

THURSDAY, MAY 10, 2018

Registration	08.30-09.30
Opening Ceremony	09.30-10.00
Plenary Lecture	10.00-10.45
Woven multi-directional composite: Mode I fatigue delamination propagation <i>Professor Leslie Banks-Sills, President of European Structural Integrity Society-ESIS, Tel Aviv University, Israel</i>	
Coffee Break	10.45-11.30
Session 1/1 (Special Session: Experimental Biomechanics)	11.30-13.00
<u>Chairmen:</u> S. K. Kourkoulis and P. Chatzistergos	
1/1-1 Assessment of the reliability of shear-wave-based calculations of the in-vivo stiffness of plantar soft tissue <i>P. Chatzistergos, S. Behforootan, R. Naemi and N. Chockalingam</i>	11.30-11.45
1/1-2 An indentation methodology for measuring the elastic properties of biological patches used in human carotid endarterectomy <i>I. D. Gavardinias and A. E. Giannakopoulos</i>	11.45-12.00
1/1-3 Stress - strain relations during axial loading of hypertensive rats' aortas and the therapeutic role of chios mastic gum <i>E. D. Pasiou, A. I. Tzani, I. P. Doulamis, P. S. Konstantopoulos and D. N. Perrea</i>	12.00-12.15
1/1-4 Experimental study of the mechanical response of human ureter <i>D. C. Petsepe, D. P. Sokolis and S. A. Papadodima</i>	12.15-12.30
1/1-5 Biomechanical study of uterosacral ligament and the potential role of platelet rich plasma for the management of prolapse <i>Ch. Spiliopoulou, E.L. Chrysanthopoulou, V. Pergialiotis, D. Perrea, S. K. Doumouchtsis and S. K. Kourkoulis</i>	12.30-12.45
1/1-6 Shoulder joint shape is rescued as development progresses when limb musculature is absent in the murine embryo <i>V. Sotiriou and N. C. Nowlan</i>	12.45-13.00
Lunch	13.00-14.30
Session 1/2 (Sensing Techniques 1)	14.30-16.00
<u>Chairmen:</u> P. M. G. P. Moreira and D. Karalekas	
1/2-1 Advanced image methods for structural integrity assessment <i>P. José Sousa, B. V. Farahani, F. Barros, P. J. Tavares and P. M. G. P. Moreira</i>	14.30-14.45

1/2-2	Investigating the mechanical properties of additively manufactured structures using FBG sensors <i>D. Karalekas and S.N. Economidou</i>	14.45-15.00
1/2-3	Strain monitoring system for steel and concrete structures <i>E. Cheilakou, N. Tsopelas, A. Anastasopoulos, D. Kourousis, D. Rychkov, R. Gerhard, B. Frankenstein, A. Amditis, Y. Damigos and C. Bouklas</i>	15.00-15.15
1/2-4	The influence of eccentricity on the displacement field in a circular ring <i>M. G. Tsousi, E. D. Pasiou and Ch. F. Markides</i>	15.15-15.30
1/2-5	Experimental and numerical analysis of the mechanical behavior of a GFRP composite with embedded PVA-CNT fiber <i>S. Prasing, P. Papanikos, P. Poulin and N. D. Alexopoulos</i>	15.30-15.45
1/2-6	Experimental investigation of spur gear strength using photoelasticity <i>K. G. Raptis and A. Savaidis</i>	15.45-16.00
Coffee Break		16.00-16.30
Session 1/3 (Special Session: Corrosion and Degradation)		16.30-18.00
<u>Chairs:</u> N. D. Alexopoulos and A. G. Lekatou		
1/3-1	Corrosion behaviour of 304L stainless steel concrete reinforcement in acid rain using fly ash as corrosion inhibitor <i>S. Tsouli, A. G. Lekatou, S. Kleftakis, T. E. Matikas and P. T. Dalla</i>	16.30-16.45
1/3-2	The impact of corrosion and inelastic buckling on low cycle fatigue life of steel bars <i>A. Apostolopoulos and Th. Matikas</i>	16.45-17.00
1/3-3	Comparison of the mechanical response of a dual-phase and a single-phase steel bar category <i>A. Drakakaki, A. Apostolopoulos and Ch. Apostolopoulos</i>	17.00-17.15
1/3-4	Development of new environmentally friendly anticorrosive surface treatments for new Al-Li alloys protection within the frame of clean SKY2 <i>A. Karanika, N. Vourdas, A. Makrikostas, R. Marini, Th. Plagianakos and S. Kalogeropoulos</i>	17.15-17.30
1/3-5	Effect of corrosion exposure on the mechanical performance of 2024 aluminium alloy electron beam welded joints <i>E. Dovletoglou, P. Skarvelis, V. Stergiou and N. D. Alexopoulos</i>	17.30-17.45
1/3-6	Effect of corrosion exposure on aluminum alloy 2024 for different artificial ageing conditions <i>N. Siskou, C. Charalampidou and S. K. Kourkoulis</i>	17.45-18.00

Session 1/4 (Posters)

18.00-19.00

Chairs: A. Sotiropoulou and C. Stergiou

- 1/4-1 Pull-out of titanium bars from restored marble elements: A contribution towards elimination of parasitic phenomena
I. Dakanali
- 1/4-2 Non-destructive mechanical characterization of brittle materials with portable devices
G. Exadaktylos
- 1/4-3 Comparative study of printing patterns on additive manufacturing
K. I. Giannakopoulos, V. D. Sagias, E. D. Pasiou and C. Stergiou
- 1/4-4 Piezo-resistive response of embedded PVA-CNT fibers in glass fiber reinforced polymer composites under quasi-static incremental and cyclic loadings
A. Karayianni, P. Poulin, S. K. Kourkoulis and N. D. Alexopoulos
- 1/4-5 Monitoring of Acoustic Emissions on three-point bending experiments in cement mortar beams in the light of non-extensive statistical physics
A. Kyriazopoulos, C. Anastasiadis, D. Triantis and F. Vallianatos
- 1/4-6 Determining the limitations of 2.3 GHz GPR scanning in detecting objects of small geometrical dimensions
I. Lampros, I. Christakis, D. Triantis and I. Stavrakas
- 1/4-7 Structural intervention of the architraves of the Parthenon's north colonnade
M. Mentzini
- 1/4-8 The potentiality of Digital Image Correlation to bio-mechanically assess osteosyntheses of intertrochanteric fractures
M. Papasimakopoulos, E. D. Pasiou, G. Kyriakopoulos, L. Oikonomou, A. Panagopoulos and G. Anastopoulos
- 1/4-9 Experimental study of the biomechanical behavior of the key branches of human bearing aortas
S. K. Pomakidou and D. P. Sokolis
- 1/4-10 Mechanical properties of 3D printed polymer specimens
V. D. Sagias, K. Giannakopoulos and C. Stergiou
- 1/4-11 Thermomechanical response of Fe₃O₄/PVDF nanocomposites
A. Sanida, Th. G. Velmachos, S. G. Stavropoulos, G. C. Psarras, C. Tsonos, A. Kanapitsas, N. Soin and E. Siores
- 1/4-12 Corrosion-induced surface micro-cracking and calculation of the stress intensity factor in ultra-thin sheets of aluminum alloy 2024
P. Skarvelis and Ch. Charalampidou
- 1/4-13 Tsallis entropy modeling of Pressure Stimulated Currents when cement-based materials are subjected to abrupt repetitive bending loadings
I. Stavrakas and A. Kyriazopoulos
- 1/4-14 Acoustic Emission monitoring of marble specimens under uniaxial compression: Precursor phenomena in the near-failure phase
D. Triantis

FRIDAY, MAY 11, 2018

Plenary Lecture	09.30-10.15
Advanced laboratory testing of weak rocks: Time dependence - modelling - engineering applications <i>Professor Giovanni Barla, Editor-in-Chief of Rock Mechanics and Rock Engineering, Politecnico di Torino, Italy</i>	
Parallel Session 2/1a (Rock Mechanics)	10.15-11.45
<u>Chairmen:</u> G. Exadaktylos and A. I. Sofianos	
2/1a-1 Microstructural and mechanical characterization of two marbles in a folded geological setting <i>G. Exadaktylos, G. Alevizos, P. Liolios and S. Mavrigiannakis</i>	10.15-10.30
2/1a-2 Investigating the fracture behavior of portland limestone: An experimental study <i>A. Marinelli and M. R. Stewart</i>	10.30-10.45
2/1a-3 Multistage triaxial testing of various rock types: A case study from east Attica prefecture <i>D. Kotsanis, P. P. Nomikos, D. Rozos and A. I. Sofianos</i>	10.45-11.00
2/1a-4 AE hit-frequency variations as pre-failure indicators during compressive loading on marble specimens <i>D. K. Tsaousi, I. Stavrakas and D. Triantis</i>	11.00-11.15
2/1a-5 Experimental study of particle shape effect on flow characteristics of granular materials <i>B. Soltanbeigi, S.-A. Papanicolopoulos, H. Zetzener, J. Y. Ooi and A. Kwade</i>	11.15-11.30
2/1a-6 First order reliability method on soil strength parameters estimation and stability analysis <i>G. Belokas</i>	11.30-11.45
Parallel Session 2/1b (Concrete and Mortar)	10.15-11.45
<u>Chairmen:</u> C. B. Demakos and Ch. F. Markides	
2/1b-1 On the experimental investigation of pozzolanic lime mortar stress-strain behavior and deformation characteristics when subjected to cyclic loading <i>K. Kaklis, Z. Agioutantis, S. Mavrigiannakis and P. Maravelaki-Kalaitzaki</i>	10.15-10.30
2/1b-2 Influence of anisotropy on the results of the Brazilian-disc test <i>E. Ganniari-Papageorgiou, P. Chatzistergos and Ch. F. Markides</i>	10.30-10.45
2/1b-3 Multifactorial experimental analysis of concrete compressive strength as a function of time and water to cement ratio <i>S. Gavela, N. Nikoloutsopoulos, G. Papadakos, D. Passa and A. Sotiropoulou</i>	10.45-11.00
2/1b-4 Comparison of shear strengthening techniques of reinforced concrete beams with carbon fiber reinforced polymers (CFRPs) <i>N. Nikoloutsopoulos, D. Passa, S. Gavela and A. Sotiropoulou</i>	11.00-11.15

2/1b-5	Experimental and numerical simulation of curved frame structures <i>C. B. Demakos, A. Kyriazopoulos, N. Pnevmatikos and D. Drivas</i>	11.15-11.30
2/1b-6	Workability in 3D printing concrete <i>M. Papachristoforou, V. Mitsopoulos and M. Stefanidou</i>	11.30-11.45
Coffee Break		11.45-12.30
Session 2/2 (Special Session in Memory of Professor Pericles S. Theocaris)		12.30-13.30
<u>Chairmen:</u> N. P. Andrianopoulos and G. A. Papadopoulos		
2/2-1	On the quest of proper forming of failure criteria <i>N. P. Andrianopoulos</i>	12.30-12.45
2/2-2	The optical method of caustics in the last 50 years <i>G. A. Papadopoulos</i>	12.45-13.00
2/2-3	Contact length in discs and rings by reflected caustics method <i>Ch. F. Markides</i>	13.00-13.15
2/2-4	Recent advances in structural health monitoring of restored elements of marble monuments <i>S. K. Kourkoulis</i>	13.15-13.30
Lunch		13.30-15.00
Parallel Session 2/3a (Environmental Aspects)		15.00-16.15
<u>Chairmen:</u> J. K. Kaldellis and N. Ninis		
2/3a-1	Experimental analysis of water salinity impact on the energy consumption of small desalination plants <i>K. Christopoulos, N. Pospotikis, Em. Kostopoulos, E. Kondili and J. K. Kaldellis</i>	15.00-15.15
2/3a-2	Orban gun ballistics and assessment of historical evidence concerning the bombardment of Constantinople walls in 1453 <i>A. Kakaliagos and N. Ninis</i>	15.15-15.30
2/3a-3	Re-examing the urban experiment: Variable geometries of spatial intelligence <i>N. Kourniatis and I. Fakiri</i>	15.30-15.45
2/3a-4	Fatigue assessment of steel frames subjected to a number of earthquake excitations <i>N. G. Pnevmatikos, G. A. Papagiannopoulos and G. Hatzigeorgiou</i>	15.45-16.00
2/3a-5	Solar energy contribution to an electric vehicle needs on the basis of long-term measurements <i>Em. Kostopoulos, G. Dimas, K. Christopoulos, G. Spyropoulos and J. K. Kaldellis</i>	16.00-16.15

Parallel Session 2/3b (Special Session: Mechanical Properties and Simulation of Archaeological Materials)	15.00-16.15
<u>Chairs:</u> I. Karatasios and El.-E. Toumbakari	
2/3b-1 Hydraulic mortars for joining archaeological stone fragments - a methodological approach <i>I. Karatasios, M. Amenta and V. Kilikoglou</i>	15.00-15.15
2/3b-2 Multi-walled carbon nanotube white cement-based mortars for the restoration of cultural heritage monuments <i>Z. S. Metaxa and S. Boutsoukou</i>	15.15-15.30
2/3b-3 Modeling of the microstructure of ancient functional ceramics and assessment of their performance <i>A. Hein and V. Kilikoglou</i>	15.30-15.45
2/3b-4 Assessing wood adhesives used in conservation via shear by compression loading <i>E. Tsetsekou, A. Platanianaki and A. Pournou</i>	15.45-16.00
2/3b-5 Studies on materials & compositions for the consolidation, repair & strengthening of heritage structures <i>El.-E. Toumbakari</i>	16.00-16.15
Coffee Break	16.15-16.45
General Assembly - Elections	16.45
Conference Dinner	20.45

SATURDAY, MAY 12, 2018

Plenary Lecture	09.30-10.15
Fatigue crack propagation in ductile cast irons <i>Professor Francesco Iacoviello, President of Gruppo Italiano Frattura, Università di Cassino e del Lazio Meridionale, Italy</i>	
Session 3/1 (Metals Processing)	10.15-11.30
<u>Chairmen:</u> D. E. Manolakos and N. M. Vaxevanidis	
3/1-1 Experimental study of machining AISI O1 worksteel with EDM process <i>E. L. Papazoglou, A. P. Markopoulos and D. E. Manolakos</i>	10.15-10.30
3/1-2 Identification of appropriate autogenous laser welding parameters for Al-Li 2198 alloy <i>T. N. Examilioti, N. Kashaev, S. Riekehr, J. Enz, B. Klusemann and N. D. Alexopoulos</i>	10.30-10.45
3/1-3 Experimental investigation on machinability parameters in turning of CuZn39Pb3 brass alloy <i>N. M. Vaxevanidis, N. A. Fountas, A. Koutsomichalis and J. D. Kechagias</i>	10.45-11.00
3/1-4 Powder metallurgy route aluminium foams: A study of the effect of powder morphology, compaction pressure and foaming temperature on the porous structure <i>I. G. Papantoniou, D. I. Pantelis and D. E. Manolakos</i>	11.00-11.15
3/1-5 Effect of heat treatment on the mechanical behavior of electron beam welded Al-Mg-Si alloy specimens <i>V. Stergiou and T. N. Examilioti</i>	11.15-11.30
Coffee Break	11.30-12.00
Session 3/2 (Polymers and Composites)	12.00-13.00
<u>Chairs:</u> E. V. Kontou and G. C. Psarras	
3/2-1 Mechanical properties of unidirectional natural fiber - polymer composites <i>P. Georgiopoulos, A. Christopoulos and E. Kontou</i>	12.00-12.15
3/2-2 Tensile performance of graphene nanoplatelets/glass fabric/epoxy nanocomposite laminae <i>G. V. Seretis, A. K. Polyzou, D. E. Manolakos and C. G. Provatidis</i>	12.15-12.30
3/2-3 A comparative thermomechanical study of ferrite / polymer nanocomposites <i>A. Sanida, S. G. Stavropoulos and G. C. Psarras</i>	12.30-12.45
3/2-4 An experimental evaluation of micro-damage in metal matrix composites by means of a SEM - EPMA technique <i>V. N. Kytopoulos, A. Altzoumailis, J. Venetis and E. Sideridis</i>	12.45-13.00
Lunch	13.00-14.15

Session 3/3 (Metals)	14.15-15.30
<u>Chairmen:</u> E. Sideridis and N. Vourdas	
3/3-1 The effect of artificial ageing heat treatment on the tensile properties of laser beam-welded AA2198 joints <i>D. Karanikolas, N. Kashaev, S. Riekehr, J. Enz and N. D. Alexopoulos</i>	14.15-14.30
3/3-2 An experimental study for the characterization of elastic-brittle fracture behavior of materials by means of continuous damage mechanics-aided approaches <i>V. N. Kytopoulos, J. Venetis and E. Sideridis</i>	14.30-14.45
3/3-3 LaAlO ₃ as overlayer in conventional thermal barrier coatings <i>I. Georgiopoulos, N. Vourdas, S. Mirza, K. A. Papadopoulos, C. Andreouli and V. Stathopoulos</i>	14.45-15.00
3/3-4 Experimental and analytical approach of fatigue behaviour of stepped CK45 shaft with adjacent key groove <i>D. G. Ntritsos, A. D. Tsolakis and K. I. Giannakopoulos</i>	15.00-15.15
3/3-5 Evaluation of organic coatings for corrosion protection of condensing economizers <i>I. Iliopoulos, A. Karampekios, P. K. Pandis, N. Vourdas, H. Jouhara, S. Tassou and V. N. Stathopoulos</i>	15.15-15.30
Coffee Break	15.30-16.00
Session 3/4 (Sensing Techniques 2)	16.00-17.30
<u>Chairmen:</u> V. Saltas and C. Anastasiadis	
3/4-1 Relation between damage processes of reinforced concrete under uniaxial compression and electric response to pulsed mechanical impact <i>M. Petrov, T.V. Fursa and D. D. Dann</i>	16.00-16.15
3/4-2 Monitoring spatiotemporal damage evolution in marble using electrical current and Acoustic Emissions <i>I. Stavrakas, S. K. Kourkoulis and D. Triantis</i>	16.15-16.30
3/4-3 Combining Acoustic Emissions and electrical conductivity measurements to monitor fracture of porous sandstone samples during uniaxial compression <i>V. Saltas, T. Koumoudeli, M.-Z. Koutsoukou and F. Vallianatos</i>	16.30-16.45
3/4-4 Prediction of residual strength of thick masonries utilizing ultrasonics <i>P. A. Kakavas-Papaniaros, D. K. Baros, N. A. Kalapodis and N. K. Anifantis</i>	16.45-17.00
3/4-5 Investigating Acoustic Emissions and Pressure Stimulated Currents detected during the bending of restored marble epistyles within the frame of log-periodic power-law models <i>D. Mastrogiannis, S. I. Andreopoulos, S. M. Potirakis, I. Stavrakas, D. Triantis and S. K. Kourkoulis</i>	17.00-17.15
3/4-6 The use of Acoustic Emissions technique in the monitoring of fracturing in brittle materials using expansive mortar <i>V. Saltas, D. Peraki and F. Vallianatos</i>	17.15-17.30
Closing Ceremony and Awards	17.30