# Program

**Tuesday, 24/May/2016**

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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>16:00 – 20:00</td>
<td>Registration</td>
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<tr>
<td>18:00 – 20:00</td>
<td>Welcome Reception</td>
<td>Atrium</td>
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<tr>
<td>19:00 – 20:00</td>
<td>Round table</td>
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**Wednesday, 25/May/2016**

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<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>08:00 – 09:00</td>
<td>Registration</td>
<td>University of Dubrovnik</td>
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<tr>
<td>09:00 – 09:10</td>
<td>Conference Opening</td>
<td>University of Dubrovnik</td>
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<tr>
<td>09:10 – 09:50</td>
<td>Plenary Lecture: A Review on Constraint Concept and its Influence on Fracture Toughness</td>
<td>University of Dubrovnik</td>
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<tr>
<td>09:50 – 10:30</td>
<td>Plenary Lecture: Two Basic Approaches in a Search of the Crack Path</td>
<td>University of Dubrovnik</td>
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<tr>
<td>10:30 – 11:00</td>
<td>Coffee Break</td>
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<tr>
<td>11:00 – 12:30</td>
<td>Fatigue and fracture of polymers, elastomers, composites and biomaterials 1 (FFP.1)</td>
<td>CONFERENCE HALL</td>
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<td></td>
<td>Applications to components and structures 1 (ACS.1)</td>
<td>LECTURE ROOM 4</td>
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<td></td>
<td>Reliability and integrity of engineering structures 1 (RIE.1)</td>
<td>LECTURE ROOM 5</td>
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<td></td>
<td>Models, criteria and methods in fracture mechanics 1 (MCM.1)</td>
<td>LECTURE ROOM 6</td>
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<tr>
<td>12:30 – 13:40</td>
<td>Lunch</td>
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<tr>
<td>13:40 – 15:10</td>
<td>Fatigue and fracture of polymers, elastomers, composites and biomaterials 2 (FFP.2)</td>
<td>CONFERENCE HALL</td>
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<tr>
<td></td>
<td>Applications to components and structures 2 (ACS.2)</td>
<td>LECTURE ROOM 4</td>
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<td>Corrosion, environmentally enhanced degradation and cracking, corrosion fatigue 1 (CEE.1)</td>
<td>LECTURE ROOM 5</td>
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<td>Special Session: Sustainable Materials Science and Technology 1 (SMS.1)</td>
<td>LECTURE ROOM 6</td>
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<td>15:10 – 15:30</td>
<td>Coffee Break</td>
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<tr>
<td>15:30 – 16:50</td>
<td>Analytical Models 1 (AMO.1)</td>
<td>CONFERENCE HALL</td>
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<td>Low, medium and high cycle fatigue 1 (LMH.1)</td>
<td>LECTURE ROOM 4</td>
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<td>Corrosion, environmentally enhanced degradation and cracking, corrosion fatigue 2 (CEE.2)</td>
<td>LECTURE ROOM 5</td>
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<td>Mini-Symposia: Constraints in Fracture Mechanics 1 (CFM.1)</td>
<td>LECTURE ROOM 6</td>
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<tr>
<td>16:50 – 17:30</td>
<td>Poster Session</td>
<td>Hall</td>
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<tr>
<td>17:30 –</td>
<td>Dubrovnik City Center Tour</td>
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**Thursday, 26/May/2016**

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<tr>
<th>Time</th>
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<tr>
<td>8:00 – 9:00</td>
<td>Registration</td>
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<tr>
<td>9:00 – 9:40</td>
<td><strong>Plenary Lecture:</strong> Recent Trends in Multiscale Materials Modelling</td>
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<tr>
<td></td>
<td>Schmauder, S.</td>
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<td>Room: CONFERENCE HALL</td>
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<td></td>
<td>Chair: Gubeljak, N.</td>
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<tr>
<td>9:40 – 10:20</td>
<td><strong>Plenary Lecture:</strong> Analysis of Creep Crack Initiation and Growth Data of P91 Weldments at 600 °C</td>
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<td></td>
<td>Sedmak, A.</td>
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<td>Room: CONFERENCE HALL</td>
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<td>Chair: Gubeljak, N.</td>
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<tr>
<td>10:20 – 10:40</td>
<td>Coffee Break</td>
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<tr>
<td>10:40 – 12:10</td>
<td><strong>Mini-Symposia:</strong> Fracture and damage of cementitious materials 1 (FDC.1)</td>
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<td>Chair: Milošević, M.</td>
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<td></td>
<td>Damage mechanics and models 1 (DMM.1)</td>
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<td>Room: LECTURE ROOM 4</td>
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<td>Chair: Sedmak, A.</td>
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<td></td>
<td>Multiaxial/mixed mode loading 1 (MMM.1)</td>
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<td></td>
<td>Chair: Huiji Shi, W. Q.</td>
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<td></td>
<td>Models, criteria and methods in fracture mechanics 2 (MCM.2)</td>
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<td>Room: LECTURE ROOM 6</td>
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<td>Chair: Madenci, E.</td>
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<tr>
<td>12:10 – 13:20</td>
<td>Lunch</td>
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<tr>
<td>13:20 – 14:00</td>
<td><strong>Plenary Lecture:</strong> A Review of T-Stress Calculation Methods in Fracture Mechanics Computation</td>
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<td>Hadj Meliani, M.</td>
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<td>Room: CONFERENCE HALL</td>
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<td>Chair: Matvienco, Y.</td>
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<tr>
<td>14:00 – 14:40</td>
<td><strong>Plenary Lecture:</strong> Infelence of Secondary Orientations on Fatigue Crack Closure</td>
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<td>Behavior in a Single Crystal Superalloy</td>
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<td>Huiji Shi, W. Q.</td>
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<td>Chair: Matvienco, Y.</td>
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<td>Room: CONFERENCE HALL</td>
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<td>Chair: Pathak, N.</td>
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<td>Fatigue and fracture of weldments, welded components, joints and adhesives 1 (FFW.1)</td>
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<td>Chair: Vučković, K.</td>
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<td>Chair: Papuga, J.</td>
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<td><strong>Special Session:</strong> Fatigue Modelling on Different Length Scales 1 (FMD.1)</td>
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<td>Chair: Bao, R.</td>
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<td>15:00 – ...</td>
<td>Dubrovnik City Walls Tour (for accompanying persons)</td>
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<td>19:30 – ...</td>
<td>Conference Dinner</td>
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<tr>
<td>8:00 – 9:00</td>
<td>Registration</td>
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</table>
| 9:00 – 10:30 | Finite elements methods and their application 1 (FEM.1)  
Room: CONFERENCE HALL  
Chair: Butković, M.  
Effect of residual stresses 1 (ERS.1)  
Room: LECTURE ROOM 4  
Chair: Amiri Darehbidi, M.  
Fracture and failure criteria 1 (FFC.1)  
Room: LECTURE ROOM 5  
Chair: Franulović, M.  |                   |
| 10:30 – 10:50| Coffee Break                         |                   |
| 10:50 – 12:10| Finite elements methods and their application 2 (FEM.2)  
Room: CONFERENCE HALL  
Chair: Matvienko, Y.  
Fatigue crack path prediction 1 (FCP.1)  
Room: LECTURE ROOM 4  
Chair: Ambriz, R.  
Fracture and failure criteria 2 (FFC.2)  
Room: LECTURE ROOM 5  
Chair: Hadj Meliani, M.  
Low, medium and high cycle fatigue 2 (LMH.2)  
Room: LECTURE ROOM 6  
Chair: Pruncu, C. I.  |                   |
| 12:10 – 13:20| Lunch                                |                   |
| 13:20 – 14:00| Conference Closing                   |                   |

Room: CONFERENCE HALL
# 16th International Conference on New Trends in Fatigue and Fracture

**Centre for Advanced Academic Studies**  
**Dubrovnik, Croatia, May 24 - 27, 2016**  

## Detailed Program

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### Wednesday, 25/May/2016

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<tbody>
<tr>
<td>8:00 – 9:00</td>
<td>Registration</td>
<td>University of Dubrovnik, Main Campus Building, Branitelja Dubrovnika 41 - CONFERENCE HALL</td>
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<tr>
<td>9:00 – 9:10</td>
<td>Conference Opening</td>
<td>University of Dubrovnik, Main Campus Building, Branitelja Dubrovnika 41 - CONFERENCE HALL</td>
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<td>9:10 – 9:50</td>
<td>Plenary Lecture:</td>
<td>University of Dubrovnik, Main Campus Building, Branitelja Dubrovnika 41 - CONFERENCE HALL</td>
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<tr>
<td>10:30 – 11:00</td>
<td>Coffee Break</td>
<td>University of Zagreb, CAAS, Don Frana Bulica 4</td>
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### 11:00 – 12:30 Fatigue and fracture of polymers, elastomers, composites and biomaterials 1 (FFP.1)

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<tr>
<td>11:00-11:30</td>
<td>Keynote Lecture:</td>
<td>University of Dubrovnik, Main Campus Building, Branitelja Dubrovnika 41 - CONFERENCE HALL</td>
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<td>11:30-11:50</td>
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<td>University of Dubrovnik, Main Campus Building, Branitelja Dubrovnika 41 - CONFERENCE HALL</td>
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### 11:00 – 12:30 Applications to components and structures 1 (ACS.1)

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<td>University of Dubrovnik, Main Campus Building, Branitelja Dubrovnika 41 - CONFERENCE HALL</td>
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</tbody>
</table>
11:00-11:30 Keynote Lecture:
STRUCTURAL INTEGRITY ASSESSMENT OF AN AXLE PIN OF A WIND-TURBINE
Gubeljak, Nenad; Cvetić, Miljenko; Božić, Željko; Predan, Jožef

11:30-11:50 COMPARISON OF EXPERIMENTAL AND ANALYTIC EVALUATION OF STRAIN AT LOADING OF COMPOSITE NACELLE PERFORMED IN THE FRAME OF 7.FWP ESPOSA
Kafka, Václav; Osmeda, Anna; Havlík, Vojtěch; Hron, Robin; Mlích, Ivan

11:50-12:10 ASSESSMENT OF CRACKED PIPE BY MONTE CARLO METHOD SUBJECT TO TRANSIENT FLOW
Hassani, M.; Bouledroua, O.; Hadj Meliani, M.; Sadou, L.; Pluvinage, G.

13:40-14:10 Keynote Lecture:
PERIDYNAMICS FOR PREDICTING DAMAGE AND ITS GROWTH IN COMPOSITES
Hu, Yile; Madenci, Erdogan; Phan, Nam

14:10-14:30 FRACTURE AT THE COMPATIBILIZED POLYMER/POLYMER INTERFACE
Seo, Youngwook; Kim, Hoyun; Seo, Yongsok

14:30-14:50 COMPUTATION OF T-STRESS AND SIF IN THREE-POINT-BEND SPECIMENS UNDER VARIOUS LOADING CONDITION: A NUMERICAL ANALYSIS
Khelil, Foudil; Aour, Benoumer; Hadj Meliani, Mohamed; Belhouari, Mohamed; Benhamana, Ali

14:50-15:10 EXPERIMENTAL AND NUMERICAL STUDY OF ENERGY RELEASE RATE OF [±θ] COMPOSITE LAMINATE PIPE.
Rekbi, Fares Mohammed Laid; Hecini, Mabrouk; Khechai, Abdelhak

11:00 – 12:10 Reliability and integrity of engineering structures 1 (RIE.1)
Room: LECTURE ROOM 5 - 1st floor
Session Chair: Milović, LJ.

11:00-11:30 Keynote Lecture:
RELIABILITY AND INTEGRITY OF ENGINEERING STRUCTURES 1 (RIE.1)
Session Chair: Milović, LJ.

11:30-11:50 COMPARISON OF EXPERIMENTAL AND ANALYTIC EVALUATION OF STRAIN AT LOADING OF COMPOSITE NACELLE PERFORMED IN THE FRAME OF 7.FWP ESPOSA
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Hassani, M.; Bouledroua, O.; Hadj Meliani, M.; Sadou, L.; Pluvinage, G.

13:40 – 15:10 Fatigue and fracture of polymers, elastomers, composites and biomaterials 2 (FFP.2)
Room: CONFERENCE HALL - ground floor
Session Chair: Naït Abdelaziz, M.

13:40-14:10 Keynote Lecture:
EFFECTS OF CSR NANO-PARTICLES ON FRACTURE BEHAVIOUR OF EPOXY RESIN: A COMBINED MULTI-SCALE EXPERIMENTAL-NUMERICAL STUDY
Cardiff, Philip; Ivanovic, Alojz; Murphy, Neal; Quan, Dong; Tukovic, Z.

14:10-14:30 EXPERIMENTAL AND NUMERICAL STUDY OF ENERGY RELEASE RATE OF [±90] COMPOSITE LAMINATE PIPE.
Rekbi, Fares Mohammed Laid; Hecini, Mabrouk; Khechai, Abdelhak

14:30-14:50 COMPUTATION OF T-STRESS AND SIF IN THREE-POINT-BEND SPECIMENS UNDER VARIOUS LOADING CONDITION: A NUMERICAL ANALYSIS
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Rekbi, Fares Mohammed Laid; Hecini, Mabrouk; Khechai, Abdelhak

11:00 – 12:30 Models, criteria and methods in fracture mechanics 1 (MCM.1)
Room: LECTURE ROOM 6 – 2nd floor
Session Chair: Piska, M.

11:00-11:30 Keynote Lecture:
PERIDYNAMICS FOR PREDICTING DAMAGE AND ITS GROWTH IN COMPOSITES
Hu, Yile; Madenci, Erdogan; Phan, Nam

11:30-11:50 BIEM WITH NONLINEAR CONSTRAINTS FOR CRACKED MATERIALS UNDER DYNAMIC LOADING
Menshykov, O.; Menshykova, M.; Guz, I.A.; Mikucka, V.

11:50-12:10 A PROBABILISTIC EQUIVALENT APPROACH OF A LOAD SPECTRUM
Xu, Lipu; Yao, Weixing

12:10-12:30 IDENTIFICATION OF THE EFFECTIVE FATIGUE STRESS INTENSITY FUNCTION THRESHOLD FOR DIFFERENT STRESS RATIOS R CONSIDERING ROUGHNESS INDUCED CRACK CLOSURE: FROM FRETTING TO C(T) FATIGUE EXPERIMENTS
Ferniot, Julien; de Pannemaeker, Alix; Fouvry, Siegfried; Brochu, Myriam; Buffiere, Jean-Yves
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<tr>
<td>14:30-14:50</td>
<td>TECHNOLOGY OF MECHANICAL TREATMENT OF ALLOYS OF THE INTERMETALLICS.</td>
<td>Titov, Yuri; Rechenko, Denis; Logachev, Ivan</td>
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<tr>
<td>14:50-15:10</td>
<td>IN-SITU REPAIR OF STEAM TURBINE BLADE/ROTOR ATTACHMENT HOLE</td>
<td>Hattingh, D. G.; James, M. N.; Newby, M.; Scheepers, R.; Doubell, P.</td>
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| 13:40-15:10  | **Corrosion, environmentally enhanced degradation and cracking, corrosion fatigue 1 (CEE.1)** |                      | Room: LECTURE ROOM 5 - 1st floor  
Session Chair: Fares, C.  
**Keynote Lecture:**  
EFFECT OF THE PRE-CORROSION ATTACK ON THE ULTRASONIC FATIGUE ENDURANCE OF THE TITANIUM ALLOY TI-6AL-4V  
Dominguez Almaraz, G. M.; Zuñiga Tello, I. F.; Guzmán Tapia, M.; Avila Ambriz, J. L.  
**CRACK PROPAGATION MODELS: NUMERICAL AND EXPERIMENTAL RESULTS ON TI-6AL-4V NOTCHED SPECIMENS**  
Baragetti, Sergio; Villa, Francesco  
**FAILURE BEHAVIOR OF HIGH PERFORMANCE PORCELAIN INSULATORS**  
Hettich, P.; Schell, K.G.; Oberacker, R.; Bucharsky, E.C.; Schulte-Fischedick, J.; Hoffmann, M.J.  
**INVESTIGATIONS OF HYPOCYCLOIDAL HUB AND SHAFT CONNECTIONS**  
Leidich, Erhard; Reiß, Friedemann; Schreiter, René |
| 13:40-15:10  | **Special Session:**  
Sustainable Materials Science and Technology 1 (SMS.1) |                      | Room: LECTURE ROOM 6 – 2nd floor  
Session Chair: Szávai, S.  
**Keynote Lecture:**  
STRUCTURE, STIFFNESS AND FRACTURE TOUGHNESS OF BAMBOO  
Sayyad, Mannan; Sumit, Basu  
**EFFECT OF CUTTING CONDITIONS ON SURFACE STATE BY TURNING WITH HARD MATERIALS**  
Aouad, R.; Amara, I.  
**FLEXURAL MODULUS OF POLYESTER RESIN/MISCANTHUS×GIGANTEUS BIOCOMPOSITES**  
Žmak, Irena; Vurnek, Vjekoslav; Šundrica, Jadran  
**COMRESSIVE BEHAVIOUR OF BASALT FIBRE REINFORCED RAC COLUMNS CONFINED BY STEEL TUBE AND AFPR SHEETS**  
| 15:10 – 15:30 | **Coffee Break**                                                      |                      |                   |
| 15:30 – 16:30 | **Analytical Models 1 (AMO.1)**                                       |                      | Room: CONFERENCE HALL - ground floor  
Session Chair: Tóth, L.  
**MODELING OF WAVE RESPONSES TO PROPAGATING DISLOCATION SOURCE IN LAYERED MATERIALS**  
Zhang, R.C.; Ma, Z.G.; Zhao, G.Z.; Alamin, A.  
**ANALYTICAL EXPRESSION OF SHAPE FACTOR OF A CRACKED STRUCTURE REPAIRED BY COMPOSITE PATCH (I MODE)**  
Baltach, A.; Djebli, A.; Benhamena, A.; Aid, A.  
**NONLINEAR RESONANCE PHENOMENON OF HELICAL SPRINGS SUBMITTED TO ANGULAR SPEED**  
Ayadi, Sami; Haj Taleb, Ezzeddine |
| 15:30 – 16:50 | **Low, medium and high cycle fatigue 1 (LMH.1)**                       |                      | Room: LECTURE ROOM 4 - 1st floor  
Session Chair: Basan, R.  
**THE CHARACTERISATION OF ISOTHERMAL LCF BEHAVIOUR OF A P91 CHROME STEEL USING COTTRELL’S STRESS PARTITION METHOD AND A UNIFIED VISCO-PLASTIC MATERIAL MODEL**  
Rouse, J. P.; Kyaw, S. T.; Lu, J.; Sun, W.; Hyde, C. J.  
**METODOLOGY FOR DETERMINING THE REGION OF STABILIZATION OF LOW-CYCLE FATIGUE**  
Aleksić, Vujadin; Aleksić, Bojana; Milović, Ljubica  
**GRAIN SIZE AND AUSTENITE STABILITY IN FATIGUE OF A REVERSION-TREATED 301LN TYPE STAINLESS STEEL**  
Järvenpää, Antti; Jaskari, Matias; Karjalainen, Leo Pentti |
16:30-16:50 USE OF DIGITAL IMAGE CORRELATION IN MEASURING OF CRACK PROPAGATION IN A THREE POINT BENDING SPECIMEN
Sedmak, S. A.; Milovíc, L.; Jovicic, R.; Djordjevic, B.; Dzindo, E.; Zrilic, M.; Maneski, T.

15:30 – 16:50 Corrosion, environmentally enhanced degradation and cracking, corrosion fatigue 2 (CEE.2)

15:30-15:50 AN APPROACH TO OPTIMIZE GTAW WELDING PARAMETERS BY USING DESIGN OF EXPERIMENTS TO REDUCE THE EFFECT OF STRESS CORROSION
Kessal, Belkacem Amine, Chahinez Fares, Ljubica Milovic, Fodil Hammadi, Madjid Ouchène

15:50-16:10 CORROSION AND SCALE GREEN INHIBITORS ON CORROSION EFFECTS ON THE FRACTURE MECHANICS PROPERTIES OF GAS PIPELINES
Ouled Mbereick, M.; Hadj Meliani, M.; Khaled, El-Miloudi; Fares, C.; Benghalia, M.A.

16:10-16:30 AGING EFFECTS ON SHIP STRUCTURAL SAFETY
Parunov, Joško; Jurišić, Paul; Ćorak, Maro

16:30-16:50 ABRASION AND EROSION WEAR OF ELECTRODEPOSITED NI-SIC NANO-COMPOSITE COATINGS
Alar, Vesna; Žmak, Irena; Stojanović, Ivan; Šimunović, Vinko; Čeralinac, Zoran

15:30 – 16:10 Mini-Symposia:
Constraints in Fracture Mechanics 1 (CFM.1)

15:30-15:50 CORROSION DEFECT ASSESSMENT ON PIPES REPAIRING BY BONDED COMPOSITE PATCH
Neggaz, Djamel; Fodil, Lahouari; El Azizi, Adellah; Hadj Meliani, Mohammed

15:50-16:10 STATIC AND DYNAMIC TEARING OF THIN STEEL SHEETS WITH THE TWO FRACTURE MECHANICS APPROACH
Nateche, T., Benzaama, A.; El Azizi, A., Hadj Meliani, M.; Pluvinage, G.

16:50 – 17:30 Poster Session
List of Poster contributions is given on pages 12-13
Room: Hall

17:30 – ... Dubrovnik City Center Tour

Thursday, 26/May/2016

8:00 – 9:00 Registration

9:00 – 9:40 Plenary Lecture:
Recent Trends in Multiscale Materials Modelling
Schmauder, S.
Room: CONFERENCE HALL - ground floor
Chair: Gubeljak, N.

9:40 – 10:20 Plenary Lecture:
Analysis of Creep Crack Initiation and Growth Data of P91 Weldments at 600 °C
Sedmak, A.
Room: CONFERENCE HALL - ground floor
Chair: Gubeljak, N.

10:20 – 10:40 Coffee Break

10:40 – 11:50 Mini-Symposia:
Fracture and damage of cementitious materials 1 (FDC.1)

10:40-11:10 Keynote Lecture:
SIMULATION OF REAL REMOVAL OF HEAT-AFFECTED CONCRETE LAYERS BY WATER JETS DURING REPAIR WORKS
Sitek, Libor; Bodnárová, Lenka; Foldyna, Josef; Klich, Jiří
<table>
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<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>11:10-11:30</td>
<td>FAILURE CRITERIA FOR ENERGETIC MATERIALS</td>
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<td>Chatti, M.; Gratton, M.; Frachon, A.; Caliez, M.; Aithocine, N.</td>
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<td>11:30-11:50</td>
<td>MICROSTRUCTURAL AND MECHANICAL PROPERTIES OF WC-CO/1020 STEEL BRAZED JOINT</td>
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<td>Cheniti, B.; Miroud, D.; Yahmi, Y.</td>
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<td>10:40 – 12:10</td>
<td><strong>Damage mechanics and models 1 (DMM.1)</strong></td>
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<td><strong>Keynote Lecture:</strong> FREQUENCY DECOMPOSITION DAMAGE MODEL TO ASSESS VERY/HIGH CYCLE FATIGUE LOAD INTERACTION EFFECTS</td>
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<td>Leung, Kai Wing Kelvin; Amiri, Mehdi; Iyyer, Nagaraja; Phan, Nam</td>
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<td>10:40-11:10</td>
<td>DETERMINATION OF THE FATIGUE DAMAGE IN DELAMINATION OF COMPOSITE MATERIALS</td>
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<td>Bazazzadeh, Soheil; Zaccariotto, Mirco; Galvanetto, Ugo</td>
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<td>10:40 - 11:50</td>
<td><strong>Multiaxial/mixed mode loading 1 (MMM.1)</strong></td>
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<td><strong>Keynote Lecture:</strong> MULTIAXIAL FATIGUE DAMAGE: A CHALLENGE</td>
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<td>Reis, Luis; Anes, Vitor; Freitas, Manuel</td>
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<td>11:50-12:10</td>
<td>MODELLISATION OF THE BEHAVIOR OF THE HIGH-DENSITY POLYETHYLENE (HDPE) BY USING THE CONTINUUM DAMAGE MECHANICS MODEL.</td>
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<td>Aid, Abdelkrim; Benhamena, Ali; Djebli, Abdelkader; Bendouba, Mostefa</td>
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<td>14:00 – 14:40</td>
<td>Plenary Lecture: A Review of T-Stress Calculation Methods in Fracture Mechanics Computation</td>
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<td>Hadj Meliani, M.</td>
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<td>14:00 – 14:40</td>
<td>Plenary Lecture: Infelence of Secondary Orientations on Fatigue Crack Closure Behavior in a Single Crystal Superalloy</td>
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<td>Huiji Shi, W. Q.</td>
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</table>
### 14:40 – 15:00 Coffee Break

### 15:00 – 16:20 Mini-Symposia:

**Fracture and damage of cementitious materials 2 (FDC.2)**
Room: CONFERENCE HALL - ground floor  
Session Chair: Pathak, N.

- **15:00-15:20**  
  FATIGUE BEHAVIOR OF CEMENT-MODIFIED SOILS REINFORCED WITH A SMALL AMOUNT OF FIBERS  
  Lenoir, Thomas; Preteseille, Mathieu

- **15:20-15:40**  
  NUMERICAL ANALYSIS OF THE STRENGTHENING REINFORCED CONCRETE SLAB SUBJECTED TO THE DROP OF A MASS  
  Taouche.Kheloui, F.; Alt Tahar, K.; Zaidi, S.; Si Salem, A.; Belaidi, O.

- **15:40-16:00**  
  A REVIEW ON FATIGUE AND SURFACE ENHANCEMENT METHODOLOGY OF TURBINE ENGINE PARTS  
  Ochonogor, O. F.; Akinlabi, Esther T.; Nyembwe, Didier

**Fatigue and fracture of weldments, welded components, joints and adhesives 1 (FFW.1)**
Room: LECTURE ROOM 4 - 1st floor  
Session Chair: Vučković, K.

- **15:00-15:40**  
  MECHANICAL BEHAVIOUR OF LASER WELDED CORRUGATED PANELS OF ULTRAHIGH STRENGTH STEEL  
  Hietala, Mikko; Keskitalo, Markku; Järvenpää, Antti; Saine, Kari; Karjalainen, Pentti; Mäntyjärvi, Kari

**Multiaxial/mixed mode loading 2 (MMM.2)**
Room: LECTURE ROOM 5 - 1st floor  
Session Chair: Papuga, J.

- **15:00-15:40**  
  APPLICATION OF CRITICAL PLANE CRITERIA IN MULTIAXIAL FATIGUE  
  Adinoyi, Muhammed J.; Merah, N.; Albinmousa, J.

- **15:20-15:40**  
  A NEW APPROACH FOR FATIGUE LIFE PREDICTION UNDER NON-PROPORTIONAL LOADING  
  Babaei, Saeid; Mansoori, Hasan

**Special Session:**

**Fatigue Modelling on Different Length Scales 1 (FMD.1)**
Room: LECTURE ROOM 6 – 2nd floor  
Session Chair: Bao, R.

- **15:00-15:40**  
  MULTISCALE MODELLING OF OVERLOAD EFFECTS ON FATIGUE CRACK INITIATION IN CASE OF CARBON STEEL  
  Milkota, Marijo; Schmauder, Siegfried; Božič, Željko

- **15:20-15:40**  
  RESIDUAL STRESS MODELING AND STRESS INTENSITY FACTOR CALCULATION FOR WELDED STIFFENED PANELS  
  Božič, Ž.; Barjašić, D.; Hadj Meliani, M.

**16:00-16:20**  
PARAMETRIC STUDY ON A MICRO-CONCRETE FROM CLASS "C50"  

**Dubrovnik City Walls Tour (for accompanying persons)**
19:30 – ... Conference Dinner

Friday, 27/May/2016

8:00 – 9:00 Registration

9:00 – 10:30 Finite elements methods and their application 1 (FEM.1)
Room: CONFERENCE HALL - ground floor
Session Chair: Butković, M.

9:00-9:30 Keynote Lecture: INDUSTRIAL VALIDATION OF FINITE ELEMENT ANALYSIS AS A DESIGN TOOL FOR BALL VALVES
Morton, T.; Pruncu, C. I.; Watson, R.; Dearn, K. D.

9:30-9:50 DAMAGE INITIATION SHIELDING OF STRUCTURAL PARTS BY MODERN OPTIMIZATION PROCEDURES
Kegl, Marko; Predan, Jožef; Gubeljak, Nenad; Harl, Boštjan

9:50-10:10 FINITE ELEMENT METHOD PRESSURE VESSEL CALCULATION AND ANALYSIS OF THE EFFECTS OF THE BUTT WELDED JOINTS ON A CARRYING CAPACITY OF A STRUCTURE
Aleksić, Bojana; Aleksić, Vujađin; Milović, Ljubica

10:10-10:30 FATIGUE LIFE ASSESSMENT OF WELDED JOINTS BY THE NOTCH STRESS APPROACH AND THE PEAK STRESS METHOD
Bertini, L.; Frenčo, F.; Marulo, G.

9:00 – 10:30 Effect of residual stresses 1 (ERS.1)
Room: LECTURE ROOM 4 - 1st floor
Session Chair: Amiri Darehbidi, M.

9:00-9:30 Keynote Lecture: EVALUATING THE INTRINSIC FATIGUE CRACK GROWTH RATE IN FRICITION STIR BUTT WELDS WITH MODIFIED CONSTANT LOADING METHOD
Xu, Yaowu; Bao, Rui; Liu, Hao

9:30-9:50 COLD-WORKING TREATMENT OF STAINLESS STEEL SURFACE BY PULSATING WATER JET PEENING
Hlaváček, Petr; Kruuml, Tomáš; Foldyna, Josef; Tobiáš, Jiří; Man, Jiří

9:50-10:10 NUMERICAL STUDY OF WIND TURBINE BLADE CRACKED
Merieim-Benziane, Madjid; Bouthchina, Maamar

10:10-10:30 THE EFFECT OF SANDBLASTING ON THE MECHANICS PROPRiETIES OF API X70 STEEL : CASE OF THE ALGERIAN SAHARA REGIONS
Bouledroua, O.; Hadj Meliani, M.; Božić, Ž.; Pluvinage, G.

9:00 – 10:30 Fracture and failure criteria 1 (FFC.1)
Room: LECTURE ROOM 5 - 1st floor
Session Chair: Franulović, M.

9:00-9:30 Keynote Lecture: FRACTURE ANALYSIS OF PLATES DAMAGED WITH MULTIPLE SITE CRACKS UNDER PRESSURE LOAD
Božić, Ž.; Kovačić, F.; Schmauder, S.

9:30-9:50 CHARACTERIZATION OF 2017A ANODIZED MATERIALS BY INFRARED THERMOGRAPHIC TECHNIQUES DURING TENSILE TESTING
Fares, Chahinez; El Amine Belouchrani, Mohamed; Hadj Meliani, Mohamed

9:50-10:10 HIGH SPEED CRACKS IN BRITTLE CRYSTALS AND THE EFFECT OF REFLECTED STRESS WAVE
Shaheen Moalim, Merna; Sherman, Dov

10:10-10:30 UNCONVENTIONAL FIBRES ORIENTATION OF CFRP LAMINATES
Barile, Claudia; Casavola, Caterina; Pappalettere, Carmine; Popeo, Fabrizio

10:30 – 10:50 Coffee Break

10:50 – 12:10 Finite elements methods and their application 2 (FEM.2)
Room: CONFERENCE HALL - ground floor
Session Chair: Matvienko, Y.
10:50 – 12:10 Fatigue crack path prediction 1 (FCP.1)
Room: LECTURE ROOM 4 - 1st floor
Session Chair: Ambriz, R.

10:50 – 11:10
TWO REGIMES OF ENERGY DISSIPATION UNDER FATIGUE CRACK PROPAGATION IN METALS
Iziumova, A.; Vshivkov, A.; Plekhov, O.

11:10 – 11:30
RESIDUAL STRESS FIELD EVALUATION AND FATIGUE LIFE ASSESSMENT OF COLD-WORKED SPECIMENS
Reséndiz, O.; García, C.; Ambriz, R.R.; Jaramillo, D.

11:30 – 11:50
SHORT FATIGUE CRACK PROPAGATION BEHAVIOR IN A DISSIMILAR METAL WELDED JOINT OF NUCLEAR POWER PLANT
Shang, Yibo; Niu, Lisha; Shi, Huiji

11:50 – 12:10
FATIGUE IN A CR-MO STEEL UNDER HIGH-PRESSURE HYDROGEN AND LOW FREQUENCIES
Angelova, Donka; Yordanova, Rozina; Yankova, Svetla

10:50 – 12:10 Fracture and failure criteria 2 (FFC.2)
Room: LECTURE ROOM 5 - 1st floor
Session Chair: Hadj Meliani, M.

10:50 – 11:10
A HYBRID NONLOCAL-LOCAL MESHLESS APPROACH FOR DYNAMIC CRACK PROPAGATION
Shojaei, Arman; Zaccariotto, Mirco; Galvanetto, Ugo

11:10 – 11:30
EXPERIMENTAL CHARACTERIZATION OF SHEARED EDGE FRACTURE OF 800 MPA ADVANCED HIGH STRENGTH STEEL
Pathak, Nikky; Butcher, Cliff; Worswick, Michael; Bellhouse, Erika; Gao, Jeff

11:30 – 11:50
FATIGUE THRESHOLD COMPUTATION IN MODE I, MODE II AND MIXED MODE I-II BY SHAKEDOWN ANALYSIS
Bouchedjra, Moussa; Belouchrani, Mohamed El Amine

11:50 – 12:10
NEW ADJUSTMENT OF BATTELLE BURST PRESSURE EQUATION FOR LONGITUDINAL CRACKS
Ben Amara, Mohamed; Azazi, Zltouni; Capelle, Julien; Pluvinage, Guy

10:50 – 12:10 Low, medium and high cycle fatigue 2 (LMH.2)
Room: LECTURE ROOM 6 – 2nd floor
Session Chair: Pruncu, C. I.

10:50 – 11:10
ANALYSIS OF CYCLIC STRESS-STRAIN AND STRAIN-LIFE FATIGUE PARAMETERS AND BEHAVIOUR OF HIGH-ALLOY STEELS
Basan, Robert; Marohniç, Tea

11:10 – 11:30
EFFECT OF MEAN STRESS AND STRESS AMPLITUDE ON UNIAXIAL RATCHETING OF AA2124T851
Halama, Radim; Markopoulos, Alexandros; Fojtík, František; Fusek, Martin

11:30 – 11:50
IMPORTANCE OF STATISTICS IN EVALUATING MEASUREMENTS FOR COMPRESSOR BLADES CYCLIC STRENGTH
Butković, Mirko; Tevčić, Marina; Orčić, Branislav

11:50 – 12:10
A STUDY ON THE FATIGUE SAFETY FACTOR OF CU-MG CONTACT WIRE CONSIDERING WEAR
Kim, Yongseok; Lee, Kiwon; Cho, Yonghyeon; Guo, Zhen; Yun, Junghan; Koo, Jaemean; Seok, Chang-Sung

12:10 – 13:20 Lunch

13:20 – 14:00 Conference Closing
Room: CONFERENCE HALL - ground floor
Poster Session Contributions

Wednesday, 25/May/2016
16:50 – 17:30 Poster Session

Room: Hall

EXPERIMENTAL AND NUMERICAL ANALYSIS OF BONDED COMPOSITE
Aminallah, L.; Benhamena, A.; Merdji, A.; Benyahia, F.; Bachir Bouiadjra, B.; Serier, B.

STUDY OF CYCLIC BEHAVIOR OF LAMINATE BASED IN GLASS FIBER AND EPOXY RESIN
Basaïd, Djamel; Aribi, Chouaib; Kari, Djamel Eddine; Benmounah, Abdelbaki

OPTIMIZATION OF THE INHIBITION EFFECT USING ACID EXTRACT OF RUTA CHALEPENSIS ON API 5L X52 STEEL
Benghalia, Meryem Amal; Fares, Chahinez; Hadj Meliani, Mohamed; Khadraoui, Abdelkader; Douani, Mustapha

THREE-DIMENSIONAL FINITE ELEMENT ANALYSIS OF BONDED REPAIR IN STRUCTURE
Benhamena, A.; Aminallah, L.; Aid, A.; Benguediab, M.; Benseddiq, N.; Amrouche, A.

MODELIZATION OF THE OPTICAL GAIN IN STRAINED NITRIDE QUANTUM WELL LASERS
Bouabdallah, B.; Bourezigue, Y.; Oumsalem, A.; Nabi, Z.; Benhelal, O.

INDENTATION FRACTURE TOUGHNESS OF Y-TZP DENTAL CERAMICS
Ćorić, Danko; Majić Renjo, Marijana; Ćurković, Lidija; Žmak, Irena

J INTEGRAL SOLUTION FOR SEMI-ELLIPTICAL SURFACE CRACK IN POLYPROPYLENE PIPES
UNDER INTERNAL PRESSURE
Daikh, A.; Aminallah, L.; Merdji, A.; Benhamena, A.; Serier, B.

EFFECT OF THE MANDREL SHAPE ON THE COLD EXPANSION PROCESS.
Djebli, Abdelkader; Bendouba, Mostefa; Aid, Abdelkrim; Delia, Noureddin; Abderrahim, Talha; Beltache, Abdelghani; Benguediab, Mohamed; Zengah, Sahnoun.

BIOMATERIALS CHARACTERIZATION – PARAMETERS IDENTIFICATION
Franulović, Marina; Basan, Robert; Marković, Kristina; Marohnić, Tea

FATIGUE STRENGTH STUDY OF CARBON NANOTUBE/GRAPHENE NANOPlateLET REINFORCED EPOXY COMPOSITES
Jen, Yi-Ming; Huang, Jui-Cheng

EXPERIMENTAL EVALUATION FOR CROSS-DRILLED / SLOTTED ROTORS OF AUTOMOTIVE DISC BRAKE IN ASPECT OF ABRASION
Jung, Taeksu; Cha, Bawoo; Cha, Jin-Young; Cho, Chongdu

REMARKS ON TESTING AND CALCULATIONS OF FATIGUE LIFE OF BUS AND TROLLEYBUS STRUCTURES
Kepka, Miloslav; Kepka, Miloslav Jr; Barton, Lukas

EFFECT OF CYCLIC HARDENING RULE ON FATIGUE LIFETIME OF ELBOWS UNDER SEVERE SEISMIC LOADING
Kim, Jong-Sung

THE EFFECT OF SECOND AND THIRD PARAMETERS ON THE FRACTURE MECHANICS IN MIXED MODE LOADING
Lahouari, Fodil; Bouleidroua, O.; Hadj Meliani, Mohammed; Maatalah, S.; El Azzizi, Abdallah; Neggaz, Djamel; Boukharouba, T.

FATIGUE BEHAVIOUR OF DUCTILE CLOSED-CELL ALUMINIUM ALLOY FOAMS
Linul, Emanoil; Šerban, Dan Andrei; Marșăvina, Liviu; Kovacik, Jaroslav

EXPERIMENTAL STUDY FOR CORROSION INHIBITION OF CARBON STEEL IN ACIDIC MEDIUM
Mehdouali, Razika; Khadraoui, Abdelkader; Khelifa, Abdellah; Aaaboubi, Omar
NUMERICAL ANALYSIS OF THE EFFECTS OF THE COMPOSITE AND ADHESIVE AGING ON THE PLASTICITY IN BONDED COMPOSITE REPAIRS
Merdji, A.; Aminallah, L.; Rezgani, L.; Bachir Bouiadjra, B.; Serier, B.

STRAIN ANALYSIS OF UNSATURATED POLYESTER RESIN USING DIGITAL IMAGE CORRELATION METHOD
Milosevic, M.; Mitrovic, N.; Mladenovic, G.; Sedmak, A.; Maneski, T.; Rusmирович, J.; Marinkovic, A.

PREDICTION OF PIPE RING SPECIMEN FAILURE CONDITIONS
Musraty, W.; Medjo, B.; Rakin, M.; Gubeljak, N.; Matvienko, Y.; Arsić, M.; Sedmak, A.

INFLUENCE OF THE THREAD PROFILE ON THE FATIGUE DAMAGE AND LIFETIME OF THREADED CONNECTIONS

NANOTECHNOLOGY SOLUTIONS FOR DIFFERENT KINDS OF PIPELINES FRACTURE
Oumsalem, Abdallah; Bourezig, Yamina; Bouabdallah, Badra; Hadj Meliani, Mohamed

MECHANICAL BEHAVIOUR OF 301 AISI STAINLESS STEEL COATING OBTAINED BY ARC SPRAYING PROCESS ONTO AERONAUTICAL ALUMINUM ALLOY SUBSTRATE

INFLUENCE OF TRANSMISSION LINE CABLE WITH IN LINE FITTINGS SYSTEM MATRIX EIGENVALUES DETERMINATION ON CABLE FATIGUE LIFE ASSESSMENT
Wolf, Hinko; Singer, Sanja; Božić, Željko

THE STUDY ON DELAMINATION LIFE OF TBC THROUGH BURNER-RIG TEST
Yun, Junghan; Kim, Yongseok; Lee, Jeong-Min; Song, Hyunwoo; Wee, Sunguk; Koo, Jae-Mean; Seok, Chang-Sung

FATIGUE LIFE PREDICTION UNDER RANDOM LOADING OF AN ALUMINUM ALLOY
Zengah, Sahnoun; Aid, Abdelkrim; Benguediab, Mohamed; Benseddiq, Nourredine; Djeblì, Abdelkader
The address of the Conference Venue:

CENTRE FOR ADVANCED ACADEMIC STUDIES
Don Frana Bulica 4
20000 Dubrovnik
CROATIA

Conference Opening and Plenary Lectures 1 and 2: at the University of Dubrovnik, Main Campus Building: Conference Hall (Ul. branitelja Dubrovnika 41)