



10th HSTAM INTERNATIONAL CONGRESS ON MECHANICS | Scientific Programme

Friday , May 24	19:00	Registration (Hotel Lobby)
	20:00	Welcome Reception (By the Swimming Pool)

Saturday, May 25	8:00	Registration (Conference Site)
	8:30	Opening Ceremony (Electra Room), Chair: Georgios E. Stavroulakis, Dimitrios E. Beskos Welcome address by Prof. G.E. Stavroulakis (Conference Chair, Deputy Rector of Technical University of Crete) Welcome address by Prof. D. E. Beskos (Conference Chair, President of HSTAM) Welcome address by Prof. A. Kounadis (Academician, Former President of HSTAM) Welcome address by Prof. V. Dikalakis (Rector of Technical University of Crete)
	9:10	Plenary Lecture (Electra Room) , Chair: Anthony N. Kounadis <i>On Material Conservation and Balance Laws In Linear Elasticity [16]</i> Reinhold Kienzler
	10:00	Plenary Lecture (Electra Room) , Chair: John T. Katsikadelis <i>Challenges On Computational Strategies For Masonry Structures: Homogenization Techniques and Seismic Analysis [201]</i> Paulo B. Lourenço
	10:50	Coffee Break



Saturday, May 25		MS1 - Micromechanics of Materials and Generalized Continua I (Electra Room) Chair: Haralambos G. Georgiadis, George Exadaktylos, Demos Polyzos	MS4 - Atomistic and Hybrid Methods in Fluid Mechanics I (Athena Room) Chair: Antonis Liakopoulos, Thodoros Karakasidis	Computational Mechanics I (Arion Room) Chair: Joachim Gwinner, Konstantinos Spiliopoulos	Structures I (Danae Room) Chair: Patricia Pappa, Efstathios Theotokoglou	Fluids I (Medusa Room) Chair: Emmanouil Angelou, Ioannis Nikolos
	11:20	<i>An engineering beam theory with surface energy [23]</i> G. Exadaktylos (Semi-Plenary Lecture)	<i>Friction factor estimation of microchannel flows: A dissipative particle dynamics study [131]</i> D. Kasiteropoulou, A. Liakopoulos, T. Karakasidis (Semi-Plenary Lecture)	<i>On higher order BEM approximation for unilateral contact with friction for hemitropic solids in micropolar elasticity [194]</i> Joachim Gwinner (Semi-Plenary Lecture)	<i>Finite element analysis of a functionally graded nickel-zirconia profile under thermal loading [54]</i> A. M. Nikolarakis, E. E. Theotokoglou and T. K. Papathanasiou (Semi-Plenary Lecture)	<i>Simulation of sails of a yacht using a fluid-structure interaction model [172]</i> Emmanouil Angelou, K. Spyrou (Semi-Plenary Lecture)
	11:50	<i>Waves in half-spaces of microstructured materials characterized by gradient elasticity [66]</i> Haralambos G. Georgiadis, Panagiotis A. Gourgiotis	<i>Gas separation in rarefied binary gas mixture flows through long tapered microchannels [98]</i> Christos Tantos, Stergios Naris and Dimitris Valougeorgis	<i>Electromagnetic scattering by large wind turbine blades through the boundary element method [190]</i> I. Diakidis, S.V. Tsinopoulos, D. Polyzos	<i>Non-associative J2 plasticity model for finite element shell buckling analysis [97]</i> Patricia Pappa, Spyros A. Karamanos	<i>Development and validation of a Navier-Stokes solver including heat transfer and mixed convection [53]</i> Konstantinos G. Stokos, Socrates I. Vrahliotis, Theodora I. Pappou and Sokrates Tsangaris
	12:10	<i>A modified couple stress theory for bending, buckling and vibration of skew orthotropic micro-plates [129]</i> George C. Tsiatas and	<i>Optimised hybrid atomistic-continuum methods for micro and nano-scale flows [138]</i> Nikolaos Asproulis and Dimitris Drikakis	<i>Elastic contact of smooth cylinders by caustics: The Brazilian-disc test [90]</i> Stavros K. Kourkoulis, Christos F. Markides and George Bakalis	<i>Exploring the size effect of marble by combined use of pressure stimulated currents and acoustic emissions [82]</i>	<i>Numerical study of a ventilated tunnel fire. A turbulence models comparison [161]</i> Konstantinos G. Stokos, Socrates I. Vrahliotis,



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	Aristophanes J. Yiotis			I. Stavrakas, E. D. Pasiou, George Hloupis , G.-T. Malliaros, D. Triantis and S. K. Kourkoulis	Theodora I. Pappou , Matthias Filus and Sokrates Tsangaris
12:30	<i>On the consistency of micropolar elastic constants for different model materials [177]</i> A. J. Beveridge, A. Waseem & Marcus A. Wheel	<i>Darcy friction factor in nanoscale channel flows: A molecular dynamics study [139]</i> Filippos Sofos , Antonios Liakopoulos, Theodoros E. Karakasidis	<i>The brazilian disc with a short central crack under closing mode [95]</i> Dimitrios N. Pazis, Christos F. Markides and Stavros K. Kourkoulis	<i>Modeling and investigation of defects such as delaminations in structures of composite materials [178]</i> Andrey Kokurov , Igor N. Odintcev	<i>Solution reconstruction and limiting for the 2D Euler equations in centroid-dual unstructured finite volumes [45]</i> Agoritsa Antoniou, Ioannis K. Nikolos , and Anargyros I. Delis
12:50	<i>Loading profile effects on dynamic crack propagation in couple stress elastic materials [134]</i> Andrea Piccolroaz, Lorenzo Morini , G. Mishuris, and P. A. Gourgiotis	<i>Fourth-order diffusion in nanochannel flows: A quasi-continuum approach [144]</i> Th. Grammenos , A. E. Giannakopoulos	<i>Finite element schemes for functionally graded half-spaces subjected to thermal shock on the boundary [101]</i> T. K. Papathanasiou , A. M. Nikolarakis and A. Savaidis	<i>A numerical approach for reinforced concrete structures strengthened by cable elements under multiple earthquakes [202]</i> Angelos A. Liolios , George D. Hatzigeorgiou, Asterios A. Liolios	<i>Cfd prediction of wind loads on a tall building [55]</i> S. Vrahliotis, Dimitrios G. Koubogiannis , Th. Pappou, S. Bitzarakis and S. Tsangaris
13:10	<i>Dislocation dynamics for quasicrystals: A novel model [115]</i> Eleni Agiasofitou and Markus Lazar		<i>Elastoplastic analysis of frames with large displacements and plastic unstraining [126]</i> Konstantinos V. Spiliopoulos, Ioannis A. Kapogiannis	<i>Thick plates on biparametric elastic foundation. A MAEM solution [50]</i> Aristophanes J. Yiotis , John T. Katsikadelis	<i>Wind turbine blade design using T4T [48]</i> Giorgos A. Strofylas and Ioannis K. Nikolos
13:30	End of Morning Sessions Lunch				



		MS1 - Micromechanics of Materials and Generalized Continua II (Electra Room) (continued) Chair: Haralambos G. Georgiadis, George Exadaktylos, Demos Polyzos	MS4 - Atomistic and Hybrid Methods in Fluid Mechanics II (Athena Room) Chair: Antonis Liakopoulos, Thodoros Karakasidis	Solids I (Arion Room) Chair: Andrey Nasedkin, Stavros Kourkoulis	Structures II (Danae Room) Chair: Charalampos Baniotopoulos, Aristophanes Yiotis	Dynamics I (Medusa Room) Chair: John Katsikadelis, Elia Voyagaki
Saturday, May 25	15:00	<i>Interaction of cracks with dislocations in couple-stress elasticity [30]</i> Konstantinos P. Baxevanakis , Panos A. Gourgiotis, and Haralambos G. Georgiadis	<i>Modeling biofilm detachment due to hydrodynamic forces: Past and new approaches [171]</i> Chrysi Laspidou and Dimitrios Kofinas	<i>Some approaches to finite element modeling of piezoelectric vibratory gyroscope [192]</i> Andrey V. Nasedkin , Evgenia I. Shprayzer	<i>Modeling of the structural response of wind energy towers stiffened by internal rings [56]</i> Nafsika Stavridou, Evangelos Efthymiou, Simos Gerasimidis and Charalampos C. Baniotopoulos	<i>A Wiener path integral technique for non-stationary stochastic response determination of nonlinear MDOF structural systems [6]</i> Ioannis A. Kougioumtzoglou and Pol. D. Spanos
	15:20	<i>Plane strain contact problems in couple-stress elasticity [96]</i> Thanasis Zisis , Panos A. Gourgiotis, Konstantinos P. Baxevanakis, Haralambos G. Georgiadis	<i>Conformational dynamics and topological analysis for polymer rings via atomistic molecular-dynamics simulations and comparison with experimental data [183]</i> T. Koukoulas, D. Tsalikis , P.S. Stephanou and V.G. Mavrantzas	<i>3d finite element modeling of laser-generated surface acoustic waves in film-substrate systems validated by experiments [142]</i> Evaggelos Kaselouris, Yannis Orphanos, Vasilis Dimitriou, Efthimios Bakarezos, Nikolaos Vainos, Michael Tatarakis, Nektarios A. Papadogiannis	<i>Design and topology optimization of horizontal axis wind turbine rotor [220]</i> Varvara Fetsi , Nikos Kaminakis and Georgios E. Stavroulakis	<i>A new direct time integration scheme for the nonlinear equations of motion in structural dynamics [71]</i> John T. Katsikadelis



15:40	<p><i>Homogenization of elastoplastic composites with non-linear microstructural periodicity [156]</i> Dimitris Tsalis, Theoharis Baxevanis, George Chatzigeorgiou, Nicolas Charalambakis</p>	<p><i>A virtual atomic force microscope for creating nanochannels [208]</i> D. Georgakaki and H. M. Polatoglou</p>	<p><i>Evaluation of a mathematical method for the calculation of the critical instability loads in geometrically imperfect beams supported by unilateral supports [149]</i> Konstantinos Tzaros and Euripides Mistakidis</p>	<p><i>Buckling behavior of thin ferrocement shells [150]</i> Apostolos Koukouselis, Euripidis Mistakidis and Kyriaki Georgiadi – Stefanidi</p>	<p><i>Quantum theory from observer's mathematics point of view [19]</i> Boris Khots, Dmitriy Khots</p>
16:00	<p><i>Numerical investigations of shear banding in granular materials [148]</i> Babak Ebrahimi</p>	<p><i>Effects of effluent recirculation on bod removal in horizontal subsurface flow constructed wetlands- numerical modelling [184]</i> Konstantinos A. Liolios, K.N. Moutsopoulos and V.A. Tsihrintzis</p>	<p><i>Numerical simulations for the study of matter behaviour dynamics governed by the interaction with laser pulses or external strong currents [143]</i> Evaggelos Kaselouris, Vasilis Dimitriou, Ioannis K. Nikolos, Yannis Orphanos, Efthimios Bakarezos, Nektarios A. Papadogiannis, Michael Tatarakis</p>	<p><i>A hysteretic nine-node shell element [106]</i> Evangelos G. Elias, Vlasias K. Koumousis</p>	<p><i>Overtuning criteria for free-standing rigid blocks to earthquake pulses [99]</i> Elia Voyagaki, Ioannis N. Psycharis and George E. Mylonakis</p>
16:20	<p><i>Non-singular dislocation fields in the theory of gradient elasticity [107]</i> Markus Lazar</p>		<p><i>The circular ring under parabolically varying diametral pressure: Experimental and analytic study [83]</i> Christos F. Markides, Dimitrios N. Pазis and Stavros K. Kourkoulis</p>	<p><i>Shear force effect with multi-linear hardening behavior in elastoplastic analysis with mathematical programming [215]</i> Marina-Myrto S. Manola, Vlasias K. Koumousis</p>	<p><i>Numerical investigation of scaling effects on granular material dynamics [60]</i> Christos C. Spandonidis and Kostas J. Spyrou</p>
16:40			<p><i>Elastodynamic analysis of</i></p>	<p><i>A BEM-based meshless</i></p>	



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				<i>3-D road pavements under moving vehicles [5]</i> Niki D. Beskou , George D. Hatzigeorgiou and Dimitrios D. Theodorakopoulos	<i>solution to the buckling problem of orthotropic plates [29]</i> George C. Tsiatas and Aristophanes J. Yiotis		
	17:00	Coffee Break					

Saturday, May 25		MS5 - Multiscale Modeling of Heterogeneous Materials and Structures I (Electra Room) Chair: Vissarion Papadopoulos, George Stefanou	Biomechanics I (Athena Room) Chair: Johannes Soulis, Panayiotis Vafeas	Solids II (Arion Room) Chair: Mikhail Itskov, Alexander Sheinerman	Structures III (Danae Room) Chair: Motohiro Sato, Evangelos Sapountzakis	
	17:30	<i>Characterization of carbon nanotube reinforced thermoplastics using hierarchical multiscale simulation [179]</i> Dimitris Savvas and Vissarion Papadopoulos (Semi-Plenary Lecture)	<i>Wall shear stress oscillation and its gradient in the main and D1-S1 normal left coronary artery tree bifurcations [11]</i> Johannes V. Soulis , Dimitrios K. Fytanidis, George D. Giannoglou (Semi-Plenary Lecture)	<i>Constitutive modeling of anisotropic inelastic phenomena in filled rubbers [24]</i> Mikhail Itskov , Roozbeh Dargazany, Khiêm Ngoc Vu (Semi-Plenary Lecture)	<i>Continuum and atomistic modelling of carbon nanotube corrugation [68]</i> Motohiro Sato , Yoshitaka Umeno, Ayako Kusano and Hiroyuki Shima (Semi-Plenary Lecture)	
	18:00	<i>Multiscale modeling of damping in carbon nanotube reinforced composites [180]</i> Vissarion Papadopoulos	<i>On the nutrient distribution in an oblate spheroidal cancer tumour growing inside an inhomogeneous</i>	<i>Pushover analysis of aluminium frames using the critical load path – a limit analysis approach [18]</i>	<i>Nonlinear response of wind turbine towers under wind and seismic excitations [20]</i> Evangelos J.	



		and Dimitris Savvas	<i>environment [80]</i> Foteini Kariotou, Panayiotis Vafeas and Polycarpos K. Papadopoulos	K. D. Nikolaou , C. D. Bisbos	Sapountzakis , Ioannis C. Dikaros, Andreas E. Kampitsis, Gerasimos D. Panagiotakopoulos
18:20	<i>Multiscale modeling of porous thermoelastic composite materials [186]</i> Anna A. Nasedkina , Andrey V. Nasedkin and Vladimir V. Remizov	<i>Patient-specific pulsatile LDL concentration within the arterial wall of thoracic aorta [73]</i> Dimitrios G. Mpairaktaris, Johannes V. Soulis and George D. Giannoglou	<i>A combined numerical and experimental study of the displacement field in the standardized Brazilian disc test [81]</i> Stavros K. Kourkoulis , Christos F. Markides and Panagiotis E. Chatzistergos	<i>Deformable connection effect in the large deflection analysis of stiffened plates [9]</i> Evangelos J. Sapountzakis and Ioannis C. Dikaros	
18:40	<i>Simulation of heterogeneous media using random fields [199]</i> George Stefanou		<i>Toughening mechanisms of nanocrystalline solids [89]</i> Ilya A. Ovid'ko and Alexander G. Sheinerman	<i>Parametric design and optimization of steel roof trusses [200]</i> Ioana I. Balea , Adina M. Popescu and Georgios E. Stavroulakis	
19:00	End of Afternoon Sessions				
20:30	Congress Dinner (Optional)				



POSTER SESSION

Saturday, May 25

17:30 - 19:00

Origin of shear thinning behaviour of poly (vinylidene fluoride)/ quaternized polysulfone solutions with implication in biomedical applications [118]

L. I. Buruiana, E. Avram , A. Popa and Silvia Ioan

Morphological – rheological properties in ternary system of cellulose acetate phthalate/hydroxypropyl cellulose/n,n- dimethylacetamide [119]

A. M. Dobos, M.-D. Onofrei, Iuliana Stoica, N. Olaru, L. Olaru and Silvia Ioan

Directing conformational properties of quaternized polysulfone membranes for specific applications [124]

R. M. Albu, E. Avram, Iuliana Stoica and Silvia Ioan

Surface mechanical properties of polystyrene/ barium titanate nanocomposites [125]

Razvan F. Barzic, Iuliana Stoica, A. I. Barzic and Gh. Dumitrascu

Contribution of polyvinyl alcohol on microstructural characteristics of polysulfone membranes [127]

Anca Filimon, Ecaterina Avram and Silvia Ioan

Development of the unmanned aircraft vehicles manufacturing technology [209]

M. Urbaha, A. Urbahs, V. Petrovs, A. Jakovlevs

Research on physical-mechanical properties of nanostructured ion-plasma coatings [210]

M. Urbaha, J. Urbaha, K. Savkovs, K. Carjova

Protective nanostructured coatings for gas turbine engines parts [211]

A. Urbahs, K. Savkovs, J. Urbaha

Viscoelastic and morphological features of a biocompatible polymer doped with l-cystine [128]

A. I. Barzic, Iuliana Stoica and D. O. Dorohoi

Determination of directions of principal stresses in anatomically normal human skull under selected loading configurations [167]

Agnieszka Szust, Przemysław Stróżyk, Tomasz Będzia and Barbara Kwiatkowska

An in vivo evaluation of the strength of orthodontic bracket bonding [189]

Ewelina Kozłowska, Tomasz Ogiński , Agnieszka Szust



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Sunday, May 26	8:30	Plenary Lecture (Electra Room) , Chair: Vlasis K. Koumousis <i>New Approaches in Contact Mechanics and Strategies for Homogenization [197]</i> Peter Wriggers				
	9:20	Plenary Lecture (Electra Room), Chair: Efstathios Theotokoglou <i>Static and Dynamic Response of Sandwich Composite Panels: A new High Order Theory and Comparison with Elasticity [195]</i> George A. Kardomateas				
		MS2 - Advances in Shear and Rocking Isolation I (Electra Room) Chair: Nicos Makris, Dimitrios Konstantinidis	MS1 -Micromechanics of Materials and Generalized Continua III (Athena Room) Chair: Haralambos G. Georgiadis, George Exadaktylos, Demos Polyzos	Computational Mechanics II (Arion Room) Chair: Daniel Materna	Materials I (Danae Room) Chair: Cristina Prisacariu, Androula Georgiou	Multiphysics I (Medusa Room) Chair: E. Papamichos, G. Exadaktylos
	10:20	<i>Rocking response and stability analysis of an array of free-standing columns capped with a free-standing rigid beam [3]</i> Nicos Makris and Michalis Vassiliou (Semi-Plenary Lecture)	<i>Pretwisted beams in axial tension and torsion: An analogy with dipolar gradient elasticity and applications to textile materials [41]</i> A. M. Kordolemis , N. Aravas, A.E. Giannakopoulos	<i>Variational design sensitivity analysis of dual problems in nonlinear elasticity with applications to error analysis of first-order adjoint sensitivity relations [43]</i> Daniel Materna and Vassilios K. Kalpakides (Semi-Plenary Lecture)	<i>New insights into the inelastic response of polyurethane elastomers [1]</i> Cristina Prisacariu , E. Scortanu, B. Agapie and V. A. Prisacariu (Semi-Plenary Lecture)	<i>Influence of surface effects on the vibrations of piezoelectric nanodimensional bodies [193]</i> Victor A. Eremeyev and Andrey V. Nasedkin (Semi-Plenary Lecture)
	10:50	<i>Base rocking type excitations of seismically isolated structures [91]</i> Ioannis Politopoulos	<i>Finite fields in stress concentration problems treated by gradient elasticity [33]</i> P. A. Gourgiotis, Haralambos G. Georgiadis , Dimitris S. Anagnostou	<i>A beam finite element based on gradient elasticity [123]</i> Eleftherios L. Asiminas , V. K. Koumousis	<i>Molecular dynamics simulation of the adhesive properties of acrylic polymers [170]</i> Alexandros Anastassiou , Vlasis G. Mavrantzas	<i>Viscoplastic model for a magnetorheological device [206]</i> Pawel Skalski



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11:10	<p><i>Rocking response of simple systems under pulse excitation using FEM software [42]</i> Michalis F. Vassiliou, Kevin R. Mackie and Božidar Stojadinović</p>	<p><i>On surface effects in model heterogeneous materials and the consequences for a real material: Cortical bone [176]</i> J. Frame, P. Riches & Marcus A. Wheel</p>	<p><i>Weibull analysis and flexural strength of clay-based bricks incorporating powdery industrial byproducts [157]</i> X. Spiliotis, K. Ntampegliotis, Vayos Karayannis, N. Koukouzas, G. Papapolymerou</p>	<p><i>Experimental analysis of fiber reinforced cementitious composites with increased toughness [92]</i> Androula V. Georgiou, Stavroula J. Pantazopoulou and Michael F. Petrou</p>	<p><i>Modal shape control of smart composite beams using piezoelectric actuators [217]</i> Georgia A. Foutsitzi, Evangelos P. Hadjigeorgiou, Christos G. Gogos and Georgios E. Stavroulakis</p>
11:30	Coffee Break				

	<p>MS2 - Advances in Shear and Rocking Isolation I (Electra Room) (Continued) Chair: Anastasios Sextos, Dimitrios Konstantinidis</p>	<p>MS1 -Micromechanics of Materials and Generalized Continua III (Athena Room) (Continued) Chair: Dimitrios Beskos, D. Johansen</p>	<p>Computational Mechanics II (Arion Room) (Continued) Chair: Stanislav Usov</p>	<p>Materials I (Danae Room) (Continued) Chair: Georgios Stavroulakis, Ioannis Sapountzakis</p>	<p>Multiphysics I (Medusa Room) (Continued) Chair: E. Papamichos, G. Exadaktylos</p>
12:00	<p><i>Probabilistic seismic hazard assessment through geometrically non-linear back-analysis of a Byzantine and Roman monuments [59]</i> Anastasios Sextos, Stefanos Nalmpantis, Perikles Faraonis, Dafni Skiada and Kosmas</p>	<p><i>Dynamics of gradient elastic circular cylindrical shells [4]</i> Sofia Papargyri-Beskou, Stefanos V. Tsinopoulos and Dimitrios D. Beskos</p>	<p><i>The study of the stress-stain state of objects with defects using digital image correlation [169]</i> Stanislav M. Usov, Igor N. Odintcev</p>	<p><i>Dynamic non-linear energy absorbers based on properly stretched in-plane asymmetric elastomer structures [182]</i> Ioannis A. Antoniadis, Demetrios T. Venetsanos, Fotis G. Papaspyridis and Ioannis E. Sapountzakis</p>	<p><i>Stability of acidizing wormholes in chalk [147]</i> E. Papamichos, A. Bauer and L.E. Walle</p>



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	Stylianidis				
12:20	<p><i>Experimental study on the seismic response of unbonded elastomeric bridge bearings [69]</i> Dimitrios Konstantinidis, Nicos Makris, James M. Kelly</p>	<p>hp-Version interior penalty discontinuous Galerkin finite element methods for strain gradient elasticity in 1-D [222] Konstantinos G. Eptaimeros, Georgios J. Tsamasphyros</p>	<p><i>Validation of time domain finite element method via calculation of acoustic parameters in a reverberant space [153]</i> Nikos Papadakis, Georgios Stavroulakis</p>	<p><i>Limit analysis of aluminium frames via approximate ellipsoidal yield surfaces [17]</i> K. D. Nikolaou, M. A. A Skordeli, C. D. Bisbos</p>	<p><i>A method for analysis of fluid flow, heat transfer and deformation processes in porous rocks and rock-like materials [173]</i> M. Stavropoulou, G. Xiroudakis and G. Exadaktylos</p>
12:40		<p><i>Length-scale effects in torsion and indentation analysis with micropolar plasticity [216]</i> D. Johannsen, Ch. Tsakmakis</p>	<p><i>A simple meshless LBIE-LRBF method for solving transient diffusion problems [191]</i> K. Grivas, E. J. Sellountos, D. Polyzos</p>	<p><i>Optimization of the structural response of large span structures by the MNB optimal control system [87]</i> Charalampos C. Baniotopoulos, Themistoklis N. Nikolaidis, Athanasios Michalopoulos and George E. Stavroulakis</p>	
13:00	<p>End of Morning Sessions Lunch</p>				



		MS3 - New Trends in Passive Mitigation of Shocks and Vibration I (Electra Room) Chair: Silviu Nastac	Earthquake Engineering I (Athena Room) Chair: Savvas Triantafyllou, Konstantinos Skalomenos	Fluids II (Arion Room) Chair: Vasilis Bontozoglou, Themistoklis S. Stefanakis	Structures IV (Danae Room) Chair: Vladimir Shiryaev, Georgios Drosopoulos	
Sunday, May 26	14:30	<i>On nonlinear approaches in passive vibration isolation [130]</i> Silviu Nastac (Semi-Plenary Lecture)	<i>Derivation of equivalent linear properties of Bouc-Wen hysteretic systems for seismic response spectrum analysis via statistical linearization [135]</i> Agathoklis Giaralis and Pol D. Spanos (Semi-Plenary Lecture)	<i>The primary instability of falling films in the presence of soluble surfactants [65]</i> George Karapetsas and Vasilis Bontozoglou (Semi-Plenary Lecture)	<i>A discrete model for the structure and strength of cementitious materials [63]</i> Nikolaos Archontas, Victor Balopoulos and Stavroula J. Pantazopoulou (Semi-Plenary Lecture)	
	15:00	<i>Equivalent damping of a base isolation system consisting of elastomeric seismic devices [93]</i> Polidor Bratu	<i>Micro and macroscale hysteretic modeling with nonlinear kinematic hardening [198]</i> Savvas P. Triantafyllou, Vlas K. Koumoussis	<i>Conjugate depths in a sloped weak jump over a sill [7]</i> John D. Demetriou and Eugene D. Retsinis	<i>Homogenization and elastic analysis of masonry walls [205]</i> Georgios A. Drosopoulos, Maria E. Stavroulaki and Georgios E. Stavroulakis	
	15:20	<i>Experimental evaluation of dynamic isolation systems composed by elastomeric devices [94]</i> Carmen Alexandru	<i>Seismic retrofitting of existing RC structures using FRP [49]</i> Maria I. Lagiou, Yiannis Tsompanakis	<i>Hydroelastic analysis of very large floating bodies over variable bathymetry regions [162]</i> Kostas Belibassakis, G. Athanassoulis and Th. Gerostathis	<i>Influence of the thermoplastic type on the thermal evolution of a PZT patch during the manufacturing of a smart thermoplastic parts [104]</i> L. Elsoufi, Khaled Khalil, R. Lachat, W. Charon	
	15:40	<i>Dynamic behaviour of</i>	<i>Bond of reinforcing bars</i>	<i>Long wave generation</i>	<i>One-dimensional</i>	



		<i>complex interaction between vibratory drum equipment and natural terrain based on rheological evaluations [133]</i> Gigel Capatana	<i>embedded in concrete [21]</i> Theodoros Eleftheriou, Souzana P. Tastani, and Stavroula J. Pantazopoulou	<i>above a cylindrical sill [154]</i> Themistoklis S. Stefanakis , Frédéric Dias and Costas E. Synolakis	<i>computational model for periodic hyperelastic string structures under Coulomb friction [37]</i> Vladimir Shiryaev , Zoufine Bare, Julia Orlik	
16:00		<i>Viscous fluid dynamics inside a seismic energy absorber device [122]</i> Fanel D. Şcheaua	<i>Determination of Bouc-Wen hysteretic model parameters for simulating the seismic behavior of CFT columns [72]</i> Konstantinos A. Skalomenos , George D. Hatzigeorgiou and Dimitrios E. Beskos	<i>Mechanical energy losses along an inclined jump over an abrupt step [8]</i> John D. Demetriou and Eugene D. Retsinis	<i>Finite element analysis for adhesively bonded composite joints subjected to dynamic loadings: Plies orientation effect [105]</i> Rachad Hazimeh, George Challita, Khaled Khalil , Ramzi Othman	
16:20	Coffee Break					

Sunday, May 26		MS3 - New Trends in Passive Mitigation of Shocks and Vibration II (Electra Room) Chair: Silviu Nastac	Earthquake Engineering II (Athena Room) Chair: Panos Tsopelas, Daphne Pantousa	Fluids III (Arion Room) Chair: Ernestos Sarris, Benbella Shannak	Structures V (Danae Room) Chair: George Tsiatas, Georgios Tairidis	
	16:50	<i>On evaluation of dynamic isolation for a symmetrical configuration building with antiseismic elastomeric devices [132]</i> Aurora Potirniche	<i>The fire-after-earthquake event in a library building, part 1: Simulation of the natural fire [151]</i> Kalliopi Zografopoulou , Daphne Pantousa and Euripidis Mistakidis	<i>The flow regimes of carbon dioxide injection in porous media [67]</i> Ernestos Sarris , E. Gravanis and P. Papanastasiou	<i>Neuro-fuzzy control of smart structures [160]</i> Georgios K. Tairidis , Ioannis Papachristou, Michail Katagas and Georgios E. Stavroulakis	



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17:10	<i>Analysis of energy dissipation capacity of elastomeric anti-seismic systems according to structural and excitation parameters [219]</i> Polidor Bratu and Carmen Alexandru	<i>The fire-after-earthquake event in a library building, part 2: Simulation of the structural behavior [152]</i> Daphne Pantousa , Kalliopi Zografopoulou and Euripidis Mistakidis	<i>Evaluating a parallel node-centered finite-volume algorithm, named Galatea, in simulation of 3D compressible flows [46]</i> Georgios N. Lygidakis and Ioannis K. Nikolos	<i>From Hooke's "Hanging chain" and Milankovitch's "Druckkurven" to a variational formulation: in search of the minimum thickness of masonry arches [2]</i> Nicos Makris and Haris Alexakis	
17:30		<i>Designing for seismic resilience: Self-centering steel frames with fuse-post-tensioned bars and viscous dampers [58]</i> Angelos Tzimas, Athanasios I. Dimopoulos and Theodore L. Karavasilis	<i>Effect of the forest edge on the power of wind turbine [218]</i> Benbella Shannak , U. Corsmeier, Ch. Kottmeier, K. Träumner, A. Wieser	<i>Finite element modelling of the stress and strain fields on corner marble architraves joined using "I" shaped titanium connectors [39]</i> S. Agalaniotou , Z. Agioutantis	
17:50		<i>Fault crossing effects on multi span seismically isolated bridges [141]</i> Alper Ucak, George P. Mavroeidis and Panos Tsopeas	<i>A new conserving IBM approach to moving boundary [164]</i> Seyedeh Nasrin Hosseini , Seyed Mohammad Hossein Karimian	<i>Exact stiffness and mass matrices of a non-uniform Bernoulli – Euler 2D beam resting on an elastic foundation [28]</i> George C. Tsiatas	
18:10	End of Afternoon Sessions				
20:00	Village Dinner (optional)				



Monday, May 27	8:30	Plenary Lecture (Electra Room), Chair: Haralambos G. Georgiadis <i>On Lagrange's Equations For Open Systems [207]</i> Hans Irschik and Helmut J. Holl				
		MS6 - Complex Problems in Theoretical and Applied Mechanics (Electra Room) Chair: Tassos Bountis	Dynamics II (Athena Room) Chair: Dionisios Hristopoulos	Solids III (Arion Room) Chair: Matthias Sanden	Structures VI (Danae Room) Chair: Vladimir Gorton, Dimitrios Kaziolas	
	9:30	<i>Complex problems in theoretical and applied mechanics [74]</i> Tassos Bountis (Semi-Plenary Lecture)	<i>Parameters affecting the rocking response of rigid blocks [221]</i> Anthony N. Kounadis and Demetrios M. Cotsovos (Semi-Plenary Lecture)	<i>Homogenization by two-scale convergence for nonlinear periodic hyperelastic materials [214]</i> Matthias Sanden, Charalampos Tsakmakis (Semi-Plenary Lecture)	<i>Dynamic loading of composite beam with the sudden longitudinal stratification [159]</i> Olga V. Pilipenko, Vladimir A. Gordon (Semi-Plenary Lecture)	
	10:00	<i>High order three part split symplectic integration schemes [75]</i> Enrico Gerlach, Siegfried Ettl, Charalampos D. Skokos, Joshua D. Bodyfelt and Georgios Papamikos	<i>Predictions of phase velocity and attenuation in the healing of long bones based on a multiple scattering theory [174]</i> Vassiliki T. Potsika, Vasilios C. Protopappas, Maria G. Vavva, Demosthenes Polyzos, Dimitrios I. Fotiadis	<i>Dynamic analysis of a three-layered medium under vehicular loads [36]</i> Charalampos I. Manolakakis, A. P. Chassiakos and D. D. Theodorakopoulos	<i>A miniaturized early age concrete strengthening and hydration monitoring system based on piezoelectric transducers [155]</i> E. V. Liarakos and C. P. Providakis	
	10:20	<i>Multibreathers in 1d and 2d klein-gordon lattices with interactions beyond nearest neighbors [76]</i> Vassilis Koukouloyannis,	<i>Fracture mechanics and earthquake recurrence times [212]</i> Dionissios T. Hristopoulos	<i>Convergence–confinement curves in gradient elastic–perfectly plastic rock masses [213]</i> George T. Efremidis, Elias	<i>Crisp and fuzzy advanced hierarchy process for the design of an industrial building based on timber and steel elements [223]</i>	



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		Panayotis G. Kevrekidis, Jesus Cuevas and Vassilis Rothos		C. Aifantis	Theodoros Galanos, Dimitrios Kaziolas and Georgios E. Stavroulakis	
	10:40	<i>Numerical investigation of the dynamics of a small body in a Maxwell ring- type n-body system where the central primary creates a Manev-type post-Newtonian potential field [77]</i> Demetrios Gn. Fakis, Tilemahos J. Kalvouridis , Anastasios G. Mavraganis	<i>A dynamic nonlinear model with contact and buckling for an elastic plate: Time spectral analysis [100]</i> Aliki D. Muradova and Georgios E. Stavroulakis	<i>Bifurcational instability and nonlinear elastic limit state analysis of steel frames with varying cross-sections [35]</i> Zacharias C. Fasoulakis , Tassos P. Avraam	<i>A coupled-mode system for shear deformable beams and plates of non- uniform thickness [163]</i> Kostas. A. Belibassakis , G. A. Athanassoulis, T. K. Papathanasiou, S. I. Markolefas and Tr. Kokkinos	
	11:00	Coffee Break				
Monday, May 27	11:30	<i>Study of the restricted four-body problem by computing families of periodic solutions [78]</i> A. N. Baltagiannis and K. E. Papadakis	<i>A hysteretic plate finite element [109]</i> A. N. Moysidis , Vlasia K. Koumouis			
	11:50	<i>Resonant planetary dynamics: periodic orbits and long-term stability [79]</i> George Voyatzis , Kyriaki I. Antoniadou and John D. Hadjidemetriou	<i>Two-phase transient modelling of indoor aerosol by means of a flow-oriented discretization scheme [22]</i> Despoina P. Karadimou , Nicos-Christos G. Markatos			
	12:10	<i>Complex dynamics of piecewise linear systems:</i>				



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	<i>Theory and applications [117]</i> Yannis Kominis , Tassos Bountis and Kyriakos Hizanidis				
12:30	<i>Ceramic clay materias incorporating alternative solid fuel (ASF) - effect on the final material properties [140]</i> X. Spiliotis				
12:50	Closure Ceremony				
13:00	Lunch				
14:00	Excursion (optional)				
20:00	End of Congress				