

**Program**

**Tuesday, 15/Aug/2017**

17:00 - 20:00	<b>Registration</b>
18:00 - 20:00	<b>Welcome Reception</b> Room: Atrium
19:00 - 20:00	<b>Round table</b> Room: LECTURE ROOM 4 - 1st floor

**Wednesday, 16/Aug/2017**

8:00 - 8:50	<b>Registration</b>			
8:50 - 9:10	<b>Conference Opening</b> Room: CONFERENCE HALL - ground floor			
9:10 - 9:50	<b>Plenary Lecture:</b> <i>Fatigue Delamination Propagation in a Woven Multi-directional Composite in Mode I</i> <b>Banks-Sills, L.</b> Room: CONFERENCE HALL - ground floor Chair: Schmauder Siegfried			
9:50 - 10:30	<b>Plenary Lecture:</b> <i>Some New Ideas in Fracture Toughness Evaluation</i> <b>Landes, J.</b> Room: CONFERENCE HALL - ground floor Chair: Gubeljak Nenad			
10:30 - 10:50	<b>Coffee Break</b>			
10:50 - 12:10	<b>Low, medium and high cycle fatigue 1 (LMH.1)</b>  Room: CONFERENCE HALL Chair: Vormwald Michael	<b>Finite elements methods and their application 1 (FEM.1)</b>  Room: LECTURE ROOM 4 Chair: Glodež Srečko	<b>Analytical Models 1 (AMO.1)</b>  Room: LECTURE ROOM 5 Chair: Vučković Krešimir	<b>Corrosion, environmentally enhanced degradation and cracking, corrosion fatigue 1 (CEE.1)</b>  Room: LECTURE ROOM 1 Chair: Hadj Meliani Mohammed
12:10 - 14:00	<b>Lunch</b>			
14:00 - 15:20	<b>Low, medium and high cycle fatigue 2 (LMH.2)</b>  Room: CONFERENCE HALL Chair: Halama Radim	<b>Finite elements methods and their application 2 (FEM.2)</b>  Room: LECTURE ROOM 4 Chair: Sladek Jan	<b>Analytical Models 2 (AMO.2)</b>  Room: LECTURE ROOM 5 Chair: Landes John	<b>Cyclic deformation and crack initiation 1 (CDC.1)</b>  Room: LECTURE ROOM 1 Chair: Baragetti Sergio
15:20 - 15:40	<b>Coffee Break</b>			
15:40 - 17:00	<b>Durability and life extension of structures and components (DLE)</b>  Room: CONFERENCE HALL Chair: James Niel	<b>Residual stress effects (RSE)</b>  Room: LECTURE ROOM 4 Chair: Gubeljak Nenad	<b>Advanced testing and evaluation techniques (ATE)</b>  Room: LECTURE ROOM 5 Chair: Nykyforchyn H.	<b>Cyclic deformation and crack initiation 2 (CDC.2)</b>  Room: LECTURE ROOM 1 Chair: Voznesenskii A. S.
17:30 - ...	<b>Dubrovnik City Center Tour</b>			

## Thursday, 17/Aug/2017

8:00 - 9:00

**Registration**

9:00 - 9:40

**Plenary Lecture:**

*Applications of Residual Stresses in Combatting Fatigue and Fracture*  
**James, N.**

Room: CONFERENCE HALL - ground floor

Chair: Sedmak Aleksandar

9:40 - 10:20

**Plenary Lecture:**

*Life-Cycle of Deteriorating Structures: Emphasis on Fatigue Damage Detection Delay and its Effect on Reliability and Life-Extension of Bridges and Ships*  
**Frangopol, D.**

Room: CONFERENCE HALL - ground floor

Chair: Banks-Sills Leslie

10:20 - 10:40

**Coffee Break**

10:40 - 12:10

**Damage mechanics and models 1 (DMM.1)**

Room: CONFERENCE HALL

Chair: Semak Aleksandar

**Reliability and integrity of engineering structures**

Room: LECTURE ROOM 4

Chair: Frangopol Dan

**Structural integrity assessment (SIA)**

Room: LECTURE ROOM 5

Chair: Basan Robert

**Fracture and failure criteria (FFC)**

Room: LECTURE ROOM 1

Chair: Monkova Katarina

12:10 - 14:00

**Lunch**

14:00 - 15:20

**Applications to components and structures 1 (ACS.1)**

Room: CONFERENCE HALL

Chair: Monka Peter

**Fatigue and fracture of polymers, elastomers, composites and biomaterials (FFP)**

Room: LECTURE ROOM 4

Chair: Marta Stowik

**Fatigue and fracture of weldments, welded components, joints and adhesives (FWW)**

Room: LECTURE ROOM 5

Chair: Seran Dan

**Corrosion, environmentally enhanced degradation and cracking, corrosion fatigue 2 (CEE.2)**

Room: LECTURE ROOM 1

Chair: Marohnić Tea

15:20 - 15:40

**Coffee Break**

15:40 - 17:00

**Poster Session**

Room: Hall

19:30 - ...

**Conference Dinner**

## Friday, 18/Aug/2017

8:00 - 9:00

**Registration**

9:00 - 9:40

**Plenary Lecture:**

*Fatigue Strength of Autofrettaged Components of Diesel Injection Systems Under Elevated Temperature*

**Vormwald, M.**

Room: CONFERENCE HALL - ground floor

Chair: Zhao Hongqiao

9:40 - 10:20

**Plenary Lecture:**

*Structural Integrity Assessment of Pressure Vessels by Using the Risk Based Approach*

**Sedmak, A.**

Room: CONFERENCE HALL - ground floor

Chair: Chang Kyong-Ho

10:20 - 10:40

**Coffee Break**

10:40 - 12:00

**Failure investigation and analysis (FIA)**

Room: CONFERENCE HALL

Chair: László Tóth

**Damage mechanics and models 2 (DMM.2)**

Room: LECTURE ROOM 4

Chair: Shlyannikov Valery

**Applications to components and structures 2 (ACS.2)**

Room: LECTURE ROOM 5

Chair: Kishen Chandra

**Fatigue and fracture simulation and testing at all length scales (FFS)**

Room: LECTURE ROOM 1

Chair: Banaszkiwicz Mariusz

12:00 - 13:30

**Lunch**

13:30 - 14:00

**Conference Closing**

Room: CONFERENCE HALL - ground floor

## Detailed Program

### Tuesday, 15/Aug/2017

17:00 - 20:00 **Registration**

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Room: Atrium

19:00 - 20:00 **Round table**

Room: LECTURE ROOM 4 - 1st floor

### Wednesday, 16/Aug/2017

8:00 - 8:50 **Registration**

8:50 - 9:10 **Conference Opening**

Room: CONFERENCE HALL - ground floor

9:10 - 9:50

**Plenary Lecture:**

***Fatigue Delamination Propagation in a Woven Multi-directional Composite in Mode I***  
***Banks-Sills, L.***

Room: CONFERENCE HALL - ground floor

Chair: Schmauder Siegfried

9:50 - 10:30

**Plenary Lecture:**

***Some New Ideas in Fracture Toughness Evaluation***  
***Landes, J.***

Room: CONFERENCE HALL - ground floor

Chair: Gubeljak Nenad

10:30 - 10:50 **Coffee Break**

10:50 - 12:10 **Low, medium and high cycle fatigue 1 (LMH.1)**

Room: CONFERENCE HALL - ground floor

Chair: Vormwald Michael

10:50 - 11:10

FATIGUE CRITERIA WITH MEAN STRESS EFFECT CONSIDERATION UNDER MULTIAXIAL LOADING

Papuga Jan, Halama Radim

11:10 - 11:30

DAMAGE MODEL FOR MONOTONIC AND CYCLIC FAILURE IN REINFORCED CONCRETE

Barbu L. G., Martinez X., Oller S., Barbat A. H.

11:30 - 11:50

INVESTIGATION OF WEAR BEHAVIORS OF TI-6AL-4V AND AISI 316 L PROSTHETIC MATERIALS ON BALL-DISC EXPERIMENT

Kamiş Tahsin, Düzcükoğlu Hayrettin, Akkuş Harun

11:50 - 12:10

VERY HIGH CYCLE FATIGUE PROPERTY AND LIFE PREDICTION OF SURFACE-HARDENED CHROMIUM STEEL

Nehila Abdelhak, Li Wei, Zhao Hongqiao

- 10:50 - 12:10 Finite elements methods and their application 1 (FEM.1)**  
 Room: LECTURE ROOM 4 - 1st floor  
 Chair: Glodež Srečko
- 10:50 - 11:10 GRADIENT PIEZOELECTRICITY FOR CRACKS UNDER AN IMPACT LOAD  
 Sladek Jan, Sladek Vladimir, Wünsche Michael, Kasala Jozef
- 11:10 - 11:30 NUMERICAL SIMULATION OF THE INFLUENCE OF REINFORCEMENT RING ON THE STRESS AND STRAIN DISTRIBUTION IN PRESSURE VESSELS  
 Sedmak Simon, Milovanović Nikola, Džindo Emina, Đorđević Branislav, Tatić Uroš
- 11:30 - 11:50 HELICAL GEAR PROFILE MODIFICATION BY TOOTH DEFLECTION FOR REDUCING THE TRANSMISSION ERROR  
 Yun Duksun, Yoon Moonyoung, Park Jeonghyun, Jeong Sangjin, Seo Changjun, Boo Kwangsuck, Kim Heungseob
- 11:50 - 12:10 INFLUENCE OF CRACK POSITION AND REPAIR ACTIVITIES ON THE STRESS STATE IN A SHAFT TOOTH  
 Tatić Uroš, Tanasković Drakče, Đorđević Branislav, Sedmak Simon, Sedmak Aleksandar

- 10:50 - 12:10 Analytical Models 1 (AMO.1)**  
 Room: LECTURE ROOM 5 - 1st floor  
 Chair: Vučković Krešimir
- 10:50 - 11:10 ANALYSIS OF DIFFERENCES AMONG STEEL SUBGROUPS REGARDING THEIR STRAIN-LIFE FATIGUE PARAMETERS  
 Basan Robert, Marohnić Tea
- 11:10 - 11:30 STAR-SHAPED INCLUSIONS: FROM STRESS SINGULARITY RAISERS TO STRESS ANNIHILATORS  
 Dal Corso Francesco, Shahzad Summer, Bigoni Davide
- 11:30 - 11:50 LARGE-DEFORMATION AND STRAIN GRADIENT FRACTURE ANALYSIS OF DOUBLE CANTILEVER BEAMS WITH PIEZOELECTRIC EFFECT  
 Joseph R. P., Wang B. L., Samali B.
- 11:50 - 12:10 PLASTIC LOAD PREDICTION OF HAZ NOTCHED HETEROGENEOUS WELDS LOADED IN TENSION  
 Naib Sameera, Waele Wim De, Štefane Primož, Gubeljak Nenad, Hertelé Stijn

- 10:50 - 12:10 Corrosion, environmentally enhanced degradation and cracking, corrosion fatigue 1 (CEE.1)**  
 Room: LECTURE ROOM 1 - 1st floor  
 Chair: Hadj Meliani Mohammed
- 10:50 - 11:10 SCC AND CORROSION FATIGUE SENSITIVITY OF TI6AL4V ALLOY  
 Arcieri Emanuele Vincenzo, Baragetti Sergio
- 11:10 - 11:30 STATIC AND DYNAMIC MECHANICAL PROPERTIES FOR API X52 STEEL IN THE PRESENCE OF THE GREEN INHIBITORS CORROSION  
 Soudani Mohamed, Meliani Mohammed Hadj, El-Miloudi Khaled, Bouledroua O., Fares Chahinez, Benghalia Merym Amel
- 11:30 - 11:50 EFFECT OF HYDROGEN ON THE PROPERTIES OF TENSILE AND CHARPY IMPACT IN API 5L X60 PIPELINE STEEL  
 Ramírez Donovan, González Jorge, Rivas Diego, Beltrán Manuel
- 11:50 - 12:10 FRACTURE MODELLING AND ANALYSIS OF REINFORCED CONCRETE STRUCTURES SUBJECTED TO CORROSION OF MULTIPLE REBARS  
 Xi Xun, Yang Shangtong

**12:10 - 14:00 Lunch**

**14:00 - 15:20 Low, medium and high cycle fatigue 2 (LMH.2)**

Room: CONFERENCE HALL - ground floor

Chair: Halama Radim

- 14:00 - 14:20 VERY HIGH CYCLE FATIGUE PROPERTIES OF CARBURIZED 12CR STEEL UNDER CONSTANT AND VARIABLE AMPLITUDE CONDITIONS  
Zhao Hongqiao, Li Wei, Nehila Abdelhak
- 14:20 - 14:40 THE PREDICTION OF ISOTHERMAL CYCLIC PLASTICITY IN 7175-T7351 ALUMINIUM ALLOY WITH PARTICULAR EMPHASIS ON THERMAL AGEING EFFECTS  
Cheong Marc Lam Wing, Hyde Christopher, Kennedy Andrew, Rouse James
- 14:40 - 15:00 EFFECT OF MEAN STRESS ON HIGH TEMPERATURE LOW CYCLE FATIGUE BEHAVIOUR OF ALLOY CM247DS  
Rai R.K., Sahu J.K., Paulose N.
- 15:00 - 15:20 A METHOD FOR EVALUATING THE FATIGUE CRACK GROWTH IN SPIRAL NOTCH TORSION FRACTURE TOUGHNESS TEST  
Wang Jy-An, Tan Ting

**14:00 - 15:20 Finite elements methods and their application 2 (FEM.2)**

Room: LECTURE ROOM 4 - 1st floor

Chair: Sladek Jan

- 14:00 - 14:20 FATIGUE FE-ANALYSIS OF JOINT TYPE EFFECTS ON FATIGUE CRACK LOCATION OF TUBULAR MEMBER  
Chang Kyong-Ho, Kim Jun-Sik, Hirohata Mikihiro
- 14:20 - 14:40 MODELLING OF ALUMINUM HONEYCOMB SANDWICHES SUBJECTED TO THREE POINTS BENDING  
Akkuş Harun, Düzcükoğlu Hayrettin, Şahin Ömer Sinan, Uğur Levent
- 14:40 - 15:00 DOMINANT PARAMETERS AFFECTING THE RELIABILITY OF TURBINE BLADE WITH TBCS ERODED BY HOT GAS STREAM  
Xiao Y. Q., Yang. L., Zhou Y. C.
- 15:00 - 15:20 SIMULTANEOUS VIBRATION AND FATIGUE OPTIMIZATION OF AN INERTER-BASED VIBRATION ISOLATION SYSTEM  
Čakmak Damjan, Božić Željko, Wolf Hinko, Alujević Neven

**14:00 - 15:20 Analytical Models 2 (AMO.2)**

Room: LECTURE ROOM 5 - 1st floor

Chair: Landes John

- 14:00 - 14:20 FRACTURE MECHANICS ANALYSIS OF PYROELECTRIC SOLIDS CONTAINING 3D SEMI-PERMEABLE  
Yasniy Oleh, Pasternak Iaroslav, Iasnii Volodymyr, Sulym Heorhiy
- 14:20 - 14:40 ANALYSIS OF THE EFFECT OF CRACKS ON BUCKLING LOADS OF COLUMNS  
Schnabl Simon, Planinc Igor
- 14:40 - 15:00 STUDY ON THE METHOD OF LOAD SPECTRUM FOR FATIGUE TEST OF LOADER WORKING DEVICE  
Wan Yipin, Song Xuding, Jia Jie
- 15:00 - 15:20 ANALYSIS OF VISCOELASTIC DAMAGED BEHAVIOR OF A MULTILAYER COMPOSITE TUBULAR STRUCTURE UNDER A CYCLIC TENSILE LOADING  
Abdelhamid Ghuaoula

**14:00 - 15:20 Cyclic deformation and crack initiation 1 (CDC.1)**

Room: LECTURE ROOM 1 - 1st floor

Chair: Baragetti Sergio

- 14:00 - 14:20 A COMPARISON OF THE FATIGUE RESPONSE OF THREE DIFFERENT AA 2000 SERIES OF ALUMINUM ALLOYS  
Owolabi G., Thom M., Odeshi A., Whitworth H., Yilmaz N., Zeytinci A.
- 14:20 - 14:40 EFFECT OF THE FATIGUE CRACK PROPAGATION ON THE STRAIN MEASUREMENTS BY STEREOPTICAL METHOD AND STRAIN GAUGES  
Glaser Bruno, Gubelj N., Predan Jožef
- 14:40 - 15:00 FATIGUE CHARACTERIZATION AND TEXTURE INDUCED RATCHETING BEHAVIOUR OF FORGED AZ80 MAGNESIUM ALLOYS  
Gryguc A., Behravesh S. B., Shaha S. K., Jahed H., Wells M., Williams B., Su X.
- 15:00 - 15:20 DETERMINATION OF FATIGUE CRACK INITIATION AND GROWTH OF A MULTINOTCHED SAMPLE BY MEANS OF A MICROSTRUCTURE AND ENERGY-BASED DAMAGE FE MODEL  
Herrera-Solaz Vicente, Niffenegger Markus

**15:20 - 15:40 Coffee Break**

**15:40 - 17:00 Durability and life extension of structures and components (DLE)**

Room: CONFERENCE HALL - ground floor

Chair: James Niel

- 15:40 - 16:00 A THEORETICAL-EXPERIMENTAL METHOD FOR CREEP-FATIGUE LIFETIME ASSESSMENT OF STEAM TURBINE COMPONENTS  
Banaszkiewicz Mariusz
- 16:00 - 16:20 HYDROGENATION EFFECT ON THE STRENGTH AND LIFETIME OF THE WALL OF ELEMENTS OF THE POWER EQUIPMENT AT THERMAL CYCLING CONDITIONS  
Ivanytskyi Ya., Hembara O., Kharchenko Ye., Chepil' O.
- 16:20 - 16:40 MECHANICAL PROPERTIES OF CFRP REPAIRED FIRE-DAMAGED STEEL REINFORCED RECYCLED CONCRETE COLUMNS  
Jia Pu, Dong Jiangfeng, Wang Qingyuan
- 16:40 - 17:00 -

**15:40 - 17:00 Residual stress effects (RSE)**

Room: LECTURE ROOM 4 - 1st floor

Chair: Gubelj N.

- 15:40 - 16:00 CORRELATION BETWEEN THE SURFACE ROUGHNESS AND MEAN STRAIN VALUES OF AL7075-T6 PLATE EXPOSED TO FATIGUE LOADING  
Milković Marijana, Đonlagić Denis, Gubelj N.
- 16:00 - 16:20 SHOT PEENING'S INFLUENCE ON THE FATIGUE STRENGTH OF GEARS USED IN TRACTOR'S POWERTRAIN SYSTEM  
Tchórz Tomasz, Śniezek Lucjan, Grzelak Krzysztof, Torzewski Janusz
- 16:20 - 16:40 SIMULATION STUDY ON THE EFFECT OF FRICTION IN A SINGLE TOOTH FATIGUE (STF) TEST OF SPUR GEAR  
Vučković Krešimir, Galić Ivica, Božić Željko, Glodež Srečko
- 16:40 - 17:00 INVESTIGATING BULGE CORRECTION IN THE CONTOUR METHOD FOR RESIDUAL STRESS MEASUREMENT OF A COMPACT TENSION WELD SPECIMEN  
Stewart Beverly, Bouchard John, Prime Michael B, Hosseinzadeh Foroogh

**15:40 - 17:00 Advanced testing and evaluation techniques (ATE)**

Room: LECTURE ROOM 5 - 1st floor

Chair: Nykyforchyn H.

15:40 - 16:00 A ROUTE TO STANDARDISATION OF THERMOMECHANICAL FATIGUE CRACK GROWTH TECHNIQUES  
Jones Jonathan, Whittaker Mark, Lancaster Robert, Stekovic Svjetlana, Leidermark Daniel, Child Daniel, Pattison Stephen, Hyde Christopher, Rouse James, Williams Steve

16:00 - 16:20 ANALYSIS OF THE RESULTS OF APPLICATION OF THE AASHTO TP 101-14 STANDARD FOR THE DETERMINATION OF NF IN VARIOUS BINDERS

Chekunaev N. I., Dudareva T. V., Krasotkina I. A., Nikol'Skii V. G., Zvereva U. G.

16:20 - 16:40 FRACTURE TOUGHNESS EVALUATION OF STRENGTH MISMATCHED WELDED JOINTS  
Štefane Primož, Gubeljak Nenad, Naib Sameera, Waele Wim De, Hertelé Stijn

16:40 - 17:00 -

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**15:40 - 17:00 Cyclic deformation and crack initiation 2 (CDC.2)**

Room: LECTURE ROOM 1 - 1st floor

Chair: Voznesenskii A. S.

15:40 - 16:00 DEVELOPMENT OF A COUPLED DAMAGE MECHANICS MODEL FOR ULCF LOADING BASED ON THE TWO-YIELD SURFACE APPROACH BY YOSHIDA-UEMORI

Hoppe Barbara, Novokshanov Denis, Di Yidu, Münstermann Sebastian

16:00 - 16:20 EFFECT OF AGING ON STATIC AND CYCLIC BEHAVIOUR OF FORGED AZ80 MAGNESIUM ALLOYS

Gryguc A., Prakash P., Behraves S. B., Shaha S. K., Jahed H., Wells M., Williams B., Su X.

16:20 - 16:40 CYCLIC CREEP AND MEAN STRESS RELAXATION FOR 42CRMO4

Schlecht Berthold, Neikes Kai

16:40 - 17:00 -

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**17:30 - ... Dubrovnik City Center Tour**



## Thursday, 17/Aug/2017

8:00 - 9:00 **Registration**

9:00 - 9:40 **Plenary Lecture:**  
***Applications of Residual Stresses in Combatting Fatigue and Fracture***  
**James, N.**

Room: CONFERENCE HALL - ground floor

Chair: Sedmak Aleksandar

9:40 - 10:20 **Plenary Lecture:**  
***Life-Cycle of Deteriorating Structures: Emphasis on Fatigue Damage Detection Delay and its Effect on Reliability and Life-Extension of Bridges and Ships***  
**Frangopol, D.**

Room: CONFERENCE HALL - ground floor

Chair: Banks-Sills Leslie

10:20 - 10:40 **Coffee Break**

10:40 - 12:10 **Damage mechanics and models 1 (DMM.1)**

Room: CONFERENCE HALL - ground floor

Chair: Semak Alekasandar

- 10:40 - 11:10 Keynote Lecture:  
THE EFFECT OF MULTI-AXIAL DAMAGE BEHAVIOR ON CREEP CRACK TIP GOVERNING PARAMETER ASSESSMENTS  
Shlyannikov Valery, Tumanov Andrey
- 11:10 - 11:30 MODELING FATIGUE BEHAVIOR IN CONCRETE UNDER VARIABLE AMPLITUDE LOADING - OVERLOAD EFFECTS  
Kirupakaran Keerthana, Kishen Chandra
- 11:30 - 11:50 PERIODICAL CHANGES IN MICROHARDNESS AND PHYSICAL PROPERTIES OF THE LOW-CARBON STEEL AT CYCLIC LOADING  
Botvina L., Levin V., Soldatenkov A., Trunova V.
- 11:50 - 12:10 NONLOCAL CONDITIONS FOR THE TRANSITION DAMAGE TO A LOCALIZED FAILURE IN BRITTLE ROCKS UNDER TRIAXIAL QUASISTATIC LOADING  
Zaitsev Alexey, Sokolkin Yuriy

10:40 - 12:10 **Reliability and integrity of engineering structures (RIE)**

Room: LECTURE ROOM 4 - 1st floor

Chair: Frangopol Dan

- 10:40 - 11:10 Keynote Lecture:  
DESIGN AND CONTROL OF ENGINEERING COMPONENTS AGAINST FATIGUE USING SINGLE MATERIAL CHARACTERISTIC  
Tóth L.
- 11:10 - 11:30 THE EFFECTS OF MULTIPLE SITE DAMAGE AND CORROSION ON THE STRUCTURAL RELIABILITY OF A THIN PLATE WITH A HOLE  
Ruiz-Muñoz Gustavo-Adolfo
- 11:30 - 11:50 ANALYSIS OF PRE-TENSIONED STRUCTURES BY MEANS OF A CONSTITUTIVE SERIAL-PARALEL RULE OF MIXTURES  
Cornejo A., Barbu L. G., Escudero C., Martinez X., Oller S., Barbat A. H.
- 11:50 - 12:10 DEFORMATION AND DAMAGE IN 3D ELECTRONIC DEVICES DUE TO THERMAL CYCLING AND ELECTROMIGRATION  
Dutta I., Lee T. K., Yang H.

**10:40 - 12:10 Structural integrity assessment (SIA)**

Room: LECTURE ROOM 5 - 1st floor

Chair: Basan Robert

- 10:40 - 11:10 Keynote Lecture:  
EFFECT OF THE BURST STANDARDS AND REPAIRING METHODS ON THE FAILURE ASSESSMENT DIAGRAMS FOR EXTERNAL CORRODED PIPE  
Bouledroua O., Meliani M. Hadj, Pluvinage G.
- 11:10 - 11:30 PLASTIC LIMIT PRESSURES FOR CRACKED TUBE CONTAINING TWIN COLLINEAR AXIAL THROUGH-WALL CRACKS  
Katinić Marko, Kozak Dražan, Božić Željko
- 11:30 - 11:50 NONLINEAR FRACTURE RESISTANCE PARAMETERS FOR FUSELAGE PANEL UNDER BIAXIAL LOADING  
Shlyannikov Valery, Zakharov Alexander, Tumanov Andrey
- 11:50 - 12:10 DYNAMIC RESPONSE OF AN ISOTROPIC PLATE WITHIN AN DISTRIBUTION ALGORITHM  
Guebailia Moussa, Ouelaa Nouredine

**10:40 - 12:10 Fracture and failure criteria (FFC)**

Room: LECTURE ROOM 1 - 1st floor

Chair: Monkova Katarina

- 10:40 - 11:00 AN OVERVIEW OF MECHANICAL PROPERTIES OF MAGNESIUM ALLOYS USED IN AUTOMOTIVE INDUSTRY  
Marsavina Liviu, Serban Dan, Rusu Lucian, Negru Radu
- 11:00 - 11:20 PROCESSES OF NUCLEATION AND PROPAGATION OF A BRITTLE CRACK IN FRACTURE TOUGHNESS TESTS  
Kuleshova Evgenia, Erak Artem, Kiselev Alexey, Bandura Andrey
- 11:20 - 11:40 CRACK PATH AND T-STRESS PARAMETER TO ESTIMATE FAILURE OF GAS TURBINE BLADE WITH DEFAULT USING FINITE ELEMENT METHOD  
Tahraoui S., Boukourt H., Bouledroua O., Meliani M. Hadj
- 11:40 - 12:00 EFFECT OF MICROSTRUCTURAL BANDING ON THE ANISOTROPY OF MECHANICAL PROPERTIES IN LOW CARBON STEEL.  
Beltrán Manuel, González Jorge Luis, Rivas Diego, Hernández Felipe, Dorantes Héctor

**12:10 - 14:00 Lunch****14:00 - 15:20 Applications to components and structures 1 (ACS.1)**

Room: CONFERENCE HALL - ground floor

Chair: Monka Peter

- 14:00 - 14:20 INFLUENCE OF SAMPLE ORIENTATION ON YOUNG'S MODULUS AND FRACTURE SURFACE AT DMLS TECHNOLOGY  
Monkova Katarina, Monka Peter, Zetkova Ivana, Zetek Miroslav, Hanzl Pavel
- 14:20 - 14:40 EFFECT OF SURFACE MODIFICATION OF CELLULOSE NANOCRYSTALS ON MECHANICAL PROPERTIES OF THERMOPLASTIC-BASED NANOCOMPOSITES  
Baatti Abdessamad, Erchiqui Fouad, Bébin Philippe, Godard François, Bussièrès Denis
- 14:40 - 15:00 LOW-CYCLE FATIGUE LIFE PREDICTION OF STEAM TURBINE ROTORS USING ELASTIC AND INELASTIC MATERIAL MODELS  
Banaszkiewicz Mariusz, Badur Janusz, Dudda Waldemar
- 15:00 - 15:20 METHOD OF TENSILE TRIANGLES - AN EASY TO USE METHOD FOR DURABILITY ENHANCEMENT BY REDUCTION OF STRESS CONCENTRATION  
Mattheck Claus, Tesari Iwiza, Bethge Klaus

**14:00 - 15:20 Fatigue and fracture of polymers, elastomers, composites and biomaterials (FFP)**  
 Room: LECTURE ROOM 4 - 1st floor  
 Chair: Marta Słowik

14:00 - 14:20 INTERLAMINAR CRACKING OF CARBON FIBER REINFORCED POLYMER COMPOSITE LAMINATES UNDER CONTINUOUS LASER IRRADIATION  
 Liu Yan-Chi, Wu Chen-Wu, Huang Chen-Guang

14:20 - 14:40 INTERACTION BETWEEN INCLUSIONS AND CRACKS IN ANISOTROPIC VISCOELASTIC MATERIALS  
 Nguyen Van Thuong, Hwu Chyanbin

14:40 - 15:00 FRACTURE ENERGY IN DELAMINATED CARBON-EPOXY COMPOSITE MATERIAL SUBJECTED TO QUASI-STATIC LOAD AND FATIGUE.  
 Rivas Diego, González Jorge Luis, Beltrán Manuel, Dorantes Héctor, Hernández Felipe

15:00 - 15:20 -  
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**14:00 - 15:20 Fatigue and fracture of weldments, welded components, joints and adhesives (FWW)**  
 Room: LECTURE ROOM 5 - 1st floor  
 Chair: Seran Dan

14:00 - 14:20 FATIGUE DAMAGE MODELS OF WELDED COMPONENTS IN GIGACYCLE  
 Bakhtiari S., Waele W. De, Hertele S.

14:20 - 14:40 FATIGUE LIFE ASSESSMENT OF STRUCTURAL WIRE REINFORCEMENTS WITH TACK WELDS  
 Iordachescu Mihaela, Valiente Andrés, Abreu Maricely De

14:40 - 15:00 EFFECT OF TEMPERATURE AND EXTENDED AGING ON VIBRATION FATIGUE OF SAC105 SOLDER MATERIAL  
 Heid Tim, Leslie David, Osterman Michael, Dasgupta Abhijit

15:00 - 15:20 FRACTURE MECHANICS ADJUSTMENT OF THE FATIGUE DETAIL CATEGORY FOR CONSTRUCTIONAL DETAILS OF EUROCODE 3 CONTAINING IMPERFECT TRANSVERSE BUTT WELDS  
 Valiente Andrés, Iordachescu Mihaela

**14:00 - 15:20 Corrosion, environmentally enhanced degradation and cracking, corrosion fatigue 2 (CEE.2)**  
 Room: LECTURE ROOM 1 - 1st floor  
 Chair: Marohnić Tea

14:00 - 14:20 FRACTOGRAPHIC PECULIARITIES OF SCC OF GAS PIPELINE STEEL AFTER ITS HYDROGEN ASSISTED IN-  
 Nykyforchyn H., Krechkovska H., Student O.

14:20 - 14:40 EVALUATION OF THE STRESS-STRAIN STATE IN ALLOY 718 AFTER HYDROGEN CHARGING  
 Kolesov Sergey, Alekseeva Ekaterina

14:40 - 15:00 HYDROGEN INDUCED CRACKING OF STEEL GRADE WPHY42 AND THE ROLE OF INCLUSIONS  
 Khodabakhsh Hossein Honarvar, Shahri Meysam Mahdavi, Valeh Hossein, Ahrari Afshin Vakili

15:00 - 15:20 A DIFFUSED INTERFACE MODEL FOR LOCALIZED CORROSION  
 Ansari Talha Q., Shi San-Qiang, Xiao Zhihua

**15:20 - 15:40 Coffee Break**

**15:40 - 17:00 Poster Session**

Room: Hall

THE EXPERIMENTAL STUDY AND ANALYSIS ON NOISE AND VIBRATION OF HELICAL GEARS  
Lee Jeongseok, Yoon Moonyoung, Jeong Sangjin, Yun Duksun, Seo Changjun, Boo Kwangsuck, Kim Heungseob

DISTORTIONAL HARDENING AND NONLINEAR ELASTICITY MODEL FOR PREDICTING CYCLIC RESPONSE OF SHEET METALS

Lee M. G., Lee J. Y., Bartat F.

HIGH TEMPERATURE CORROSION OF SELECTED THERMALLY SPRAYED COATINGS DEPOSITED BY HVOF TECHNOLOGY

Česánek Zdeněk, Schubert Jan, Matikainen Ville

PREDICTION OF CRACK GROWTH OF PIPE WITH CIRCUMFERENTIAL THROUGHWALL CRACK UNDER CYCLIC LOADING USING COHESIVE ZONE MODEL

Park Seung-Hyun, Chang Yoon-Suk, Jeong Woo-Chul, Huh Nam-Su, Choi Jae-Boong

MODELING OF THE RESISTANCE TO RADIAL DISPLACEMENT OF A COMPOSITE PIPE SUBJECTED TO INTERNAL PRESSURES

Lhadj D. Saïd, Salah B., Benzidane R., Merzoug A.

FRACTURE CHARACTERIZATION AND MODELLING OF THE MECHANICAL BEHAVIOUR OF FLOAT GLASS

Fizi Yazid, Benbahouche Saci

INFLUENCE OF HVOF SPRAYED COATINGS ON FATIGUE PROPERTIES OF COATED SUBSTRATE CORELATED WITH COATING COHESION STRENGTH

Schubert Jan, Cesanek Zdenek

MIXED MODE FATIGUE CRACK GROWTH UNDER VARIABLE AMPLITUDE LOADING THROUGH XFEM BASED AUTOMATED ALGORITHM

Yalcinkaya Tuncay, Dirik Haydar

**19:30 - ... Conference Dinner**

## Friday, 18/Aug/2017

**8:00 - 9:00 Registration**

**9:00 - 9:40 Plenary Lecture:**  
***Fatigue Strength of Autofrettaged Components of Diesel Injection Systems Under Elevated Temperature***  
**Vormwald, M.**

Room: CONFERENCE HALL - ground floor  
Chair: Zhao Hongqiao

**9:40 - 10:20 Plenary Lecture:**  
***Structural Integrity Assessment of Pressure Vessels by Using the Risk Based Approach***  
**Sedmak, A.**

Room: CONFERENCE HALL - ground floor  
Chair: Chang Kyong-Ho

**10:20 - 10:40 Coffee Break**

**10:40 - 12:00 Failure investigation and analysis (FIA)**

Room: CONFERENCE HALL - ground floor  
Chair: László Tóth

10:40 - 11:00 TENSILE IMPACT BEHAVIOUR OF FUSED DEPOSITION MODELLING PARTS  
Casavola C., Cazzato A., Moramarco V., Pappalettere C.

11:00 - 11:20 EFFECT OF MOISTURE ON THE ACOUSTIC QUALITY FACTOR AND STRENGTH OF THE GYPSUM-CONTAINING ROCK AROUND MINE WORKINGS  
Voznesenskii A. S., Krasilov M. N., Kutkin Ya. O., Nabatov V. V.

11:20 - 11:40 THE ANALYSIS OF FAILURE IN CONCRETE AND REINFORCED CONCRETE BEAMS WITH DIFFERENT REINFORCEMENT RATIO  
Marta Stowik

11:40 - 12:00 QUANTITATIVE FRACTOGRAPHIC TOOLS FOR FAILURE ANALYSIS: HOW TO DETERMINE THE TOUGHNESS OF A MATERIAL FROM THE STATISTICAL PROPERTIES OF ITS FRACTURE SURFACE  
Ponson Laurent, Vernède Stéphane, Bouchaud Jean-Philippe

**10:40 - 12:00 Damage mechanics and models 2 (DMM.2)**

Room: LECTURE ROOM 4 - 1st floor  
Chair: Shlyannikov Valery

10:40 - 11:00 INFLUENCE OF REINFORCEMENT ON THE BEHAVIOR OF THE SHORT RC WALLS UNDER SEISMIC LOADING  
Chaouche O. Belaidi-Chabane, Hadjmohand N. Si., Nekkrouche A., Boukais S., Taouche-Kheloui F., Hannachi Ne.

11:00 - 11:20 SIMULATION OF CYLINDRICAL SHELL COLLAPSE WITH CONSIDERING PLASTICITY AND FRACTURE OF METALS  
Mikhail Lekanov, Alexander Mayer

11:20 - 11:40 EFFECTS OF THE USAGE OF PHARMACEUTICAL WASTES AS PARTIAL REPLACEMENT OF CEMENT ON THE DURABILITY OF HIGH-PERFORMANCE CONCRETE  
Talah Aissa, Belaid Rachid, Kechbour Boualem El

11:40 - 12:00 -

-

**10:40 - 12:00 Applications to components and structures 2 (ACS.2)**

Room: LECTURE ROOM 5 - 1st floor

Chair: Kishen Chandra

10:40 - 11:00 BEHAVIOR OF A LIGHTWEIGHT MULTILAYER UNDER BUCKLING LOAD.

Kheloui-Taouche F., Aittahar K., Belaidi O., Sedkaoui L.

11:00 - 11:20 STUDY ON EQUIVALENT LOAD FOR FATIGUE TEST OF HYDRAULIC EXCAVATOR BOOM

Xiang Qing Yi, Lu Peng Min, Wang Bin Hua, Ren Xue Jiao

11:20 - 11:40 EFFECT OF THE DIAMETER BLADED ORIENTAION ON THE MIXING TANK EFFECIENCY

Kamla Y., Ameur H., Hadjeb A., Sahel D.

11:40 - 12:00 -

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**10:40 - 12:00 Fatigue and fracture simulation and testing at all length scales (FFS)**

Room: LECTURE ROOM 1 - 1st floor

Chair: Banasziewicz Mariusz

10:40 - 11:00 FAILURE ASSESSMENT OF CRACKED UNI-PLANAR SQUARE HOLLOW SECTION T-,Y- AND K-JOINTS

USING THE NEW BS 7910:2013+A1:2015

Pillai Vipin Sukumara, Kolios Athanasios, Lie Seng Tjhen

11:00 - 11:20 CALCULATION OF THE WÖHLER (S-N) CURVE USING A TWO-SCALE MODEL

Mlikota M., Schmauder S., Božić Ž.

11:20 - 11:40 VOID GROWTH AS A MECHANISM OF LOW CYCLE FATIGUE

Lukhi Mehul, Hütter Geralf, Kuna Meinhard

11:40 - 12:00 -

-

**12:00 - 13:30 Lunch**

**13:30 - 14:00 Conference Closing**

Room: CONFERENCE HALL - ground floor

## Conference Venue

The address of the Conference Venue:  
**CENTRE FOR ADVANCED ACADEMIC STUDIES**  
**Don Frana Bulića 4**  
**20000 Dubrovnik**  
**CROATIA**

