

6th International Conference
INTEGRITY–RELIABILITY–FAILURE

Lisbon/Portugal, 22-26 July 2018

IRF2018
PROGRAM

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PROGRAM

MAIN TOPICS

- | | |
|--|--|
| A – Composite and Advanced Materials. (Sessions: 1A-2A) | G - Mechanical Design and Prototyping. (Session: 6B) |
| B - Computational Mechanics. (Session: 1B) | H - Biomechanical Applications. (Sessions: 4B-5B) |
| C – Experimental Mechanics. (Sessions: 1C-2C) | I - Civil Engineering Applications. (Sessions: 4D-7D) |
| D – Fatigue and Fracture Mechanics. (Sessions: 1D-2D) | J - Impact and Crashworthiness. (Session: 3C) |
| E - Nanotechnologies and Nanomaterials. (Session: 3A) | L - Ind. Engineering and Management. (Session: 6A) |
| F - Tribology and Surface Engineering. (Session: 7A) | O -Open Forum SWTA (Tuesday, 14:30-16:00) |

THEMATIC SYMPOSIA

1. EXPERIMENTAL MECHANICS FOR RELIABILITY, promoted by J.F. Silva Gomes (U.Porto, Portugal). (Session: 2C)
2. MODELING OF FRACTURE AND FRAGMENTATION OF SOLIDS UNDER STATIC AND DYNAMIC LOADING. DETERMINISTIC AND PROBABILISTIC APPROACHES, promoted by Alexander Gerasimov (Tomsk State University, Russia) and Sergey Zelepugin (Tomsk State University, Russia). (Session: 4A)
3. FRACTURE BEHAVIOUR AND FATIGUE DAMAGE OF STRUCTURES: THEORY AND EXPERIMENTS, promoted by Shaker A. Meguid (U. Toronto, Canada). (Session: 2D)
4. RELIABILITY OF TRIBOLOGICAL SYSTEMS AT VARIED LENGTH SCALES, promoted by Noritsugu Umehara (Nagoya University, Japan) (Session: 7A)
5. ADDITIVE MANUFACTURING AND RAPID PROTOTYPING, promoted by Giorgio Olmi (University of Bologna, Italy). (Session: 5A)
6. FASTENING AND JOINING TECHNOLOGY, promoted by Massimiliano De Agostinis (University of Bologna, Italy). (Session: 7B)
7. INFLUENCE OF MANUFACTURING PROCESSES IN INTEGRITY OF MECHANICAL OR STRUCTURAL COMPONENTS, promoted by Teresa Morgado (UNL, Portugal), Benny Tjahjono (U. Cranfield, UK) and Gilberto Santos (IPCA, Portugal). (Session: 3D)
8. SUSTAINABLE ENERGY SYSTEMS, promoted by Clito F. Afonso (U.Porto, Portugal). (Session: 7C)
9. OPTIMIZATION AND UNCERTAINTY QUANTIFICATION, promoted by Carlos C. António (U.Porto, Portugal) and Catarina F. Castro (U.Porto, Portugal). (Sessions: 1B-2B)
10. BIOMECHANICS OF CARDIOVASCULAR AND ORTHOPAEDIC DISEASE, promoted by Luisa C. Sousa (U.Porto, Portugal) and Sónia S. Pinto (U.Porto, Portugal). (Session: 3B)
12. MECHATRONICS DESIGN: APPLICATIONS AND CASE STUDIES, promoted by Luis Silva (U,Minho, Portugal), Eurico Seabra (U,Minho, Portugal), Helder Carvalho (U,Minho, Portugal) and Gilberto Santos (IPCA, Portugal). (Session: 3D)
13. STRUCTURAL DYNAMICS AND CONTROL SYSTEMS: THEORY, EXPERIMENTS AND APPLICATIONS, promoted by Rui C. Barros (U.Porto, Portugal) and Manuel Braz César (IPB, Portugal). (Session: 6C)
14. NEW PRODUCT DEVELOPMENT- DESIGN RESEARCH, MATERIALS SELECTION, INNOVATION SYSTEMS, promoted by Maria João Félix (IPCA, Portugal), Gilberto Santos (IPCA, Portugal) and Ricardo Simões (IPCA, Portugal). (Session: 4C)
15. QUALITY AND PROCESS MANAGEMENT. THEORY, APPLICATIONS AND CASE STUDIES, promoted by Laura Bravi (U. Urbino C.Bo, Italy), Roland Jochen (T.U. Berlin, Germany), Federica Murrura (U. Urbino C.Bo, Italy), Robert Refflinghaus (U. Kassel, Germany) and Gilberto Santos (IPCA, Portugal). (Sessions: 4C-5C)
16. NEW MATERIALS AND DESIGN PROCESSES IN DENTAL MEDICINE, promoted by J.C. Reis Campos (FMDUP, Portugal) and André Correia (IHS-UCP, Portugal). (Sessions: 4B-5B)

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PROGRAM

SUNDAY, 22 JULY 2018

15:00-18:00
EARLY-BIRD REGISTRATION AND WELCOME DRINK
Lobby Hotel VIP

MONDAY, 23 JULY 2018

07:45-09:00
REGISTRATION
Lobby
09:00-09:15
OPENING SESSION
Auditorium
09:15-10:00
KEYNOTE LECTURE (I)
Auditorium
Professor Shaker A. Meguid

(University of Toronto, Canada)

STRATEGIES FOR IMPROVED VEHICLE SAFETY: SURVIVABILITY OF OCCUPANTS
Chair: Prof. Joaquim Silva Gomes (U.Porto, Portugal)
10:00-10:30
COFFEE BREAK
Coffee Lounge
10:30-12:30
PAPERS SESSION - 1
All Rooms

Session 1A (Room - A) Topic - A <i>Chair: Yang Ju</i>	Session 1B (Room - B) Symp - 9 & Topic - B <i>Chair: Carlos C. António</i>	Session 1C (Room - C) Topic - C <i>Chair: Dario Croccolo</i>	Session 1D (Auditorium) Topic - D <i>Chair: Toshihiko Hoshide</i>
Ref: 7096 THE IMPACT OF METAL REINFORCEMENT UPON THE PROPERTIES OF A COMPOSITE. Robert Szczepaniak, Pawel Przybylek, Aneta Krzyzak, Michal Micolajewski, Andrzej Komorek.	Ref: 7119 THREE-DIMENSIONAL DYNAMIC ANALYSIS OF A THREE-PHASE POROELASTIC MEDIUM USING THE TIME-DOMAIN BOUNDARY ELEMENT METHOD. Andrey Petrov, Leonid Igumnov, Igor Vorobtsov, Aleksandr Belov.	Ref: 7052 DETERMINATION OF BURST PRESSURE FOR DEFECTED PIPES. Abdullah M. Al Shabibi, Majid Al Moharbi, Sultan Al Owaisi.	Ref: 7102 STUDY OF THE EFFECT OF STRESS CONCENTRATORS IN FATIGUE FAILURE ANALYSIS OF A CRANKSHAFT. José R.G. Carneiro, Leonardo C. Aguiar, Gilmar C. Silva, João P.S. Carneiro.

<p>Ref: 7097 INVESTIGATION INTO THE THERMAL RESISTANCE OF A POLYMER COMPOSITE WITH AEROGEL. Robert Szczepaniak, Pawel Przybylek, Arkadiusz Bartuzi.</p>	<p>Ref: 7207 STRUCTURAL INTEGRITY ASSESSMENT OF CRACKED COMPOSITE PLATE UNDER AEROELASTIC LOADING BY MEANS OF XFEM. Nur Azam Abdullah, Jose L. Curiel Sosa, Nanda Wirawan, Mahesa Akbar.</p>	<p>Ref: 7101 FATIGUE STRENGTH OF CARBON STEEL COVERED WITH PROTECTIVE LAYERS FOR CO2 ASSISTED SHALE GAS MINING. Marta Baran, Tomasz Brynk, Zbigniew Pakielna.</p>	<p>Ref: 7166 THE EFFECT OF FRESH WATER CORROSIVE SOLUTION ON FATIGUE STRENGTH OF LOW CARBON STEEL. Marta Morgantini, Volodymyr Okorokov, Yevgen Gorash, Donald MacKenzie, Ralph van Rijswijk.</p>
<p>Ref: 7110 MECHANICAL PROPERTIES OF NiAl-TiB2 COMPOSITE MATERIALS. Masashi Yoshida.</p>	<p>Ref: 7215 ASYMPTOTIC STOKES FLOWS USING AXIAL GREEN FUNCTION METHOD WITH REFINEMENT. Junhong Jo, Hong-Kyu Kim, Do Wan Kim.</p>	<p>Ref: 7111 RESIDUAL STRESSES - NEUTRON DIFFRACTOMETER STRESS-SPEC @ FRM II. Joana Rebelo Kormmeier, Michael Hofmann, Weimin M. Gan, Jens Gibmeier, Jan Saroun.</p>	<p>Ref: 7172 APPROACH TO FULL-SCALE FATIGUE TEST OF THE MIG-29 VERTICAL STABILIZER WITH REPAIR OF COMPOSITE STRUCTURES. Piotr Synaszko, Michał Salaciński, Michał Dziendzikowski, Krzysztof Dragan, Andrzej Leski.</p>
<p>Ref: 7123 EFFECTS OF ACCELERATED AGEING ON THE TENSILE PERFORMANCE OF GFRP/ EPOXY COMPOSITE AND THERMOSET EPOXY. Silviu Ivan, Matteo Cavasin, Stefanos Giannis, Ivo Dlouhy, Barry Thomson.</p>	<p>Ref: 7093 EFFECTIVE ESTIMATION OF CONFIDENCE IN THE VULNERABILITY ASSESSMENT OF UNCERTAIN STRUCTURAL SYSTEMS. Marco Vailati, Giorgio Monti.</p>	<p>Ref: 7152 COMPARATIVE STUDY ON ACCELERATED FLUID DIFFUSION IN THERMOSET EPOXY AND GFRP FOR MARINE APPLICATIONS. Matteo Cavasin, Silviu Ivan, Stefanos Giannis, Marco Sangermano, Milena Salvo, Barry Thomson.</p>	<p>Ref: 7230 PERIDYNAMIC MECHANO-CHEMICAL MODELING OF STRESS CORROSION CRACKING. Ziguang Chen, Siavash Jafarzadeh, Shumin Li, Florin Bobaru, Qin Qian.</p>
<p>Ref: 7129 SOME QUASI-ISOTROPIC LAMINATES ARE MORE ISOTROPIC THAN OTHERS. Mazen A. Albazzan, Ramy Harik, Zafer Gürdal, Jesse Hartzell.</p>	<p>Ref: 7098 MATHEMATICAL MODELING OF THE BLENDED WING BODY AIRCRAFT FLOW-OVER IN CRUISE MODE. Francheska Slobodkina.</p>	<p>Ref: 7156 CONDITION MONITORING OF AN INDUSTRIAL BUCKET ELEVATOR FOR BULK MATERIALS. Piotr Sokolski, Marek Sokolski.</p>	<p>Ref: 7233 STRENGTH AND LIFE ANALYSIS IN THE PLASTIC STRAIN RANGE. NEUBER VERSUS STRAIN ENERGY CONSERVATION PRINCIPLE. Luciano Brambilla.</p>
<p>Ref: 7186 MATERIAL CHARACTERISTICS OF GEOPOLYMERS BASED ON AN INDUSTRIAL WASTE PRODUCT. Jan Fořt, Eva Vejmelková, Zdeněk Soukup, Pavla Rovnaníková, Robert Černý.</p>		<p>Ref: 7163 DIAGNOSIS OF BEARING FAULTS IN COMPLEX MACHINERY USING SPATIAL DISTRIBUTION OF SENSORS AND FOURIER TRANSFORMS. Aouni Lakis, Ali Mahvash, Mohammad Toorani.</p>	<p>Ref: 7080 CREEP FRACTURE OF PLATES IN UNSTEADY COMPLEX STRESS STATE IN THE PRESENCE OF AMBIENT MEDIUM. Alexander Lokoshchenko, Leonid Fomin.</p>

12:30-14:30

LUNCH

VIP Restaurant

14:30-16:00

PAPERS SESSION - 2

All Rooms

<p>Session 2A (Room - A) Topic - A <i>Chair: Masashi Yoshida</i></p>	<p>Session 2B (Room - B) Symp - 9 <i>Chair: Catarina Castro</i></p>	<p>Session 2C (Room - C) Symp - 1 & Topic - C <i>Chair: Remigiusz Labudzki</i></p>	<p>Session 2D (Auditorium) Symp - 3 & Topic - D <i>Chair: Shaker A. Meguid</i></p>
<p>Ref: 7228 MECHANICAL PROPERTIES AND MICROSTRUCTURE OF CARBON-FIBRE/ALUMINIUM-MATRIX AND CARBON-FIBRE/TITANIUM-MATRIX COMPOSITES. Alexander Rudnev, Rida Gallyamova, Andrew Gomzin, Andrew Kolchin, Sergei Galyshev, Fanil Musin, Sergei Mileiko.</p>	<p>Ref: 7106 MULTI-OBJECTIVE OPTIMIZATION AIMING THE SUSTAINABLE DESIGN OF FRP COMPOSITE STRUCTURES. Carlos C. António. <i>(Invited Paper)</i></p>	<p>Ref: 7127 DUCTILITY OF TITANIUM ALLOYS IN A WIDE RANGE OF STRAIN RATES. Vladimir V. Skripnyak, Vladimir A. Skripnyak, Evgeniya G. Skripnyak.</p>	<p>Ref: 7142 INFLUENCE OF MICROSTRUCTURE ON THE MECHANICAL BEHAVIOUR OF STEEL IN EXTREME ENVIRONMENT. Valeriy Lepov, Albert Grigoriev, Afanasy Ivanov, Valentina Achikasova, Anastassia Ivanova, Nikolay Balakleiskii, Boris Loginov, Artem Loginov.</p>
<p>Ref: 7244 SILICATE-BASED FIBRES TO REINFORCE HIGH TEMPERATURE COMPOSITES. Sergei Mileiko, Andrew Kolchin, Natalia Novokhatskaya, Nelly Prokopenko, Olga Shakhlevich, Vladimir Chumichev, Sergei Abashkin. <i>(Invited Paper)</i>.</p>	<p>Ref: 7104 THE RELIABILITY INDEX APPROACH WITH EVOLUTIONARY ALGORITHMS: APPLICATION TO THE RBRDO PROBLEM OF COMPOSITE STRUCTURES. Gonçalo N. Carneiro, Carlos C. António.</p>	<p>Ref: 7266 ANALYSIS OF HIGH TEMPERATURE PIPE INTEGRITY USING CUSTOMIZED EDDY-CURRENT SYSTEM. Fernando S. Crivellaro, Ana Peixoto, Miguel A. Machado, José P. Sousa, António Custódio, J. Pamies Teixeira, Telmo G. Santos.</p>	<p>Ref: 7146 EFFECT OF GRAPHITE MORPHOLOGY ON COMPACTED GRAPHITE IRON THERMOMECHANICAL FATIGUE PROPERTIES. Edwin A. Lopez, S. Ghodrati, Leo Kestens.</p>

<p>Ref: 7251 EFFECT OF HOSTILE SOLUTIONS ON THE VISCOELASTIC BEHAVIOUR OF CARBON/EPOXY LAMINATES. M. Kamocka, Ana M. Amaro, Paulo N.B. Reis, Maria A. Neto, José Maria Cime.</p>	<p>Ref: 7107 RESEARCH AND VALIDATION OF GLOBAL MPP IN THE RELIABILITY ANALYSIS OF COMPOSITE STRUCTURES. Luísa N. Hoffbauer, Carlos C. António.</p>	<p>Ref: 7256 MECHANICAL STUDY OF ADDITIVE MANUFACTURED HONEYCOMB STRUCTURES. Piotr Dziejewit, Paweł Płatek, Jacek Janiszewski.</p>	<p>Ref: 7206 FATIGUE IMPROVEMENT OF WELDED ELEMENTS BY ULTRASONIC IMPACT TREATMENT. Yuri Kudryavtsev.</p>
<p>Ref: 7277 ISOLATING VIBRATION BY PERIODIC COMPOSITE STRUCTURES. Hongping Hu, Yuantai Hu.</p>	<p>Ref: 7313 RELIABILITY SYSTEM ANALYSIS FOR AIRCRAFT COMPOSITE STRUCTURES. Paola Caracciolo.</p>	<p>Ref: 7323 TRACKING OF DISPLACEMENT FIELD USING STEREO-CORRELATION IMAGES. A. May, A. Mokdad, H. Habouche, T. Rehaminia.</p>	<p>Ref: 7074 FRACTURE MECHANICS ANALYSIS OF POROSITY EFFECT ON STRENGTH CHARACTERISTICS OF POROUS ALUMINA. Natsumi Miyazaki, Toshihiko Hoshida.</p>
<p>Ref: 7291 SELF-ACTUATED MORPHING COMPOSITE WITH TUNABLE FREQUENCY AND DAMPING. Arnaldo Casalotti, Giulia Lanzara.</p>	<p>Ref: 7069 UNCERTAINTY QUANTIFICATION USING A NEW NON INTRUSIVE STOCHASTIC APPROACH: APPLICATION TO THE ESTABLISHMENT OF INUNDATION MAPS DUE TO DAM BREAK FLOWS. Azzedine Abdedou, Azzeddine Soulaïmani.</p>	<p>Ref: 7197 ADVANCED NDT PROCEDURES AND THERMAL DATA PROCESSING ON CFRP AERONAUTICAL COMPONENTS. Vito Dattoma, Riccardo Nobile, Francesco Panella, Alessandra Pirinu, Andrea Saponaro.</p>	<p>Ref: 7241 MIXED-MODE FRACTURE OF BONDED JOINTS USING THE ASYMMETRIC TAPERED DOUBLE-CANTILEVER BEAM TEST. Filipe Nunes, Raúl Campilho.</p>
		<p>Ref: 7141 AN IN-SITU EVALUATION OF STRUCTURAL DAMAGE IN A HIGH POWER SPALLATION NEUTRON SOURCE. Masatoshi Futakawa, Tao Wan, Hiroyuki Kogawa, Takashi Naoe.</p>	<p>Ref: 7292 COUPLED METHOD TO INVESTIGATE PLASTIFICATION OF HEAVY HAUL RAILWAY WHEELS. Pedro Picanço, Felipe Bertelli, Eduardo A. Lima, Thairon R. Costa, Auteliano A. Santos.</p>

16:00-16:30

COFFEE-BREAK

Coffee Lounge

16:30-18:00

PAPERS SESSION - 3

All Rooms

<p>Session 3A (Room - A) Topic - E <i>Chair: Sergei Mileiko</i></p>	<p>Session 3B (Room - B) Symp - 10 <i>Chair: Sónia Pinto</i></p>	<p>Session 3C (Room - C) Topic - J <i>Chair: Fan Yang</i></p>	<p>Session 3D (Auditorium) Symp - 7 & Symp- 12 <i>Chair: Luis Silva</i></p>
<p>Ref: 7081 EFFICIENT FABRICATION METHOD OF METALLIC NANO/MICRO STRUCTURES FOR NANO DEVICES. Masahiko Yoshino, Potejana Potejanasak, Duc Phuc Truong, Motoki Terano.</p>	<p>Ref: 7158 FLUID-STRUCTURE INTERACTION FOR HEMODYNAMIC STUDY IN PATIENT CORONARY ARTERIES - VALIDATION. Nelson Pinho, Catarina F. Castro, Carlos C. António, Nuno Bettencourt, Luisa C. Sousa, Sónia I.S. Pinto.</p>	<p>Ref: 7131 A FINITE ELEMENT MODEL TO STUDY WELD AND GEOMETRIC IMPERFECTIONS IN AN IMPACT ATTENUATOR DEVICE. Jose A. López-Campos, Abraham Segade, E. Casarejos, Jose R. Fernandez, J.A. Vilán.</p>	<p>Ref: 7072 EVALUATION AND CHARACTERIZATION OF WEAR BEHAVIOUR OF ROLLED STEELS FOR THE PRODUCTION OF A SCREW. Ricardo Paulo, Teresa Morgado, Alexandre Velhinho, Carla Machado, J. Pamies Teixeira.</p>
<p>Ref: 7151 NEW CHALLENGES IN THE CREATION OF RELIABLE CERAMIC NANOCOMPOSITES. Igor A. Danilenko, Tetyana E. Konstantinova, Oxana A. Gorban, Irina I. Brukhanova, Larisa V. Loladze, Danil R. Belichko, Artyom V. Shylo.</p>	<p>Ref: 7161 CORRELATION BETWEEN GEOMETRIC PARAMETERS OF LEFT CORONARY ARTERY AND PLAQUE DEPOSITION IN LEFT ANTERIOR DESCENDING ARTERY. Nelson Pinho, Catarina F. Castro, Carlos C. António, Nuno Bettencourt, Luisa C. Sousa, Sónia I.S. Pinto.</p>	<p>Ref: 7132 STUDY OF A CRASH BOX DESIGN OPTIMIZED FOR A UNIFORM LOAD PROFILE. Abraham Segade, Alejandro Bolaño, Jose A. López-Campos, E. Casarejos, Jose R. Fernandez, J.A. Vilán.</p>	<p>Ref: 7184 DESIGN, DEVELOPMENT AND CONSTRUCTION OF A MEDICAL WRIST REHABILITATION DEVICE. Eurico Seabra, Luis F. Silva, Ricardo Ferreira, Valdemar Leiras.</p>
<p>Ref: 7296 IMPROVEMENT OF ADHESION STRENGTH OF THE COPPER NANOWIRE SURFACE FASTENER BY INVESTIGATING THE DIAMETER RATIO OF NANOWIRES. Motohiro Kato, Yuhki Toku, Yasuyuki Morita, Yang Ju.</p>	<p>Ref: 7178 HEMODYNAMICS IN PATIENT-SPECIFIC CORONARY ARTERIES CONSIDERING BLOOD ELASTIC BEHAVIOR: NUMERICAL STUDY. Sónia I.S. Pinto, João B.L.M. Campos.</p>	<p>Ref: 7193 ANALYTICAL MODELING OF THE TRANSITION OF THE PROGRESSIVE FOLDING MODE OF THIN-WALLED TUBES AFTER FOAM-FILLING. Fan Yang, Shaker A. Meguid.</p>	<p>Ref: 7252 ASBGO*: A MECHATRONIC IMPROVED SMART WALKER. Joana Alves, Cristina P. Santos, Eurico Seabra, Luis F. Silva.</p>

<p>Ref: 7297 ELECTROMAGNETIC PERFORMANCE OF SPIRALLY DEFORMED COATED NANOWIRES. Yuhki Toku, Yuji Ueda, Yasuyuki Morita, Yang Ju.</p>	<p>Ref: 7289 LATERAL LUMBAR FUSION, A MINIMALLY INVASIVE SURGICAL APPROACH FOR LUMBAR INTERBODY FUSION. Susana Caetano, Luisa C. Sousa, Marco Parente, Renato Natal, Henrique Sousa, João Gonçalves.</p>	<p>Ref: 7198 OPTIMIZATION STRATEGIES FOR CRASH RELEVANT VEHICLE STRUCTURES. Ralf Sturm, Michael Schäffer, Marco Münster.</p>	<p>Ref: 7278 TGK DYNAMIC ANALYSIS OF A HUMANOID RESCUE ROBOT. Gerardo García, Enrique Vazquez, Pedro de J. García, Jonathan A. Soto, Isidro Sanchez, Juan G. Sandoval.</p>
<p>Ref: 7177 CROSS-SECTIONAL MICRO-STRUCTURE AND STRESS DISTRIBUTIONS IN THIN FILMS DURING INDENTATION REVEALED BY X-RAY NANO-DIFFRACTION. Josef Keckes, Rostislav Daniel, Juraj Todt, C. Krywka, M. Burghammer.</p>	<p>Ref: 7293 VESSEL DETECTION IN CAROTID ULTRASOUND IMAGES USING ARTIFICIAL NEURAL NETWORKS. Catarina F. Castro, Carlos C. António, Luisa C. Sousa.</p>	<p>Ref: 7321 MULTIBODY DYNAMIC ANALYSIS OF WHIPLASH. Mohamed T. Z. Hassan, Mo Gabriel Shi, S. A. Meguid</p>	<p>Ref: 7314 INTERACTION BETWEEN LEAN PHILOSOPHY AND INDUSTRY 4.0: EXPLORATORY STUDY. Beatrice P. Santos, Fernando C. Santos, Tânia M. Lima.</p>
		<p>Ref: 7322 EFFECT OF IMPACT SEVERITY ON OCCUPANT'S RESPONSE DURING REAR-END COLLISIONS. Mohamed T. Z. Hassan, S. A. Meguid</p>	

14:30-19:00

POSTERS SESSION (I)

Topics: A, B, C | Symposia: 1, 3, 9

Lobby

<p>Ref: 7135 THERMO-PROTECTIVE PROPERTIES OF POLYMER COMPOSITES WITH NANO-TITANIUM DIOXIDE. Sylwester Stawarz, Natalia Bryła, Wojciech Kucharczyk, Mohamed Bakar, Magdalena Stawarz.</p> <p>Ref: 7229 APPLICATION OF ZEOLITE IN CONCRETE MIXTURES FOR RADIONUCLIDE BARRIERS. Eva Vejmelková, Martin Keppert, Petr Bezdička, Robert Černý.</p> <p>Ref: 7254 THERMAL AND MECHANICAL ANALYSIS OF AN EPOXY FOAM SYNTHESIZED BY MEANS OF A CHEMICAL FOAMING AGENT. Matteo Cavasin, Marco Sangermano, Milena Salvo, Stefanos Giannis.</p> <p>Ref: 7084 CLUSTERING OF TRIBOLOGICAL FAULTS USING THE WARD METHOD. Antonio P.V. Pinto, Carlos E.F. Bezerra, Andreyvis S. Souza, Marco A.L. Cabral, Efrain P. Matamoros.</p> <p>Ref: 7105 TIME-HARMONIC ANALYSIS OF LINEAR ANISOTROPIC ELASTIC SOLIDS WITH A BOUNDARY ELEMENT METHOD. Leonid Igumnov, Ivan Markov, Igor Vorobtsov, Mikhail Grigoryev.</p> <p>Ref: 7120 NUMERICAL SOLUTION FOR A TRANSIENT PROBLEM OF A SANDSTONE LAYER ON A SOIL FOUNDATION UNDER VERTICAL LOAD USING BEM. Svetlana Litvinchuk, Aleksandr Ipatov, Aleksandr Boev.</p> <p>Ref: 7208 AEROFRACTURE ELASTIC ON WING BOX OF MULTI-PURPOSE COMMUTER AIRCRAFT UNDER GUST LOAD BY MEANS OF XFEM. Nur Azam Abdullah, Nanda Wirawan, Jose L. Curiel Sosa, Mahesa Akbar.</p> <p>Ref: 7223 NUMERICAL AND EXPERIMENTAL ANALYSIS OF AERONAUTICAL CFRP COMPONENTS SUBJECTED TO STRUCTURAL LOADS. Alessandro Castriota, Vito Dattoma, Riccardo Nobile, Francesco Panella, Alessandra Pirinu, Andrea Saponaro.</p> <p>Ref: 7307 FROM PERCOLATION OF FRACTURED MEDIA TO SEISMIC ATTENUATION: A NUMERICAL STUDY. Mikhail Novikov, Vadim Lisitsa.</p> <p>Ref: 7182 EDDY CURRENT APPROACH FOR METALLURGICALLY CLAD PIPE INSPECTION. Cesar G. Camerini, João M.A. Rebello, Rafael W. Santos, João M. Santos, Gabriela R. Pereira.</p> <p>Ref: 7222 DETERMINATION OF ALUMINUM ALLOY EN AW-1100 LIMITING DRAWING RATIO AT DIFFERENT TEMPERATURES THROUGH PRACTICAL EXPERIMENTS AND NUMERICAL SIMULATION USING FINITE ELEMENT METHOD. Gilmar C. Silva, Matheus M. Costa, João P.S. Carneiro, Jorge A.P. Rodrigues, José F.P. Vasconcelos, Daniel C. Maciel, Tiago A. Silva.</p> <p>Ref: 7224 MAGNETIC CHARACTERIZATION OF HEAT-RESISTANT AUSTENITIC STEELS BY USING AN OWN EDDY CURRENT SYSTEM. Mónica P. Arenas, Clara J. Pachecho, Artur L. Ribeiro, Helena G. Ramos, Carlos B. Eckstein, Laudemiro Nogueira Jr., Luiz H. Almeida, João M.A. Rebello, Gabriela R. Pereira.</p> <p>Ref: 7210 ULTRASONIC MEASUREMENT OF RESIDUAL STRESSES IN WELDED JOINTS. Yuri Kudryavtsev, Jacob Kleiman.</p>

19:30-22:30

WELCOME DINNER

VIP Restaurant

TUESDAY, 24 JULY 2018**08:00-12:30****POSTERS SESSION (II)****Lobby**

Topics: D, E, H, J | Symposia: 7, 12

Ref: 7089

INVESTIGATION OF FATIGUE PROPERTIES OF SOME STEAM TURBINE BLADE MATERIALS. Jan Chvojan, Jaroslav Václavík.

Ref: 7240

ADVANCED NUMERICAL TECHNIQUES APPLIED TO THE STRENGTH PREDICTION OF STEPPED-LAP ADHESIVE JOINTS. Rui Machado, Raúl Campilho.

Ref: 7109

NANOINDENTATION INDUCED PLASTIC DEFORMATION IN NANOCRYSTALLINE ZrN COATING. Zhoucheng Wang.

Ref: 7149

ALUMINA DOPING FOR IMPROVING PROPERTIES OF ZIRCONIA CERAMICS. Danil Belichko, Larysa Loladze, Tetyana Konstantinova, Alexandr Myloslavskyy.

Ref: 7290

CARBON NANOTUBES BASED SENSORS FOR DAMAGE DETECTION. Erika Magnifico, Arnaldo Casalotti, Maryam Karimzadeh, Krishna C. Chinnan, Giulia Lanzara.

Ref: 7050

KINEMATICS ANALYSIS OF MOZAMBICAN ATHLETES IN THE 100 METERS RACE. Ercilio Machangan, Anicência Macitela, Alberto Graziano.

Ref: 7051

ANALYSIS OF THE PERFORMANCE OF LOWER MEMBERS IN SUSPENSION SERVICE IN VOLLEYBALL. Anicência Macitela, Alberto Graziano.

Ref:7063

THE EFFECT OF MULTIPLE NEUROTRANSMISSION ON THE BIOMECHANICS OF THE HUMAN STOMACH. Saleh Alrowaili, Roustem Miftahof.

Ref: 7203

INFLUENCE OF BONE QUALITY IN THE BEHAVIOUR OF GRAFT FIXATION IN ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION. Covadonga Quintana, Cristina Rodriguez, Ines Peñuelas, Antonio Maestro.

Ref: 7144

RESEARCH ON THE ANISOTROPIC PROPERTIES OF WOOD AT HIGH-RATE LOADING. Anatoly Bragov, Alexander Konstantinov, Andrey Lomunov.

Ref: 7160

ESTIMATION OF DEFORMATION ENERGY DURING IMPACT DESTRUCTION OF ADHESIVE JOINT SAMPLES. Jan Godzimirski, Andrzej Komorek, Robert Szczepaniak.

Ref: 7226

USE OF COMPUTATIONAL METHODS TO EVALUATE DAMPING DEVICE EFFICIENCY DURING THE DESIGN OF NUCLEAR POWER PLANT EQUIPMENT. A.M. Bragov, O Yu. Vilensky, A. Yu. Konstantinov, D.A. Lapshin, M.G. Malygin, V.V. Petrunin.

Ref: 7073

STUDY OF WEAR BEHAVIOR OF A HELICAL GEAR. Miguel Mousinho, Teresa Morgado, David Braga, Alexandre Velhinho, Carla Machado, J. Pamies Teixeira.

Ref: 7183

DESIGN OF A CONTROL SYSTEM FOR A MEDICAL WRIST REHABILITATION DEVICE. Eurico Seabra, Luis F. Silva, Valdemar Leiras, Ricardo Ferreira.

09:15-10:00**KEYNOTE LECTURE (II)****Auditorium****Professor Yang Ju**
(Nagoya University, Japan)**ENHANCEMENT OF FATIGUE LIFE AND ELONGATION OF METALLIC MATERIALS
BY HIGH-DENSITY PULSED ELECTRIC-CURRENT***Chair: Prof. Shaker A. Meguid (U. Toronto, Canada)***10:00-10:30****COFFEE-BREAK****Coffee Lounge**

10:30-12:30		PAPERS SESSION - 4		All Rooms
Session 4A (Room - A) Symp - 2 <i>Chair: Sergey Zelepugin</i>	Session 4B (Room - B) Symp - 16 & Topic - H <i>Chair: J.C. Reis Campos</i>	Session 4C (Room - C) Symp - 14 & Symp - 15 <i>Chair: Gilberto Santos</i>	Session 4D (Auditorium) Topic - I <i>Chair: Jan Fort</i>	
Ref: 7079 PROTECTION OF STRUCTURES AGAINST LONG PROJECTILES. Alexander Gerasimov, Sergey Pashkov, Roman O. Cherepanov.	Ref: 7294 SURFACE CHANGES (SCANNING ELECTRON MICROSCOPE) INDUCED BY ARTIFICIAL SALIVA IN TITANIUM-MOLIBDENUM ORTHODONTIC LOOPS. Saul Castro, Maria Ponces, J.C. Reis Campos, Jorge Lopes, Maria Pollmann.	Ref: 7065 RELIABILITY AND FAILURE OF POLICY IMPLEMENTATION OF INCLUSIVE DESIGN: CASE STUDIES OF OPEN SPACE IN BEIJING, TAIPEI, AND HONG KONG. Kin W.M. Siu, Yi Lin Wong, Jia Xin Xiao.	Ref: 7057 AGGREGATE SIZE AND LATERAL DIMENSION EFFECTS ON CORE COMPRESSIVE STRENGTH OF CONCRETE. Adel Benidir, M'Hamed Mahdad, Ahmed Brara.	
Ref: 7128 MODELLING OF THE MECHANICAL RESPONSE OF Zr-Nb AND Ti-Nb ALLOYS IN A WIDE TEMPERATURE RANGE. Vladimir A. Skripnyak, Vladimir V. Skripnyak, Evgeniya G. Skripnyak, Nataliya V. Skripnyak.	Ref: 7298 COMPARATIVE STUDY OF FLEXURAL STRENGTH IN THERMOFORMABLE DENTURE BASE RESINS. Tomás Pacheco, José M. Rocha, Nuno V. Ramos, J.C. Reis Campos, Maria H. Figueiral.	Ref: 7245 GUIDELINES FOR THE ALIGNMENT OF THE INTEGRATED MANAGEMENT SYSTEM WITH THE BUSINESS STRATEGY IN INDUSTRIAL COMPANIES. Luis C. Barbosa, Gilberto Santos, Otávio J. Oliveira.	Ref: 7068 EXPERIMENTAL STUDY OF THE MECHANICAL BEHAVIOR OF COMPRESSED STABILIZED EARTH BLOCKS AND WALLS. M'Hamed Mahdad, Adel Benidir, Ahmed Brara.	
Ref: 7145 PROBABILISTIC FAILURE OF CERAMICS UNDER HIGH-VELOCITY IMPACT. Sergey A. Zelepugin, Vladimir F. Tolkachev, Alexey S. Zelepugin.	Ref: 7300 MAXILLARY AND MANDIBULAR SUPERIMPOSITIONS IN THE ASSESSMENT OF ORTHODONTIC TREATMENT OUTCOMES. Berta Meireles, Ana C. Braga, Lucinda G. Faria, Saul Castro, Maria João Ponces.	Ref: 7253 THE CONTRIBUTION OF DESIGN TO THE SUSTAINABLE DEVELOPMENT BY THE TRANSFORMATION OF "NON-PLACES" IN URBAN GARDENS FOR PRACTICING URBAN AGRICULTURE. António Barroso, Maria João Félix, Gilberto Santos.	Ref: 7118 STRAIN-RATE INFLUENCE ON A SHAPE MEMORY ALLOY BASED DAMPER. João Morais, Carlos Santos, Paulo Morais.	
Ref: 7185 DISCRETE ELEMENTS SIMULATION OF GEOLOGICAL FAULT FORMATION. Vadim Lisitsa, Vladimir Tcheverda, Victoria Valyanskaya.	Ref: 7094 MODELING OF LARGE GAUGE ARTERIES WITH A SOFT ELASTIC MEMBRANE PIPE FINITE ELEMENT. F. Q. Melo, A. G. Completo, José Esteves.	Ref: 7257 MATERIALS SELECTION AND INNOVATION SYSTEMS IN PACKING DESIGN FOR HEALTHY FOOD. Verónica Duarte, Maria João Félix.	Ref: 7090 IDENTIFICATION OF HYSTERICALLY DEGRADING STRUCTURES USING THE BOUC-WEN-BABER-NOORI (BWBN) MODEL. Ying Zhao, Mohammad Noori, Wael Altabay.	
Ref: 7225 PENETRATION OF STEEL AND ICE BARRIERS BY A PROJECTILE AT LOW INITIAL SPEEDS (<325 m/s). Maxim Yu. Orlov, Yuri N. Orlov, Viktor P. Glazyrin, Yu. N. Orlova.	Ref: 7316 FORENSIC IDENTIFICATION TOOL IN DENTAL REMOVABLE PROSTHODONTICS. Adélia Fernandes, André Correia, Ana Margarida Silva, Cristina Figueiredo.	Ref: 7295 LINKING MOULD FILLING AND STRUCTURAL SIMULATIONS. Carlos N. Barbosa, Julio C. Viana, Markus Franzen, Thomas Baranowski, Ricardo Simões.	Ref: 7167 INFLUENCE OF 4 BOLTS-PER-ROW CONNECTION ON A STEEL FRAME BUILDING SUBJECTED TO COLUMN LOSS. Daniel Nunes, Ioan Marginean, Adrian Ciutina, Florea Dinu.	
Ref: 7263 A METHOD FOR DETERMINING RELIABILITY OF A SELECTED STRUCTURAL COMPONENT OF AN AIRCRAFT FROM THE POINT OF VIEW OF FATIGUE PROCESSES. Mariusz Zieja, Mirosław Zieja, Mariusz Ważny.		Ref: 7086 FABRICATION LABORATORIES: WHERE NEW DIGITAL TECHNOLOGIES COME TO LIFE. Laura Bravi, Gilberto Santos, Federica Murrura.		
		Ref: 7117 W-W CONNECTIONS IN DOUBLE-SHEAR AT AMBIENT TEMPERATURE: EFFECT OF THE APPLIED TENSILE LOAD AND DOWELS DIAMETER. Abderrahim Aissa, Elza M.M. Fonseca, Alvear P.M. Daniel.		

14:30-16:00

OPEN FORUM

Auditorium

Open Forum on

**Can Professors Balance Scholarly Work, Teaching and Admin?
The Challenges Going Forward**

Members of the Panel:

Professor Shaker A. Meguid (*Chair*)
(U. Toronto, Canada)
Professor Noritsugu Umehara
(U. Nagoya, Japan)
Professor Sergei Mileiko
(ISSP/RAS, Russia)

16:00-16:30

COFFEE-BREAK

Coffee Lounge

16:30-18:00

PAPERS SESSION - 5

All Rooms

Session 5A (Room - A) Symp - 5 <i>Chair: Giorgio Olmi</i>	Session 5B (Room - B) Symp - 16 & Topic - H <i>Chair: Luisa C. Sousa</i>	Session 5C (Room - C) Symp - 15 <i>Chair: Federica Murmura</i>	Session 5D (Auditorium) Topic - I <i>Chair: Hipólito Sousa</i>
Ref: 7124 RESISTANCE OF 3D PRINTED POLYMER STRUCTURES AGAINST FATIGUE CRACK GROWTH. Johannes Knöchel, Michael Kropka, Thomas Neumeyer, Volker Altstädt.	Ref: 7311 GROWTH PATTERN OF FETAL FACIAL STRUCTURES AND ULTRASOUND DIAGNOSIS MEANS FOR OROFACIAL ANOMALIES. Inês Côrte-Real, Rosete Nogueira, Ana C. Braga, J.C. Reis Campos, Francisco Valente, César Silva, Paula Vaz.	Ref: 7164 USING DMAIC FOR AUTOMATED IDENTIFICATION OF CAUSES AND MEASURES. Patrick Drange, Klaus Seiffert, Roland Jochem.	Ref: 7188 EVALUATION OF HYGRIC PROPERTIES OF CONTEMPORARY PLASTERS. Jan Fořt, Zbyšek Pavlík, Lukáš Balík, Robert Černý.
Ref: 7125 FATIGUE RESPONSE OF AS BUILT DMLS PROCESSED MARAGING STEEL AND EFFECTS OF MACHINING, HEAT AND SURFACE TREATMENTS. Dario Crococolo, M. De Agostinis, Stefano Fini, Giorgio Olmi, Francesco Robusto, S. Ciric-Kostic, Aleksandar Vranic, Nusret Muharemovic, N. Bogojevic.	Ref: 7312 BIS-ACRYL RESIN COLOR EVALUATION BEFORE AND AFTER SURFACE TREATMENTS AND IMMERSION IN COLORING BEVERAGES. Susane L. Gras, Joseane Silva, Paula Vaz, César Silva, J.C. Sampaio Fernandes, Claudia Volpato.	Ref: 7175 MAINTENANCE PLANS FOR KNOWN FAULTS EVENTS ADJUSTED WITH FUZZY LOGIC SUPPORT. Joaquin S. Herrera, Jhonny Rodrigues, Miguel Strefezza.	Ref: 7192 APPLICATION OF A COMPLETE STRUCTURAL HEALTH MONITORING CHAIN ON THE CANADIAN RIVIÈRE-AUX-MULETS BRIDGE NUMERICAL MODEL SUBJECTED TO A SEISMIC LOAD. Farouk Frigui, Jean-Pierre Faye, Carmen Martin, Olivier Dalverny, François Peres, Sébastien Judenherc.
Ref: 7126 EXPERIMENTAL STUDY ON THE SENSITIVITY OF DMLS MANUFACTURED MARAGING STEEL FATIGUE STRENGTH TO THE BUILD ORIENTATION AND ALLOWANCE FOR MACHINING. Dario Crococolo, M. De Agostinis, Stefano Fini, Giorgio Olmi, F. Robusto, N. Muharemovic, N. Bogojevic, A.r Vranic, S. Ciric-Kostic.	Ref: 7071 MODELLING OF THE EFFECT OF METOCLOPRAMIDE ON THE BIOMECHANICS OF THE GASTROPARETIC HUMAN STOMACH. Fatima Alhayki.	Ref: 7181 STATISTICAL ANALYSIS OF MAJOR ACCIDENT HAZARDS DATA: LEARNING FROM THE PAST TO DEVELOP A SAFETY CASE. Nasser M. Blahareth, Soliman A. Mahmoud.	Ref: 7195 NUMERICAL STUDY OF THE ROBUSTNESS OF STEEL STRUCTURES WITH FRICTION JOINTS. Francisca Santos, Aldina Santiago, Gianvittorio Rizzano, Luís S. Silva, Massimo Latour.

Ref: 7262 EVALUATION OF DIFFERENT NDT TECHNIQUES FOR THE PRODUCTION OF COMPOSITE MATERIALS FABRICATED BY ADDITIVE MANUFACTURING. J.P. Oliveira, Patrick L. Inácio, Fernando Crivellaro, Carlos P. Simão, E. Camacho, Rosa M. Miranda, A. Velhinho, F.M. Braz Fernandes, Telmo G. Santos.	Ref: 7204 BIOMECHANICAL BEHAVIOUR CHARACTERIZATION OF THE MATERIALS INVOLVED IN ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION. Covadonga Quintana, Cristina Rodriguez, Ines Peñuelas, Antonio Maestro.	Ref: 7196 ADAPTING KANO'S THEORY FOR WEIGHTING AND IMPLEMENTING CUSTOMER REQUIREMENTS ON A SOFTWARE TOOL FOR HUMAN RELIABILITY. Christian Kern, Robert Refflinghaus.	Ref: 7191 ULTIMATE CAPACITY OF STEEL FRAMES WITH BOLTED CONNECTIONS UNDER COLUMN LOSS SCENARIOS. Ioan Marginean, Florea Dinu, Robert Kulcsár, Simina Sabău, Dan Dubina.
	Ref: 7075 CONTRACTILE ACTIVITY OF THE HUMAN STOMACH UNDER COMPLEX STIMULATION. AlDana M. Zaid, Roustem Miftahof.	Ref: 7283 CLUSTER ANALYSIS FOR ENHANCING PROCESS QUALITY IN JOB SHOP PRODUCTION. Antonia Fels, Max Ellerich, Robert Schmitt.	

14:30-19:00**POSTERS SESSION (III)**

Topics: F, I | Symposia: 2, 4, 10, 15, 16

Lobby

Ref: 7194 EVALUATION OF RESEARCH OPPORTUNITIES OF A TRIBOLOGICAL TESTING TAPE MACHINE. Wojciech Żurowski, Wojciech Kucharczyk, Jarosław Zepchło.
Ref: 7201 STATIC AND DYNAMIC ELASTICITY MODULE ANALYSIS OF CEMENT COATING MORTARS. Ana Isabel Marques, João Morais, Carlos Santos, Paulo Morais, Maria do Rosário Veiga.
Ref: 7205 NUMERICAL STUDIES ON SEISMIC RESPONSE OF STEEL AND COMPOSITE ECCENTRICALLY BRACED FRAMES. Mihai Senila, Ioan Petran, Calin Neagu, Florea Dinu.
Ref: 7213 ANALYSIS OF THE GROWTH CURVE FOR THE USE OF THE REJECT OF GRANITE ROSA IRACEMA IN THE MANUFACTURE OF EXIT FUNNELS IN THE TEXTILE INDUSTRY. Joseanne Alves de Sousa, Jorge Luiz Cardoso, Cândido S. Lobo.
Ref: 7250 USE OF STRUCTURAL MASONRY OF CONCRETE BLOCKS AND PROTECTED LABS WITH FENCED CORDOBA IN RESIDENTIAL BUILDINGS. Harlen Nunes, Roberto Carvalho.
Ref: 7261 FIRE DYNAMICS IN OPEN COMPARTMENTS. Paulo Piloto, Ketlen Possoli, Luiz C.M. Júnior, Khadouma Nechab, Benarous Abdallah.
Ref: 7078 PERIDYNAMICS ANALYSIS OF GLASS FRACTURE UNDER EXPLOSION LOAD. Jian Tu, Li-jun Zhao, Shan Yu, Chun-liang Xin.
Ref: 7147 NUMERICAL SIMULATION OF THE EXPLOSIVE COMPACTION OF MULTICOMPONENT MIXTURES. Sergey A. Zelepugin, Oksana Ivanova.
Ref: 7234 ANALYSIS OF THE PENETRATION OF BARRIERS BY IMPACTORS WITH AN EXPLOSIVE SUBSTANCE. Viktor P. Glazyrin, Maxim Yu. Orlov, Yuri N. Orlov.
Ref: 7113 DOUBLE-SHEAR W-S-W CONNECTIONS AT AMBIENT TEMPERATURE, WITH DIFFERENT APPLIED TENSILE LOADS AND STEEL DOWELS DIAMETER. Ruben D.A.R. Martins, Elza M.M. Fonseca.
Ref: 7258 THE ANALYSIS OF THE HELICOPTER TECHNICAL READINESS BY MEANS OF THE MARKOV PROCESSES. Józef Żurek, Mariusz Zieja, Jarosław Ziółkowski.

19:30-23:30**CONFERENCE BANQUET****P.C. Cascais**

WEDNESDAY, 25 JULY 2018

08:00-12:30

POSTERS SESSION (IV)

Lobby

Topics: G, L | Symposia: 5, 6, 13, 14

Ref: 7077
QUANTITATIVE ANALYSIS OF RELATIONSHIP BETWEEN EXTRUSION BLOW MOLDING PROCESS PARAMETERS AND DEFORMATION PROPERTIES. Esther R. Dorp, Berenika Hausnerova, Bernhard Möginger.

Ref: 7059
USING DESIGN S-N CURVES AND DESIGN STRESS SPECTRA FOR PROBABILISTIC FATIGUE LIFE ASSESSMENT OF VEHICLE COMPONENTS. Miloslav Kepka, Miloslav Kepka Jr.

Ref: 7305
METHODOLOGY FOR THE OPTIMIZATION OF AN ENERGY EFFICIENT ELECTRIC VEHICLE. Wojciech Skarka.

Ref: 7133
DEVELOPING THE BEST PREVENTIVE MAINTENANCE POLICY FOR FULLY AUTOMATED SHIP-TO-SHORE CRANE. Yassine Achhal, Hassan Samadi.

Ref: 7155
METHODOLOGICAL FRAMEWORK FOR IMPLEMENTATION OF A PREDICTION RELIABILITY MODEL FOR IGBT POWER MODULES USED IN RAILWAY APPLICATIONS. Essi Dabla, François Pérès, Carmen Martin, Claire Fournier, Michel Piton, Floran Andrianoelison.

Ref: 7064
3D PRINTING TECHNIQUES OF CERAMIC CORES USED FOR TURBINE BLADES MANUFACTURING. Rafal Cygan.

Ref: 7214
HOW BUILD ORIENTATION AND THICKNESS OF ALLOWANCE MAY AFFECT THE FATIGUE RESPONSE OF DMLS PRODUCED 15-5 PH STAINLESS STEEL. Dario Croccolo, Massimiliano De Agostinis, Stefano Fini, Giorgio Olmi, Nebojsa Bogojevic, Snezana Ciric-Kostic.

Ref: 7237
STRUCTURAL VALIDATION OF INTRAMEDULLARY NAILS: FROM EXPERIMENTATION TO VIRTUAL TESTING. Dario Croccolo, Massimiliano De Agostinis, Stefano Fini, Silvia Funaioli, Giorgio Olmi, Francesco Robusto.

Ref: 7310
DYNAMIC STRUCTURAL HEALTH MONITORING OF A TRANSMISSION TOWER USING INTERFEROMETRIC RADAR. Fábio M. Paiva, Rui C. Barros, Luis Guerreiro.

Ref: 7173
FAILURE OF SOCIAL INCLUSION IN PUBLIC SPACE: A CASE STUDY OF CHILDREN'S INCLUSIVE PLAYGROUND AND THEIR ENGINEERING STANDARDS IN HONG KONG. Yi Lin Wong, Mei Seung Lam, Kin W.M. Siu

08:45-09:30

KEYNOTE LECTURE (III)

Auditorium

Professor Veit Senner
(Technical University of Munchen, Germany)

SAFETY IN SPORTS: CHALLENGES AND OPPORTUNITIES

Chair: Prof. Noritsugu Umehara (U. Nagoya, Japan)

09:30-11:00

PAPERS SESSION - 6

All Rooms

<p>Session 6A (Room - A) Topic - L <i>Chair: Soliman Mahmoud</i></p>	<p>Session 6B (Room - B) Topic - G <i>Chair: José M. Cirne</i></p>	<p>Session 6C (Room - C) Symp - 13 <i>Chair: Rui C. Barros</i></p>	<p>Session 6D (Auditorium) Topic - I <i>Chair: Paulo Piloto</i></p>
<p>Ref: 7070 CONDITION MONITORING WITH PREDICTION BASED ON OIL ENGINES OF URBAN BUSES - A CASE STUDY. Hugo Raposo, José T. Farinha, Inácio Fonseca, Luís A. Ferreira.</p>	<p>Ref: 7082 MAIN EXPECTED PROBLEMS DURING THE IMPLEMENTATION OF "INDUSTRY-4.0" REFORMS AND SOLUTIONS. Raul Turmanidze, Vasili Bachanadze, Giorgi Popkhadze.</p>	<p>Ref: 7143 DETECTION OF DEFECTS IN COMPOSITE HELMETS USING ULTRASONIC IR THERMOGRAPHY. Monika Pracht, Waldemar Swiderski.</p>	<p>Ref: 7227 ECODESIGN FOR DECONSTRUCTION IN THE LIFE CYCLE POST-OPERATIONAL STAGE TO IMPROVE CONCRETE RECYCLING IN BRAZIL. Silvia Letícia Vancelkoski, George Stanescu.</p>

<p>Ref: 7148 COMMON CAUSE ANALYSIS OF CIRCULAR VARIABLE NACELLE INLET CONCEPTS FOR AERO ENGINES IN CIVIL AVIATION. Stefan Kazula, David Grasselt, Klaus Höschler.</p>	<p>Ref: 7189 A NUMERICAL AND EXPERIMENTAL STUDY OF THE ENERGY ABSORPTION CAPACITY OF AUXETIC STRUCTURES MANUFACTURED WITH ADDITIVE TECHNOLOGY. Filip Sarbinowski, Remigiusz Labudzki, Rafal Talar, Adam Patalas.</p>	<p>Ref: 7187 MODAL DECOMPOSITION PROCEDURES FOR FE-BASED STRUCTURAL MODELS WITH NON-PROPORTIONAL DAMPING. Evgueni Stanoev.</p>	<p>Ref: 7248 IMPACT OF PREVENTIVE MAINTENANCE ON FLEXIBLE PAVEMENT SERVICE LIFE. Manuel Ruíz, Luis Ramirez, Fermín Navarrina, J.R. Fernández Mesa, David López-Navarrete, Mario Aymerich</p>
<p>Ref: 7153 NEW APPROACH FOR THE JOINT OPTIMIZATION OF THE DESIGN AND MAINTENANCE OF MULTI-COMPONENT SYSTEMS BY INTEGRATION OF LIFE CYCLE COSTS. Oussama Adjoul, Khaled Benfriha, Améziae Aoussat, Yacine Benabid.</p>	<p>Ref: 7270 DESIGN METHODOLOGY OF AN ALUMINIUM CHASSIS. Ana L. Ramos, Oscar Zapata, Tania Berber, Natalia Navarrete.</p>	<p>Ref: 7284 INFLUENCE OF STIFFNESS AND STRENGTH DEGRADATION OF AN INFILL WALL UPON THE PERFORMANCE OF A TMD. Pedro L.P. Folhento, Manuel T. Braz-César, António M.V. Paula, Rui C. Barros.</p>	<p>Ref: 7217 INTEGRATING THREE INSPECTION/MONITORING METHODS FOR CIVIL ENGINEERING APPLICATIONS. Amir Nasrollahi, Piervincenzo Rizzo</p>
<p>Ref: 7157 DEFINITION AND IMPLEMENTATION OF AN INTEGRATED MANAGEMENT PLAN (IMP) APPLIED TO THE EQUIPMENT AT PERIODICAL TECHNICAL INSPECTION (PTI) STATIONS. Julio Julio García-Cordoníe, Pablo Izquierdo, José A. Vilán, Abraham Segade, E. Casarejos, M.L. Lago.</p>	<p>Ref: 7301 COMPARISON OF UNIBODY AND FRAME BODY VERSIONS OF ULTRA EFFICIENT ELECTRIC VEHICLE. Wojciech Skarka, Tomasz Pabian, Michał Sosnowski.</p>	<p>Ref: 7285 STRUCTURAL CONTROL OF A SDOF FRAME WITH NON-LINEAR HYSTERETIC BEHAVIOR USING A TUNED MASS DAMPER. Pedro L.P. Folhento, Manuel T. Braz-César, António M.V. Paula, Rui C. Barros.</p>	<p>Ref: 7202 DEVELOPMENT OF ALTERNATE LOAD PATHS IN STEEL FRAMES WITH COMPOSITE BEAMS SUBJECT TO ACCIDENTAL EXPLOSIONS. Florea Dinu, Ioan Marginean, Ioan Petran, Mihai Senila, Calin Neagu, Dan Dubina.</p>
<p>Ref: 7169 A MECHANICAL AND STATE ANALYSIS OF A GAS TURBINE. Suzana Lampreia, Vítor Lobo, José Requeijo.</p>		<p>Ref: 7308 SEISMIC ANALYSIS OF THE IRREGULAR FIRE STATION BUILDING OF L'AQUILA. Marco Scagnetti, Rui C. Barros, Marco Mezzi.</p>	<p>Ref: 7236 INVESTIGATION INTO THE DOUBLE-LAYER BARREL VAULT SPACE STRUCTURE RESISTANCE TO PROGRESSIVE COLLAPSE. Karim Abedi, Shahram R. Kolachahi.</p>
		<p>Ref: 7309 ON THE USE OF RADAR INTERFEROMETRY FOR THE STRUCTURAL MONITORING OF BRIDGES. Rui C. Barros, Fábio M. Paiva.</p>	

11:00-11:30

COFFEE-BREAK

Coffee Lounge

11:30-12:45

PAPERS SESSION - 7

All Rooms

<p>Session 7A (Room - A) Symp - 4 & Topic - F <i>Chair: N. Umehara</i></p>	<p>Session 7B (Room - B) Symp - 6 <i>Chair: Massimiliano De Agostinis</i></p>	<p>Session 7C (Room - C) Symp - 8 <i>Chair: Clito F. Afonso</i></p>	<p>Session 7D (Auditorium) Topic - I <i>Chair: Florea Dinu</i></p>
<p>Ref: 7091 EFFECT OF SURFACE ENERGY ON FRICTION COEFFICIENT OF CARBONACEOUS HARD COATINGS BY IN-SITU MEASUREMENT IN ESEM. Taichi Nakao, Makoto Terada, Noritsugu Umehara, Motoyuki Murashim.</p>	<p>Ref: 7122 A NOVEL FINITE ELEMENT MODEL METHODOLOGY FOR THE GENERIC MODELLING OF ADHESIVE AGEING. Mathias Creyf, Pol Coudeville, Wim Desmet, David Seveno, Stijn Debruyne.</p>	<p>Ref: 7056 DATA CENTERS AND THEIR ENERGY CONSUMPTION FOR CLIMATIZATION. Clito F. Afonso, João Moreira.</p>	<p>Ref: 7259 TIMBER SHEAR WALLS: NUMERICAL ASSESSMENT OF THE EQUIVALENT VISCOUS DAMPING. Giorgia Di Gangi, Cristoforo Demartino, Giuseppe Quaranta, Marco Vailati, Giorgio Monti.</p>
<p>Ref: 7154 THE INFLUENCE OF MOLECULAR CLUSTERS ON LUBRICATING FILM FORMATION. Antoni Jankowski, Mirosław Kowalski, Andrzej Kulczycki, Wojciech Dziegielewski, Jarosław Kaluzny, Jerzy Merkisz.</p>	<p>Ref: 7136 INFLUENCE OF THE STIFFNESS AND FRICTIONAL CHARACTERISTICS ON THE SHANK TORQUE OF SCREWS IN BOLTED JOINTS. Dario Croccolo, Massimiliano De Agostinis, Stefano Fini, Giorgio Olmi, Francesco Robusto, Omar Cavalli, Nicolò Vincenzi.</p>	<p>Ref: 7115 A METHOD FOR HEAT TRANSFER CALCULATION IN FOUR-STROKE SPARK IGNITION INTERNAL COMBUSTION ENGINES. Pedro Carvalheira.</p>	<p>Ref: 7260 THERMAL EFFECT OF A LOCALIZED FIRE IN THE STEEL STRUCTURE OF AN OPEN CAR PARK. Paulo Piloto, Edson M.S. Júnior, Francisco A.A. Gomes.</p>

Ref: 7302 PROPOSAL OF DEVELOPMENT GUIDLINE FOR LOW FRICTIONAL MATERIAL IN OIL LUBRICATION WITH HIGH PERMITTIVITY MATERIAL. Motoyuki Murashima, See-Jun Oh, Takaaki Miyachi, Noritsugu Umehara, Takayuki Tokoroyama, Kota Konishi, Tatsuya Okamoto.	Ref: 7242 DESIGN INFLUENCES OF PRELOAD RELAXATION BEHAVIOUR IN BOLTED JOINTS USING ALUMINIUM PARTS. Jens Peth, Christoph Friedrich.	Ref: 7116 A METHOD FOR MASS BURNING RATE CALCULATION IN FOUR-STROKE SPARK IGNITION INTERNAL COMBUSTION ENGINES. Pedro Carvalheira.	Ref: 7275 PERFORMANCE OF DUAL-SHOULDER-MOUNT-TRUSS WEATHERING-STEEL OVERHEAD SIGN STRUCTURES IN WEST VIRGINIA. Wael Zatar, Hai Nguyen.
Ref: 7306 THE WEAR OF DIAMOND-LIKE CARBON BY MOLYBDENUM BASED PARTICLES UNDER BOUNDARY LUBRICATION. Takayuki Tokoroyama, Takahiro Nishino, Makoto Yamaguchi, Khairul Kassim, Noritsugu Umehara.			Ref: 7286 STABILITY EVALUATION OF MARBLE STONE CLADDING AFFECTED BY BOWING AND WIND PRESSURE - A CASE STUDY. Rui Sousa, Hipólito Sousa.
Ref: 7076 STRUCTURAL DEGRADATION OF LUBRICATING GREASES. AN ENERGY DRIVEN PROCESS. Erik Kuhn.			

12:45-13:00**CONFERENCE CLOSURE****Auditorium****13:00-15:00****LUNCH****VIP Restaurant****THURSDAY, 26 JULY 2018****SOCIAL PROGRAM****University Visits, Excursions and Networking**

IRF2018 PROGRAM

Lisbon, 22-26 July 2018

Time	SUN	MONDAY (23 July)	TUESDAY (24 July)	WEDNESDAY (25 July)	THU					
08:00	EARLY BIRD REGISTRATION	REGISTRATION	REGISTRATION & POSTER SESSION (II)	REGISTRATION & POSTER SESSION (IV)	SOCIAL PROGRAM, UNIVERSITY VISITS, EXCURSIONS AND NETWORKING					
09:00		OPENING SESSION	KEYNOTE LECTURE (I)	KEYNOTE LECTURE (II)		KEYNOTE LECTURE (III)				
10:00		COFFEE-BREAK	COFFEE-BREAK	Session 6A Topic - L		Session 6B Topic - G	Session 6C Symp - 13	Session 6D Topic - I		
11:00		Session 1A Topic - A	Session 1B Symp - 9 Topic - B	Session 1C Topic - C		Session 1D Topic - D	Session 4A Symp - 2	Session 4B Symp - 16 Topic - H	Session 4C Symp - 14 Symp - 15	Session 4D Topic - I
12:00		COFFEE-BREAK	COFFEE-BREAK	Sess. 7A Symp - 4 Topic - F		Sess. 7B Symp - 6	Sess. 7C Symp - 8	Sess. 7D Topic - I		
13:00		LUNCH	LUNCH	CLOSING SESSION						
14:00		LUNCH	LUNCH	LUNCH						
15:00		Session 2A Topic - A	Session 2B Symp - 9	Session 2C Symp - 1 Topic - C		Session 2D Symp - 3 Topic - D	OPEN FORUM Scholarly Work, Teaching and Administration			
16:00		COFFEE-BREAK	COFFEE-BREAK	Session 5A Symp - 5		Session 5B Symp - 16 Topic - H	Session 5C Symp - 15	Session 5D Topic - I		
17:00		Session 3A Topic - E	Session 3B Symp - 10	Session 3C Topic - J		Session 3D Symp - 7 Symp - 12	Session 3E Symp - 11	Session 3F Topic - K		
18:00	POSTER SESSION (I)	POSTER SESSION (II)	POSTER SESSION (III)	POSTER SESSION (IV)	POSTER SESSION (V)	POSTER SESSION (VI)				
19:00	WELCOME DINNER	CONFERENCE BANQUET	CONFERENCE BANQUET	CONFERENCE BANQUET	CONFERENCE BANQUET	CONFERENCE BANQUET				

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