

Program

Tuesday, 24/May/2016

16:00 – 20:00 Registration

18:00 – 20:00 Welcome Reception

Room: Atrium

19:00 – 20:00 Round table

Room:

Wednesday, 25/May/2016

8:00 – 9:00 Registration

9:00 – 9:10 Conference Opening

Room: University of Dubrovnik, Main Campus Building, Branitelja Dubrovnika 41 - CONFERENCE HALL

9:10 – 9:50 *Plenary Lecture:*

A Review on Constraint Concept and its Influence on Fracture Toughness

Pluvinage, G.

Room: University of Dubrovnik, Main Campus Building, Branitelja Dubrovnika 41 - CONFERENCE HALL

Chair: Božić, Ž.

9:50 – 10:30 *Plenary Lecture:*

Two Basic Approaches in a Search of the Crack Path

Matvienko, Y.

Room: University of Dubrovnik, Main Campus Building, Branitelja Dubrovnika 41 - CONFERENCE HALL

Chair: Božić, Ž.

10:30 – 11:00 Coffee Break

11:00 – 12:30 **Fatigue and fracture of polymers, elastomers, composites and biomaterials 1 (FFP.1)**

Room: CONFERENCE HALL

Chair: Schmauder, S.

Applications to components and structures 1 (ACS.1)

Room: LECTURE ROOM 4

Chair: Hadj Meliani, M.

Reliability and integrity of engineering structures 1 (RIE.1)

Room: LECTURE ROOM 5

Chair: Milović, LJ.

Models, criteria and methods in fracture mechanics 1 (MCM.1)

Room: LECTURE ROOM 6

Chair: Piska, M.

12:30 – 13:40 Lunch

13:40 – 15:10 **Fatigue and fracture of polymers, elastomers, composites and biomaterials 2 (FFP.2)**

Room: CONFERENCE HALL

Chair: Naït Abdelaziz, M.

Applications to components and structures 2 (ACS.2)

Room: LECTURE ROOM 4

Chair: Vučković, K.

Corrosion, environmentally enhanced degradation and cracking, corrosion fatigue 1 (CEE.1)

Room: LECTURE ROOM 5

Chair: Fares, C.

Special Session: Sustainable Materials Science and Technology 1 (SMS.1)

Room: LECTURE ROOM 6

Chair: Szávai, S.

15:10 – 15:30 Coffee Break

15:30 – 16:50 **Analytical Models 1 (AMO.1)**

Room: CONFERENCE HALL

Chair: Tóth, L.

Low, medium and high cycle fatigue 1 (LMH.1)

Room: LECTURE ROOM 4

Chair: Basan, R.

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

Room: LECTURE ROOM 5

Chair: Dominguez Almaraz

Mini-Symposia: Constraints in Fracture Mechanics 1 (CFM.1)

Room: LECTURE ROOM 6

Chair: Ambriz, R.

16:50 – 17:30 Poster Session

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

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

Chair: Gubeljak, N.

10:20 – 10:40 **Coffee Break**

10:40 – 12:10

Mini-Symposia:

Fracture and damage of cementitious materials 1 (FDC.1)

Room: CONF. HALL: gr. fl.

Chair: Milošević, M.

Damage mechanics and models 1 (DMM.1)

Room: LECTURE ROOM 4

Chair: Sedmak, A.

Multiaxial/mixed mode loading 1 (MMM.1)

Room: LECTURE ROOM 5

Chair: Huiji Shi, W. Q.

Models, criteria and methods in fracture mechanics 2 (MCM.2)

Room: LECTURE ROOM 6

Chair: Madenci, E.

12:10 – 13:20 **Lunch**

13:20 – 14:00

Plenary Lecture:

A Review of T-Stress Calculation Methods in Fracture Mechanics Computation
Hadj Meliani, M.

Room: CONFERENCE HALL

Chair: Matvienko, Y.

14:00 – 14:40

Plenary Lecture:

Influence of Secondary Orientations on Fatigue Crack Closure Behavior in a Single Crystal Superalloy
Huiji Shi, W. Q.

Room: CONFERENCE HALL

Chair: Matvienko, Y.

14:40 – 15:00 **Coffee Break**

15:00 – 16:20

Mini-Symposia:

Fracture and damage of cementitious materials 2 (FDC.2)

Room: CONFERENCE HALL

Chair: Pathak, N.

Fatigue and fracture of weldments, welded components, joints and adhesives 1 (FFW.1)

Room: LECTURE ROOM 4

Chair: Vučković, K.

Multiaxial/mixed mode loading 2 (MMM.2)

Room: LECTURE ROOM 5

Chair: Papuga, J.

Special Session: Fatigue Modelling on Different Length Scales 1 (FMD.1)

Room: LECTURE ROOM 6

Chair: Bao, R.

15:00 – ...

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
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

Detailed Program

Tuesday, 24/May/2016

16:00 – 20:00 Registration

18:00 – 20:00 Welcome Reception

Room: Atrium

19:00 – 20:00 Round table

Room: LECTURE ROOM 4 - 1st floor

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9:00 – 9:10 Conference Opening

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Pluvinage, G.

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Chair: Božić, Ž.

9:50 – 10:30 **Plenary Lecture:**
Two Basic Approaches in a Search of the Crack Path
Matvienko, Y.

Room: University of Dubrovnik, Main Campus Building, Branitelja Dubrovnika 41 - CONFERENCE HALL

Chair: Božić, Ž.

10:30 – 11:00 Coffee Break

Room: University of Zagreb, CAAS, Don Frana Bulica 4

11:00 – 12:30 **Fatigue and fracture of polymers, elastomers, composites and biomaterials 1 (FFP.1)**

Room: CONFERENCE HALL - ground floor

Session Chair: Schmauder, S.

- 11:00-11:30 **Keynote Lecture:**
FRACTURE OF RUBBERS: A CRITERION BASED UPON THE INTRINSIC DEFECT CONCEPT
Naït Abdelaziz, Moussa; Zaïri, Fahmi; Ben Hassine, Mouna; Colin, Xavier
- 11:30-11:50 NUMERICAL ANALYSIS OF REINFORCED CONCRETE BEAMS PRE CRACKED REINFORCED BY COMPOSITE MATERIALS
Benaoum, F.; Hadj Meliani, M.; Khelil, F.; Benagadi, L.; Sreir, Z.
- 11:50-12:10 THE EFFECT OF TEMPERATURE ON FATIGUE BEHAVIOUR OF CHLOROPRENE RUBER
Hosseini, Mahmood; Meo, Stephane; Lacroix, Florian; Berton, Gaelle
- 12:10-12:30 FINITE ELEMENT ANALYSIS OF THE INTERFACE CRACKS IN COMPOSITES REINFORCED WITH NATURAL FIBER IN THE PRESENCE OF INTERPHASE
Khaldi, M.; Vivet, A.; Sereir, Z.; Bourmaud, A.

11:00 – 12:30 **Applications to components and structures 1 (ACS.1)**

Room: LECTURE ROOM 4 - 1st floor

Session Chair: Hadj Meliani, M.

- 11:00-11:30 **Keynote Lecture:**
NOTCH SENSITIVITY OF MATERIALS, CRACK SENSITIVITY OF STRUCTURAL ELEMENTS
Tóth, L.
- 11:30-11:50 A METHODOLOGY FOR PROBABILISTIC PREDICTION OF FATIGUE CRACK INITIATION LIFETIME OF NOTCHED COMPONENTS BASED ON A GENERALIZED LOCAL APPROACH
Muñiz-Calvente, M.; De Jesus, A.M.P.; Correia, J.A.F.O.; Fernández-Canteli, A.

- 11:50-12:10 A NUMERICAL MODEL FOR ESTIMATION OF SPUR GEAR TOOTH BENDING FATIGUE LIFE
Vučković, Krešimir; Galić, Ivica; Čular, Ivan
- 12:10-12:30 NUMERICAL EXPERIMENT ON ROCK FRACTURE EVOLVEMENT UNDER HIGH PRESURE
ABRASIVE WATER JET
Si, Hu; Xue, Yongzhi

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:*
STRUCTURAL INTEGRITY ASSESSMENT OF AN AXLE PIN OF A WIND-TURBINE
Gubelj, 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; Mlch, 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.; Pluinage, G.

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 FACTOR THRESHOLD FOR
DIFFERENT STRESS RATIOS R CONSIDERING ROUGHNESS INDUCED CRACK CLOSURE : FROM
FRETTING TO C(T) FATIGUE EXPERIMENTS
Ferniot, Julien; de Pannemaecker, Alix; Fouvry, Siegfried; Brochu, Myriam; Buffiere, Jean-Yves

12:30 – 13:40 Lunch

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; Ivankovic, Alojz; Murphy, Neal; Quan, Dong; Tukovic, Z.
- 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; Benhamena, Ali
- 14:50-15:10 EXPERIMENTAL AND NUMERICAL STUDY OF ENERGY RELEASE RATE OF $[\pm\theta]$ COMPOSITE
LAMINATE PIPE.
Rekbi, Fares Mohammed Laid; Hecini, Mabrouk; Khechai, Abdelhak

13:40 – 15:10 Applications to components and structures 2 (ACS.2)

Room: LECTURE ROOM 4 - 1st floor

Session Chair: Vučković, K.

- 13:40-14:10 *Keynote Lecture:*
ON THE ANALYSIS OF POWDER STEEL MATERIAL, LASER SINTERING TECHNOLOGY AND
MACHINING ON SURFACE PARAMETERS AND FATIGUE
Piska, Miroslav; Trubacova, Pavlina; Hornikova, Jana
- 14:10-14:30 TECHNOLOGY HIGH-SPEED ABRASIVE MACHINING
Rechenko, Denis; Titov, Yuri; Popov, Andrey

- 14:30-14:50 TECHNOLOGY OF MECHANICAL TREATMENT OF ALLOYS OF THE INTERMETALLICS.
Titov, Yuri; Rechenko, Denis; Logachev, Ivan
- 14:50-15:10 IN-SITU REPAIR OF STEAM TURBINE BLADE/ROTOR ATTACHMENT HOLE
Hattingh, D. G.; James, M. N.; Newby, M.; Scheepers, R.; Doubell, P.

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.

- 13:40-14:10 *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.
- 14:10-14:30 CRACK PROPAGATION MODELS: NUMERICAL AND EXPERIMENTAL RESULTS ON TI-6AL-4V NOTCHED SPECIMENS
Baragetti, Sergio; Villa, Francesco
- 14:30-14:50 FAILURE BEHAVIOR OF HIGH PERFORMANCE PORCELAIN INSULATORS
Hettich, P. ; Schell, K.G.; Oberacker, R.; Bucharsky, E.C.; Schulte-Fischedick, J.; Hoffmann, M.J.
- 14:50-15:10 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.

- 13:40-14:10 *Keynote Lecture:*
STRUCTURE, STIFFNESS AND FRACTURE TOUGHNESS OF BAMBOO
Sayad, Mannan; Sumit, Basu
- 14:10-14:30 EFFECT OF CUTTING CONDITIONS ON SURFACE STATE BY TURNING WITH HARD MATERIALS
Aouad, R.; Amara, I.
- 14:30-14:50 FLEXURAL MODULUS OF POLYESTER RESIN/MISCANTHUS×GIGANTEUS BIOCOSCOMPOSITES
Žmak, Irena; Vurnek, Vjekoslav; Šundrica, Jadran
- 14:50-15:10 COMPRESSIVE BEHAVIOUR OF BASALT FIBRE REINFORCED RAC COLUMNS CONFINED BY STEEL TUBE AND AFRP SHEETS
Dong, J. F.; Hou, M.; Yuan, S.C.; Wang, Q.Y.

15:10 – 15:30 Coffee Break

15:30 – 16:30 Analytical Models 1 (AMO.1)

Room: CONFERENCE HALL - ground floor

Session Chair: Tóth, L.

- 15:30-15:50 MODELING OF WAVE RESPONSES TO PROPAGATING DISLOCATION SOURCE IN LAYERED MATERIALS
Zhang, R.C.; Ma, Z.G.; Zhao, G.Z.; Alamin, A.
- 15:50-16:10 ANALYTICAL EXPRESSION OF SHAPE FACTOR OF A CRACKED STRUCTURE REPAIRED BY COMPOSITE PATCH (I MODE)
Baltach, A.; Djebli, A.; Benhamena, A.; Aid, A.
- 16:10-16:30 NONLINEAR RESONANCE PHENOMENON OF HELICAL SPRINGS SUBMITTED TO ANGULAR SPEED
Ayadi, Sami; Haj Taieb, Ezzeddine

15:30 – 16:50 Low, medium and high cycle fatigue 1 (LMH.1)

Room: LECTURE ROOM 4 - 1st floor

Session Chair: Basan, R.

- 15:30-15:50 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.
- 15:50-16:10 METHODOLOGY FOR DETERMINING THE REGION OF STABILIZATION OF LOW-CYCLE FATIGUE
Aleksić, Vujadin; Aleksić, Bojana; Milović, Ljubica
- 16:10-16:30 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.; Milovic, 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)

Room: LECTURE ROOM 5 - 1st floor

Session Chair: Dominguez Almaraz, G. M.

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)

Room: LECTURE ROOM 6 – 2nd floor

Session Chair: Ambriz, R.

15:30-15:50 CORROSION DEFECT ASSESSMENT ON PIPES REPAIRING BY BONDED COMPOSITE PATCH
Neggaz, Djamel; Fodil, Lahouari; El Azzizi, 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 Azzizi, 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)**

Room: CONFERENCE HALL - ground floor

Session Chair: Milošević, M.

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

- 11:10-11:30 FAILURE CRITERIA FOR ENERGETIC MATERIALS
Chatti, M.; Gratton, M.; Frachon, A.; Caliez, M.; Aithocine, N.
- 11:30-11:50 MICROSTRUCTURAL AND MECHANICAL PROPERTIES OF WC-CO/1020 STEEL BRAZED JOINT
Cheniti, B.; Miroud, D.; Yahmi, Y.

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

Room: LECTURE ROOM 4 - 1st floor

Session Chair: Sedmak, A.

- 10:40-11:10 *Keynote Lecture:*
FREQUENCY DECOMPOSITION DAMAGE MODEL TO ASSESS VERY/HIGH CYCLE FATIGUE LOAD INTERACTION EFFECTS
Leung, Kai Wing Kelvin; Amiri, Mehdi; Iyyer, Nagaraja; Phan, Nam
- 11:10-11:30 DETERMINATION OF THE FATIGUE DAMAGE IN DELAMINATION OF COMPOSITE MATERIALS
Bazazzadeh, Soheil; Zaccariotto, Mirco; Galvanetto, Ugo
- 11:30-11:50 COUPLED PLASTIC DAMAGE MODEL FOR LOW AND ULTRA-LOW CYCLE FATIGUE
Barbu, L.G.; Martinez, X.; Oller, S.; Barbat, A. H.
- 11:50-12:10 MODELISATION OF THE BEHAVIOR OF THE HIGH-DENSITY POLYETHYLENE (HDPE) BY USING THE CONTINUUM DAMAGE MECHANICS MODEL.
Aid, Abdelkrim; Benhamena, Ali; Djebli, Abdelkader; Bendouba, Mostefa

10:40 – 12:10 Multiaxial/mixed mode loading 1 (MMM.1)

Room: LECTURE ROOM 5 - 1st floor

Session Chair: Huiji Shi, W. Q.

- 10:40-11:10 *Keynote Lecture:*
MULTIAXIAL FATIGUE DAMAGE: A CHALLENGE
Reis, Luis; Anes, Vitor; Freitas, Manuel
- 11:10-11:30 MULTIAXIAL FATIGUE PREDICTION FOR ALUMINUM ALLOYS
Papuga, Jan
- 11:30-11:50 MULTIAXIAL FATIGUE LIFE PREDICTION BASED ON NON-PROPORTIONALITY OF STRAIN PATH
Zhong, Bo; Wang, Yanrong; Wei, Dasheng; Wang, Jialiang
- 11:50-12:10 A MODIFIED MULTIAXIAL FATIGUE LIFE PREDICTION MODEL FOR NOTCHED SPECIMENS BASED ON THE STRESS FIELD INTENSITY AND CRITICAL PLANE THEORY
Xia, Tianxiang; Yao, Weixing

10:40 – 11:50 Models, criteria and methods in fracture mechanics 2 (MCM.2)

Room: LECTURE ROOM 6 – 2nd floor

Session Chair: Madenci, E.

- 10:40-11:10 *Keynote Lecture:*
PHASE FIELD MODEL FOR BRITTLE FRACTURE AND ITS EXTENSION TO DUCTILE FRACTURE
Imanian, Anahita; Amiri, Mehdi; Iyyer, Nagaraja; Phan, Nam
- 11:10-11:30 A DUGDALE-BARENBLATT CRACK BETWEEN DISSIMILAR MEDIA
Ferdjani, Hicheme
- 11:30-11:50 ANALYSIS OF MULTIPLE-CRACK PROBLEMS BY MULTIDOMAIN SPLINE FICTITIOUS BOUNDARY ELEMENT METHOD BASED ON ERDOGAN FUNDAMENTAL SOLUTIONS
Xu, Zhi; Su, Cheng

12:10 – 13:20 Lunch

13:20 – 14:00 *Plenary Lecture:*

A Review of T-Stress Calculation Methods in Fracture Mechanics Computation

Hadj Meliani, M.

Room: CONFERENCE HALL - ground floor

Chair: Matvienko, Y.

14:00 – 14:40 *Plenary Lecture:*

Inference of Secondary Orientations on Fatigue Crack Closure

Behavior in a Single Crystal Superalloy

Huiji Shi, W. Q.

Room: CONFERENCE HALL - ground floor

Chair: Matvienko, Y.

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.; Ait 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
- 16:00-16:20 PARAMETRIC STUDY ON A MICRO-CONCRETE FROM CLASS "C50"
Fetouh, L.; Belaidi, O.; Ouarezki, N.; Kheddache, L.; Ould Ouali, M.; Kheloui.Taouche, F.

15:00 – 16:20 Fatigue and fracture of weldments, welded components, joints and adhesives 1 (FFW.1)

Room: LECTURE ROOM 4 - 1st floor

Session Chair: Vučković, K.

- 15:00-15:20 MECHANICAL BEHAVIOUR OF LASER WELDED CORRUGATED PANELS OF ULTRAHIGH STRENGTH STEEL
Hietala, Mikko; Keskitalo, Markku; Järvenpää, Antti; Saine, Kari; Karjalainen, Pentti; Mäntyjärvi, Kari
- 15:20-15:40 EXPERIMENTAL INVESTIGATIONS OF THE ENVIRONMENTAL EFFECTS ON STABILITY AND INTEGRITY OF COMPOSITE SANDWICH T-JOINTS
Khosravani, Mohammad Reza; Weinberg, Kerstin
- 15:40-16:00 A PROBABILISTIC FATIGUE ASSESSMENT DIAGRAM TO GET A GUARANTEED LIFETIME WITH A LOW PROBABILITY OF FAILURE
Jallouf, S.; Pluvinage, G.; Casavola, K.; Pappalettere, C.
- 16:00-16:20 IMPROVE NDE PERFORMANCES OF DISSIMILAR METAL WELD INSPECTION BY SIMULATION OF PHASED ARRAY ULTRASONIC TECHNIQUES
Szávai, Szabolcs; Bézi, Zoltán; Dudra, Judit; Méhész, István

15:00 – 16:20 Multiaxial/mixed mode loading 2 (MMM.2)

Room: LECTURE ROOM 5 - 1st floor

Session Chair: Papuga, J.

- 15:00-15:20 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
- 15:40-16:00 NUMERICAL MODIFICATION FOR FATIGUE LIFE PREDICTION UNDER ASYMMETRIC LOADING
Babaei, Saeid; Mansoori, Hasan; Ghasemi-Ghalebahman, Ahmad
- 16:00-16:20 THE EFFECT OF RESIDUAL STRESSES ON FATIGUE PROPERTIES IN DISSIMILAR FRICTION STIR WELDED ALUMINIUM PANELS
Ma, Yu E.; Guo, Yanning

15:00 – 15:40 Special Session:

Fatigue Modelling on Different Length Scales 1 (FMD.1)

Room: LECTURE ROOM 6 – 2nd floor

Session Chair: Bao, R.

- 15:00-15:20 MULTISCALE MODELLING OF OVERLOAD EFFECTS ON FATIGUE CRACK INITIATION IN CASE OF CARBON STEEL
Mlikota, Marijo; Schmauder, Siegfried; Božić, Željko
- 15:20-15:40 RESIDUAL STRESS MODELING AND STRESS INTENSITY FACTOR CALCULATION FOR WELDED STIFFENED PANELS
Božić, Ž.; Barjašić, D.; Hadj Meliani, M.

15:00 – ... 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; Gubelj, 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, Vujadin; Milović, Ljubica

10:10-10:30

FATIGUE LIFE ASSESSMENT OF WELDED JOINTS BY THE NOTCH STRESS APPROACH AND THE PEAK STRESS METHOD

Bertini, L.; Frenzo, 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 FRICTION 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; Kruml, Tomáš; Foldyna, Josef; Tobiáš, Jiří; Man, Jiří

9:50-10:10

NUMERICAL STUDY OF WIND TURBINE BLADE CRACKED

Meriem-Benziane, Madjid; Boutchicha, Maamar

10:10-10:30

THE EFFECT OF SANDBLASTING ON THE MECHANICS PROPERTIES 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.

- 10:50-11:10 FINITE ELEMENT BASED FATIGUE ANALYSIS OF AN ALUMINUM ALLOY 6082 UNDER RANDOM LOADING.
Bendouba, M.; Djebli, A.; Aid, A.; Benseddiq, N.; Benguediab, M.
- 11:10-11:30 NUMERICAL MULTIAXIAL FATIGUE LIFE ANALYSIS OF LIGHTWEIGHT PHOTOVOLTAIC SOLAR-TRACKING SYSTEM
Iftikhar, S.H.; Albinmoussa, J.; Merah, N.
- 11:30-11:50 PAINT-BAKE EFFECT ON THE PLASTICITY AND FRACTURE OF ALUMINUM 6451 SHEETS
Abi Akl, Rami; Mohr, Dirk
- 11:50-12:10 CHARACTERIZATION OF AGGREGATES FRAGMENTATION USING THE CALCULATION OF FRACTAL DIMENSION
Bouzeboudja, Aldjia; Melbouci, Bachir; Bouzeboudja, Houria

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; Azari, Zitouni; 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; Marohnić, 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

Basaid, 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; Della, Nouredin; 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 NANOPATELET 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; Bouledroua, O.; Hadj Meliani, Mohammed; Maatalah, S.; El Azzizi, Abdallah; Neggaz, Djamel; Boukharouba, T.

FATIGUE BEHAVIOUR OF DUCTILE CLOSED-CELL ALUMINIUM ALLOY FOAMS

Linul, Emanoil; Şerban, Dan Andrei; Marşavina, Liviu; Kovacik, Jaroslav

EXPERIMENTAL STUDY FOR CORROSION INHIBITION OF CARBON STEEL IN ACIDIC MEDIUM

Mehdaoui, Razika; Khadraoui, Abdelkader; Khelifa, Abdellah; Aaboubi, 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.; Rusmirovic, 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

Novoselac, S.; Kozak, D.; Gelo, I.

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

Sadki, A.; Halimi, A.; Hattali, M.L.; Bradai, M. A.; Younes, R.; Mesrati, N.

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

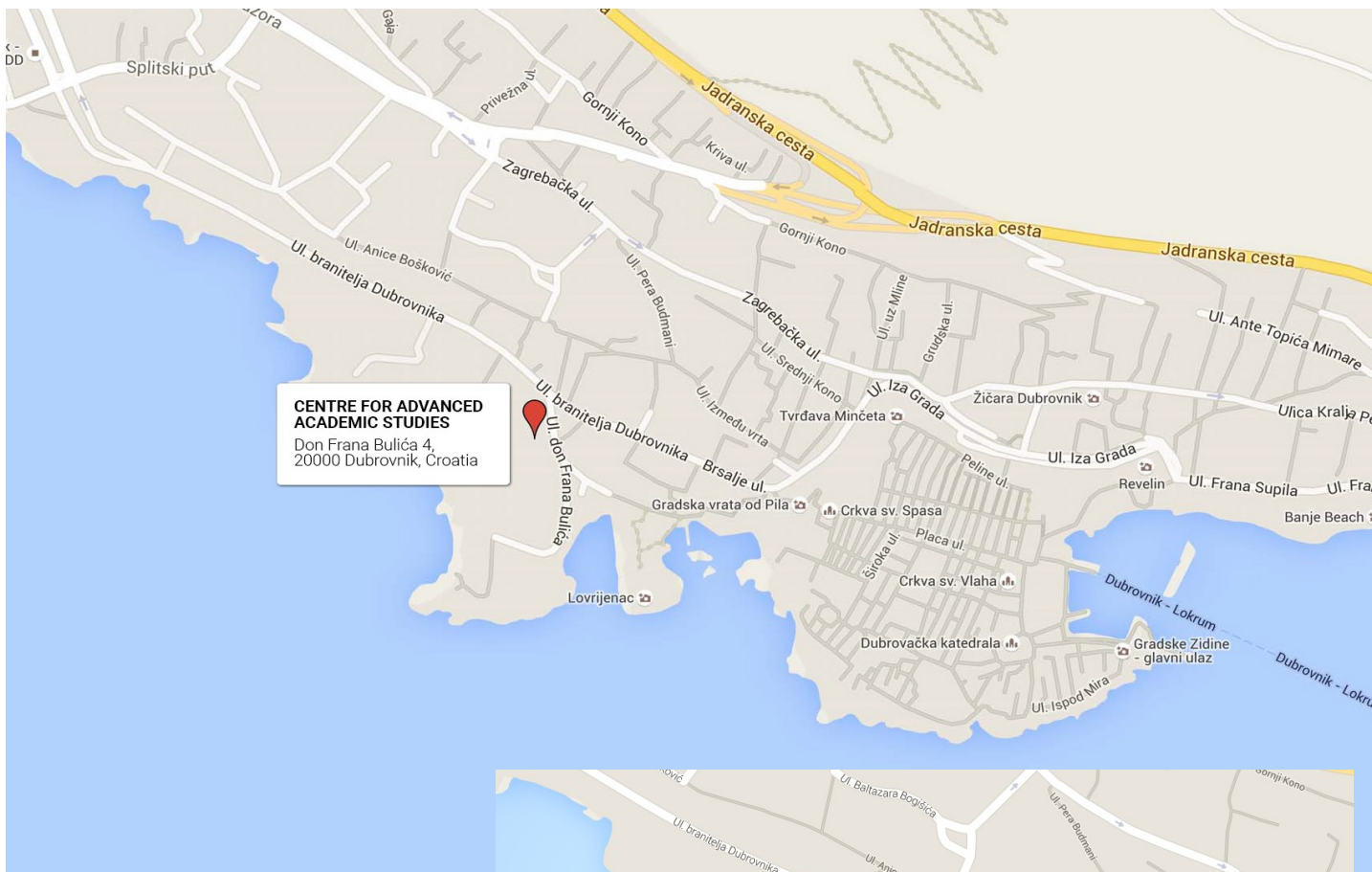
Yun, Junghan; Kim, Yongseok; Lee, Jeong-Min; Song, Hyunwoo; Wee, Sunguk; Koo, Jae-Mean; Seok, Chang-Sung

FATIGUE LIFE PREDICTION UNDER RANDOM LOADING OF AN ALUMINUM ALLOY

Zengah, Sahnoun; Aid, Abdelkrim; Benguediab, Mohamed; Benseddiq, Nourredine; Djebli, Abdelkader

Conference Venue

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)

