, Nikolaos Chamakos and Athanasios Papathanasiou | |



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| Sunday, May 29th | MS | Seismic Structural Mechanics – II HALL A | Geomechanics – II HALL B | Multiscale Analysis and Design HALL C | Wetting and Microflows HALL D |
| | 15:10 | SEISMIC DAMAGE ESTIMATION OF STEEL/CONCRETE COMPOSITE MOMENT RESISTING FRAMES George Kamaris, Konstantinos Skalomenos, George Hatzigeorgiou and Dimitri Beskos | OPTIMUM DESIGN OF UNPAVED ROADS REINFORCED WITH GEOTEXTILES: A COMPARISON OF INTERNATIONALLY PUBLISHED METHODOLOGIES Styliani Karavasili, Sousana Tastani and Ioannis Markou | THERMAL CONTACT CONDUCTANCE OF ROUGH SURFACES AT HIGH PRESSURE Olympia Panagouli | STATIC ARRANGEMENT OF A CAPILLARY POROUS SYSTEM AS A FUNCTION OF OVERPRESSURE Lefteris Benos and Nikos Pelekasis |
| | MS | Seismic Structural Mechanics – II HALL A | Geomechanics – II HALL B | Multiscale Analysis and Design HALL C | Optimization – II HALL D |
| | Chairs | P. Tsopeles, D. Vamvatsikos | E. Vairaktaris | V. Papadopoulos, G. Stefanou | A. Charalampakis |
| | 15:30 | A MULTIDISCIPLINARY APPROACH FOR OPTIMUM ENERGY PERFORMANCE AND STRUCTURAL CAPACITY DESIGN Chara Mitropoulou and Nikos Lagaros | A STABILITY STUDY OF METRO TUNNEL USING NUMERICAL SIMULATIONS: COMPARISON WITH THE ANALYTICAL SOLUTIONS. Kostas Kyriopoulos, Adamantios - Konstantinos Tsirimokos, Panos Dakoulas and George Efremidis | INVESTIGATION ON THE EFFECT OF ORDINARY PORTLAND CEMENT TYPE ON FRESH AND HARDENED CONCRETE PROPERTIES Nikolaos Nikoloutsopoulos, Adamantia Athanasopoulou and Eleftheria Mamai | TOPOLOGY OPTIMIZATION OF A CONTINUOUS VARIABLE TRANSMISSION Panagiotis Bazios, Georgios Bitzas and Georgios Stavroulakis |
| | 15:50 | SOIL-STRUCTURE INTERACTION ON SEISMIC ISOLATED BRIDGES Panos Tsopeles and Spyridoula Papataniasiou | NUMERICAL INVESTIGATION OF THE INHOMOGENEITY AND ANISOTROPY OF THE COEFFICIENT OF PERMEABILITY OF LANDSLIDE MATERIALS WITH UNDERDRAINAGE PORE PRESSURE PROFILES Michael Bardanis | STOCHASTIC MULTISCALE MODELING OF GRAPHENE REINFORCED COMPOSITES Vissarion Papadopoulos and Panagiotis Seventekidis | AIRCRAFT & CAR SHAPE OPTIMIZATION ON THE RBF4AERO PLATFORM Dimitris Kapsoulis, Varvara Asouti, Evangelos Papoutsis Kiachagias and Kyriakos Giannakoglou |
| | 16:10 | INFLUENCE OF ACTUAL STIFFNESS OF R/C MEMBERS TO CALCULATIONS FOR DEFORMATION OF STRUCTURES Emmanouil Vougioukas and Athanassios Stamos | DYNAMIC ANALYSIS OF THICK PLATES ON BIPARAMETRIC ELASTIC FOUNDATION. A MAEM SOLUTION Aristophanes Yiotis and John Katsikadelis | EFFECT OF ELASTIC MISMATCH ON THE RESPONSE OF ARTERIAL RECONSTRUCTIONS Panayiotis Roussis, Antonios Giannakopoulos and Haralambia Charalambous | GEOMETRICAL NONLINEARITY IN LIMIT AND DEFORMATION ANALYSIS WITH MATHEMATICAL PROGRAMMING-A CONE IDENTIFICATION APPROACH Marina-Myrto Manola and Vlasis Koumousis |
| 16:30 | Coffee Break | | | | |



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| Sunday, May 29 th | MS | Seismic Structural Mechanics – II HALL A | Size Effects in Elasticity and Plasticity HALL B | Non-Linear Dynamics and Related Applications – I HALL C | Fluid Dynamics HALL D |
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| | Chairs | M. Fragiadakis, P. Komodromos | S. Papargyri-Beskou, G. Exadaktylos | T. Bountis, I. Kominis | N. Pelekasis, A. Papathanasiou |
| | 17:00 | ENERGY-BASED NONLINEAR VISCOUS MODELS FOR BASE ISOLATION SYSTEMS George Manolis and Athanasios Markou | GRADIENT ELASTICITY IN THE FRAMEWORK OF NON-EQUILIBRIUM THERMODYNAMICS Carsten Broese, Charalampos Tsakmakis and Dimitrios Beskos | COMPLEX DYNAMICS AND STATISTICS IN 1-DIMENSIONAL HAMILTONIAN LATTICES Tassos Bountis | ANALYTICAL SOLUTIONS IN VERTICAL BUOYANT JETS Panos Papanicolaou |
| | 17:20 | INVESTIGATION OF ALTERNATIVE SUPPORT SYSTEMS OF THE GAIOS OFFELIOS FEROS STATUE THROUGH 3D FEM ANALYSIS Maria-Eleni Dasiou, Ioannis Psycharis and Evangelos Avgenakis | ABOUT ONE PROBLEM OF PLANE ELASTICITY FOR A POLYGONAL DOMAIN WITH A CURVILINEAR HOLE Bakur Gulua and Giorgi Kapanadze | DYNAMICS OF GRANULAR TRIMER CHAINS Jayaprakash K R, Adi Shiffer and Yuli Starosvetsky | A COUPLED-MODE SYSTEM FOR THE NEAR-TRAPPING OF WATER WAVES IN THE PRESENCE OF VARIABLE BATHYMETRY Angeliki Karperaki, Theodosios Papathanasiou and Kostas Belibassakis |
| | 17:40 | A NEW CONSTITUTIVE MODEL FOR SUPERELASTIC SHAPE MEMORY ALLOY BARS UNDER DYNAMIC LOADING Maria Ntina, Panos Tsopelas and Dimitrios Sophianopoulos | PHASE-FIELD MATERIAL POINT METHOD FOR BRITTLE FRACTURE Emmanouil Kakouris and Savvas Triantafyllou | STOCHASTIC RESPONSE DETERMINATION OF LINEAR AND NONLINEAR DYNAMICAL SYSTEMS WITH SINGULAR MATRICES Vasileios Fragkoulis, Ioannis Kougoumtzoglou and Athanasios Pantelous | KINETIC MODELING OF GASEOUS NON-EQUILIBRIUM TRANSPORT PHENOMENA IN PROCESSES AND DEVICES UNDER LOW PRESSURE CONDITIONS Dimitris Valougeorgis, Stergios Naris, Christos Tantos, Giorgos Tatsios and Nikos Vasileiadis |
| | 18:00 | OPTIMUM SELECTION AND SCALING OF GROUND MOTION RECORDS FOR THE SEISMIC ASSESSMENT OF STRUCTURES USING THE DIFFERENTIAL EVOLUTION ALGORITHM Manolis Georgioudakis and Michalis Fragiadakis | ANALYTICAL WEIGHT MINIMIZATION OF TRUSSES USING CYLINDRICAL ALGEBRAIC DECOMPOSITION Aristotelis Charalampakis and Ioannis Chatzigiannelis | QUANTIFYING THE INFLUENCE OF WONG-ZAKAI CORRECTION ON A CLASS OF EXACTLY SOLVABLE GENERALIZED DIMENTBERG OSCILLATORS Konstantinos I. Mamis and Gerassimos Athanassoulis | RHEOLOGICAL AND FILTRATION PROPERTIES OF NEWLY DEVELOPED CLASS G-TYPE CEMENT SLURRIES; INVESTIGATIONS FOR FIELD USE AND COMPARISON WITH PERFORMANCE OF CEMENT SLURRIES USING STANDARD OIL-WELL G-TYPE CEMENTS Aikaterini Biotaki, Dimitrios Marinakis, Maria Zografou, Maria Kompitsaki and Vassilios Kelessidis |



11th HSTAM INTERNATIONAL CONGRESS ON MECHANICS | Scientific Program

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| Sunday, May 29th | MS | Seismic Structural Mechanics – II HALL A | Size Effects in Elasticity and Plasticity HALL B | Non-Linear Dynamics and Related Applications – I HALL C | |
| | Chairs | M. Fragiadakis, P. Komodromos | S. Papargyri-Beskou, G. Exadaktylos | T. Bountis, I. Kominis | |
| | 18:20 | SEISMIC RESPONSE OF A BASE ISOLATED BUILDING UNDER NEAR-FAULT GROUND MOTIONS AT VARYING EXCITATION ANGLES Georgia N. Eleni and Petros Komodromos | ON SOME STATIC PROBLEMS OF CUSPED DOUBLE-LAYERED PRISMATIC SHELLS Natalia Chinchaladze | EFFICIENT STOCHASTIC RESPONSE DETERMINATION OF DYNAMICAL SYSTEMS VIA THE WIENER PATH INTEGRAL Ioannis Kougioumtzoglou, Alberto Di Matteo, Pol Spanos, Antonina Pirrotta and Mario Di Paola | |
| | 18:40 | End of Afternoon Sessions | | | |



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| Monday, May 30th | 09:00 | Keynote Lecture: S. Stupkiewicz, Sharp and Diffuse Interface Modelling of Size Effects in Martensitic Microstructures (Chairmen: A. Zisis and A. Giannakopoulos) HALL A |
| | 9:45 | Keynote Lecture: R. Kienzler, Assessment of Defect Configurations by Influence Surfaces in Material Space, co-authored with R. Schroeder (Chairmen: A. Zisis and A. Giannakopoulos) HALL A |



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| Monday, May 30th | MS | Non-Linear Dynamics and Related Applications – II HALL A | Biomechanics – II HALL B | Rotating Machinery and Articulated Structures – II HALL C | Uncertainty Quantification for Structural Health Monitoring HALL D |
| | Chairs | I. Kougioumtzoglou, | C. Massalas, D. Fotiadis | S. Natsiavas, C. Provatidis | E. Chatzi, A. Giaralis, I. Kougioumtzoglou |
| | 10:30 | PERIODIC SOLUTIONS AND THE STRUCTURE OF PHASE-SPACE IN AUTONOMOUS HAMILTONIAN SYSTEMS. - JUST A CHICKEN-EGG SITUATION? Panos Patsis | RING STENT DEPLOYMENT INTO ELLIPTICAL CROSS SECTIONS OF A STRAIGHT VESSEL Faidon Kyriakou, William Dempster, David Bow and David Nash | ON THE MECHANICS OF LAITHWAITE'S ENGINE Christopher Provatidis | ASYMPTOTIC AND SAMPLING APPROACHES TO OPTIMAL EXPERIMENTAL DESIGN Costas Papadimitriou, Costas Argyris and Eleni Chatzi |
| | 10:50 | PERIODIC ORBITS IN THE REGULAR POLYGON PROBLEM OF (N+1) BODIES WHERE THE CENTRAL BODY CREATES A MANEV-TYPE POTENTIAL Demetrius Fakis and Tilemahos Kalvouridis | ANALYTICAL MODEL FOR THE DYNAMIC BEHAVIOR OF END-TO-END ANASTOMOSIS Panayiotis Roussis, Antonios Giannakopoulos and Haralambia Charalambous | MULTI-OBJECTIVE OPTIMIZATION OF A HEAVY VEHICLE NONLINEAR SUSPENSION SYSTEM Dimitrios Koulocheris, Georgios Papaioannou and Dimitrios Christodoulou | INCOMPLETE DATA BASED IDENTIFICATION OF NONLINEAR SYSTEMS ENDOWED WITH FRACTIONAL DERIVATIVE ELEMENTS Ioannis Kougioumtzoglou, Ketson Dos Santos and Liam Comerford |
| | 11:10 | THE BOOK-KEEPING COMPUTER ALGEBRAIC TECHNIQUE IN CANONICAL PERTURBATION THEORY Christos Efthymiopoulos | FATIGUE ASSESSMENT OF KNEE JOINTS SUBJECT TO TOTAL ARTHROPLASTY Theodora Mouka and Dimitrios Vamvatsikos | PARAMETRIC STUDIES IN OPTIMAL CONTROL OF CYLINDER LAMINAR WAKE Ioannis Bonis and Dimitrios Koubogiannis | OPERATIONAL MODAL ANALYSIS FROM NOISY OUTPUT SIGNALS VIA A SIGNAL-RECONSTRUCTION-FREE SUB-NYQUIST/COMPRESSED DATA SAMPLING APPROACH Agathoklis Giaralis and Kyriaki Gkoktsi |
| | 11:30 | Coffee Break | | | |
| | MS | Non-Linear Dynamics and Related Applications – II HALL A | Analysis of Composite Structures – II HALL B | Micromechanics of Materials and Generalized Continua – III HALL C | Uncertainty Quantification for Structural Health Monitoring HALL D |
| | Chairs | I.Kominis | E. Theotokoglou, I.Stampouloglou | S. Kourkoulis, P. Gourgiotis | E. Chatzi, A. Giaralis, I. Kougioumtzoglou |
| | 12:00 | HAMILTONIAN PERTURBATION THEORY FOR THE COLLECTIVE PARTICLE-WAVE INTERACTION Giorgos Anastassiou, Yannis Kominis and Panagiotis Zestanakis | SIMPLIFIED NUMERICAL ANALYSES OF STIFFENED PANELS Nikola Momcilovic, Milorad Motok and Tasko Maneski | A VON KARMAN PLATE ANALOGUE FOR SOLVING ANTIPLANE PROBLEMS IN DIPOLAR GRADIENT ELASTICITY Ioannis D. Gavardinas, Antonios E. Giannakopoulos and Thanasis Zisis | DAMAGE DETECTION IN SOLIDS THROUGH IMAGING BASED ON RECORDED ELASTODYNAMIC RESPONSE Christos Panagiotopoulos, Yiannis Petromichelakis and Chrysoula Tsoyka |



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| Monday, May 30th | MS | Non-Linear Dynamics and Related Applications – II HALL A | Analysis of Composite Structures – II HALL B | Micromechanics of Materials and Generalized Continua – III HALL C | Uncertainty Quantification for Structural Health Monitoring HALL D |
| | Chairs | I. Kominis | E. Theotokoglou, I. Stampouloglou | S. Kourkoulis, P. Gourgiotis | E. Chatzi, A. Giaralis, I. Kougoumtzoglou |
| | 12:20 | ROBUST EARTHQUAKE CONTROL OF STRUCTURES Argiris Soldatos and Emmanouil Vougioukas | OPTIMAL DESIGN OF FIBER REINFORCED COMPOSITES USING FIBER ORIENTATION ANGLES AS DESIGN VARIABLES Christos Patsouras, Vassilios Kalpakides and Evangelos Hadjigeorgiou | MOLECULAR MECHANICS-BASED FINITE ELEMENT ANALYSIS OF CARBON NANOSTRUCTURES: A COMPARISON BETWEEN INTERATOMIC POTENTIALS Konstantinos Tserpes and Antonis Koumpias | ON THE PHYSICS OF THE POD MODES OF A TRIAD OF COLLOCATED ACCELERATION ENSEMBLES MINED IN A WIND TURBINE STRUCTURE WITH BOLTS-BASED JOINTS Ioannis Georgiou |
| | 12:40 | STABILITY OF GAP SOLITON IN THE PRESENT OF A WEAK NONLOCALITY IN PERIODIC POTENTIALS Ioannis Mylonas, Anastasios Rossides and Vassilis Rothos | DESIGN AND ANALYSIS OF A SIMPLE SUSPENDED CABLE FOOTBRIDGE LOCATED IN A NARROW CANYON Christos Dimou | THERMAL SHOCK OF MICROPOLAR SOLIDS IN THE PRESENCE OF INCLUSIONS Theodosios Papathanasiou and Francesco Dal Corso | A NEW TWO LOOP TRAJECTORY METHOD FOR ASSESSING UNDERDETERMINED VIBRATION BASED DAMAGE IDENTIFICATION PROBLEMS Stavros Chatzieleftheriou and Nikos Lagaros |
| | 13:00 | Lunch | | | |
| | 14:00 | EXACT SOLUTIONS OF THE GRAD-SHAFRANOV EQUATION EMPLOYING GROUP FOLIATION AND DIRECT REDUCTION METHODS Dimitrios Kaltsas and George Throumoulopoulos | A COHESIVE LAW FOR THE COMPUTATIONAL ANALYSIS OF FRACTURED COMPOSITE STRUCTURES Efsthathios Theotokoglou and Ilias Toulomousiss | NONLOCAL INTEGRAL ELASTICITY ANALYSIS OF CARBON NANOTUBES BY EMPLOYING NUMERICAL METHODS Constantinos Koutsoumaris, Konstantinos Eptaimeros | |



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| Monday, May 30th | MS | Non-linear Dynamics and Related Applications – II HALL A | Analysis of Composite Structures – II HALL B | Micromechanics of Materials and Generalized Continua – III HALL C | |
| | Chairs | I. Kominis | E. Theotokoglou, I. Stampouloglou | S. Kourkoulis, P. Gourgiotis | |
| | 14:20 | NUMERICAL ACTION-ANGLE TRANSFORM OF INTEGRABLE HAMILTONIAN SYSTEMS AND ORBITAL SPECTRUM ANALYSIS OF PERTURBED DYNAMICS Panagiotis Zestanakis, Yannis Kominis, Giorgos Anastassiou and Kyriakos Hizanidis | OPTIMIZING THE NATURAL FREQUENCIES OF FUNCTIONALLY GRADED BEAMS AND ARCHES George Tsiatas and Aristotelis Charalampakis | ON THE PROPAGATION OF TORSIONAL AND SH SURFACE WAVES IN AN ISOTROPIC AND HOMOGENEOUS GRADIENT ELASTIC HALF-SPACE Haralambos Georgiadis and Panos Gourgiotis | |
| | 14:40 | FINITE ELEMENT MODELLING AND DYNAMIC ANALYSIS OF FLEXIBLE VISCOELASTIC PAVEMENTS Niki Beskou, George Hatzigeorgiou and Dimitrios Theodorakopoulos | THE ROLE OF INTERFACE PROPERTIES ON THE STRESS FIELD IN A CIRCULAR BI-MATERIAL DISC UNDER NON-UNIFORM PRESSURE Stavros Kourkoulis, Ermioni Pasiou and Christos Makides | ANALYSIS OF THE TILTED FLAT PUNCH IN COUPLE STRESS ELASTICITY Thanasis Zisis, Panos Gourgiotis, Konstantinos Baxevanakis and Haralambos Georgiadis | |
| | 15:00 | AN EXPERIMENTAL STUDY ON THE EFFECT OF CHEMICAL ADMIXTURES ON UNREINFORCED CONCRETE MECHANICAL BEHAVIOR Adamantia Athanasopoulou, Nikolaos Nikoloutsopoulos and Argyro Neroutsou | DAMAGE ON A TIMBER PEDESTRIAN BRIDGE IDENTIFIED THROUGH DETECTION OF CHANGES IN MODAL FREQUENCIES Fanis Moschas and Stathis Stiros | | |
| | 15:20 | Closure Ceremony | | | |