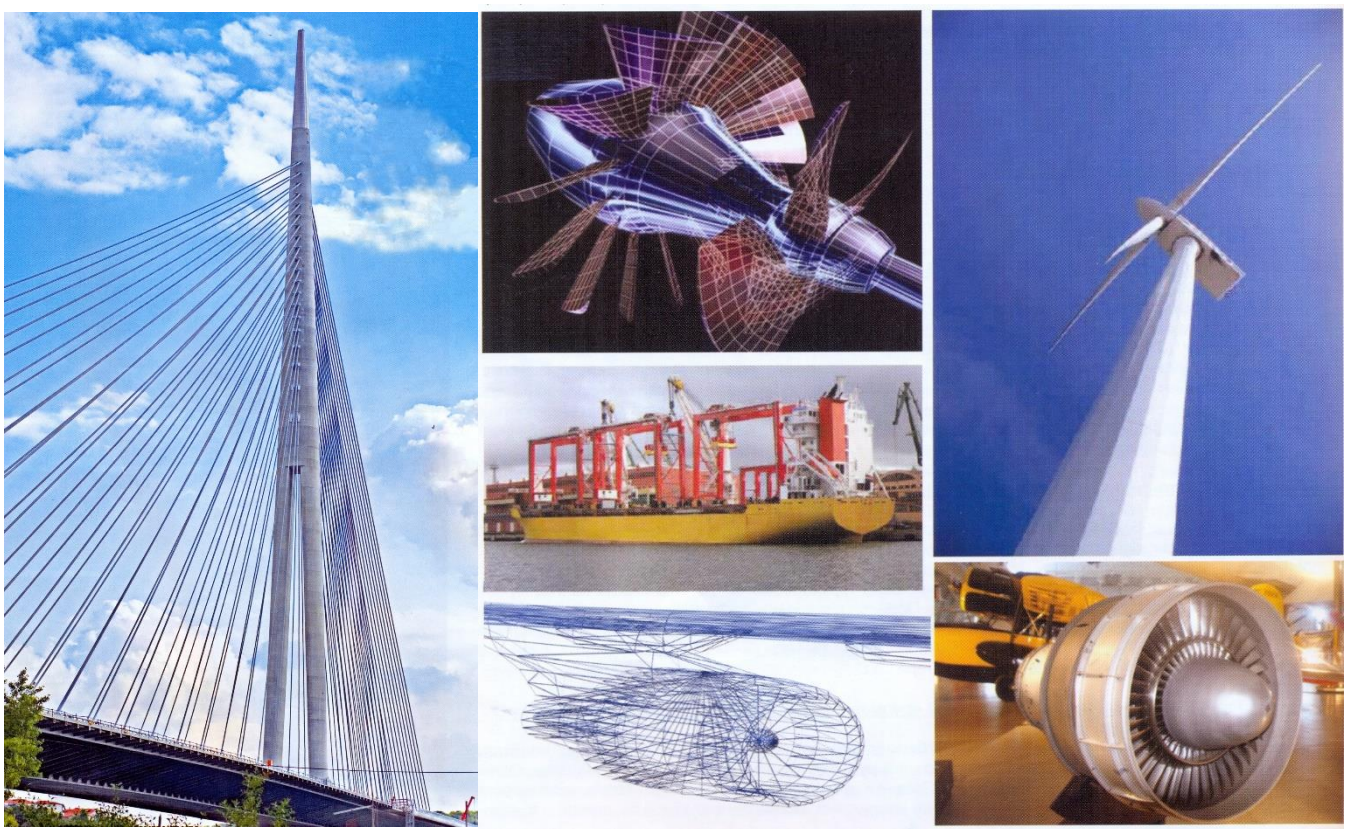
22nd European Conference on Fracture - ECF22

LOADING AND ENVIRONMENT EFFECTS ON STRUCTURAL INTEGRITY

26th – 31st August 2018.

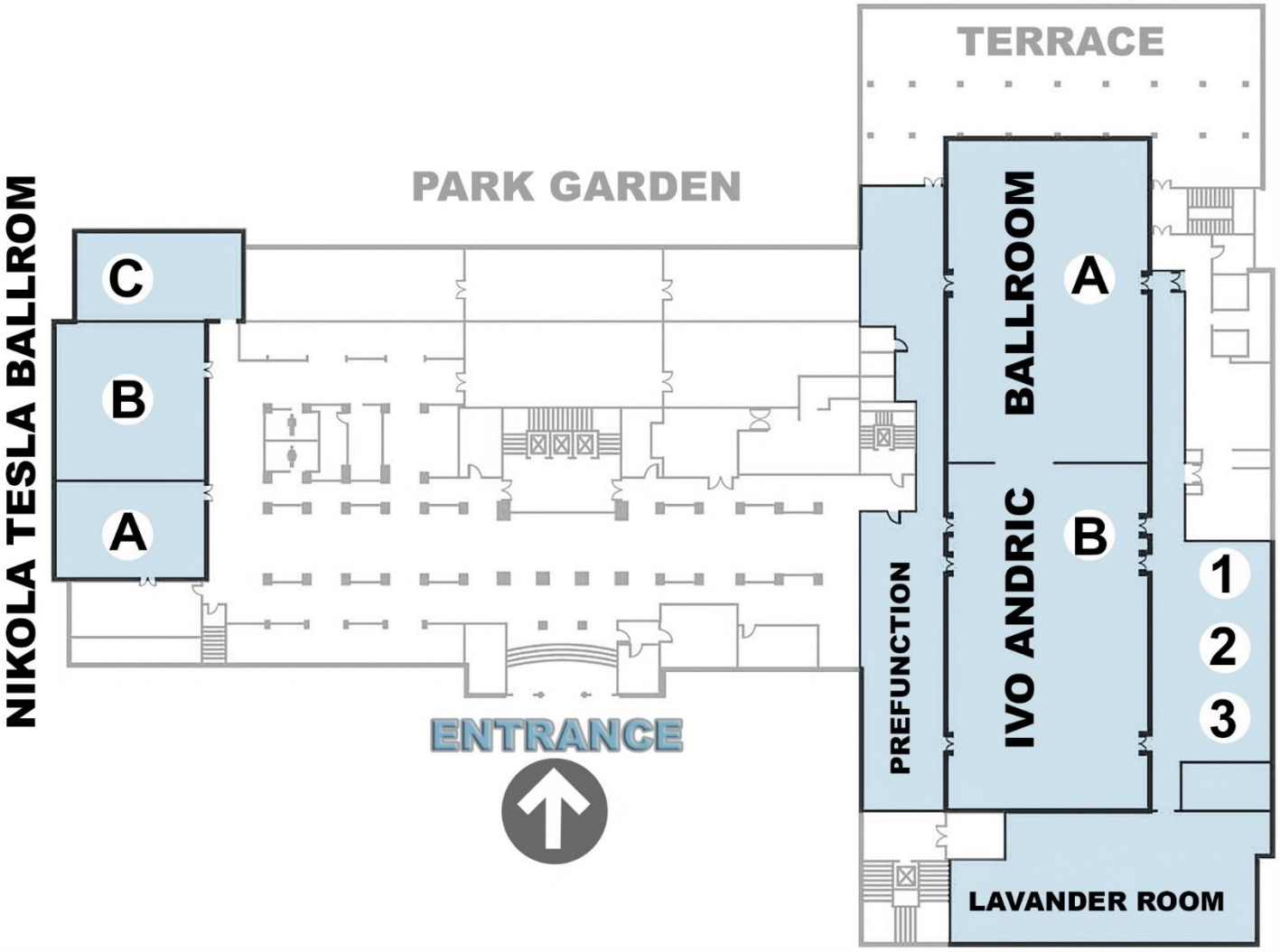
www.ecf22.rs



SUMMER SCHOOL, 25-26 August 2018.

Belgrade, Serbia

Venue: Metropol Palace, Bulevar Kralja Aleksandra 69, Belgrade, Serbia



CONFERENCE PROGRAMME SCHEME

Sunday, 26.8	Monday 27.8	Tuesday 28.8	Wednesday 29.8	Thursday 30.8	Friday 31.8
	8-9 Registration	**8-9 Registration**	**8-9 Registration**	**8-9 Registration**	**8-9 Registration**
	9-10.30 Plenary 1 **Opening ceremony, Introductory lecture:** **James Rice,** Perspectives on dynamic fracture arising from study of earthquake ruptures	**9-10.30 Plenary 3** **Yoshi Hong,** The State of the Art in Very-High-Cycle Fatigue Research **Uwe Zerbst,** Application of fracture mechanics to S-N curve prediction. Requirements and perspectives	**9-10.30 Plenary 5** **Robert Ritchie,** Damage Tolerance in Biological and Metallic Material **Yonggang Huang,** Soft network compo-site materials with deterministic and bio-inspired designs	**9-10.30 Plenary 6** **Takayuki Kitamura,** Challenge toward nanometer scale fracture mechanics **William Curtin,** Mechanisms of hydrogen embrittle-ment: Insights from atomistic studies	**9-11.30** **Parallel 8**
	10.30-11.00 Coffee break	10.30-11.00 Coffee break	10.30-11.00 Coffee break	10.30-11.00 Coffee break	11.30-12.00 Coffee break
	11-13.30 **Parallel 1**	**11-13.30** **Parallel 3**	**11-13.30** **Parallel 5**	**11-13.30** **Parallel 6**	**12-13.30** **Closing**
	13.30-14.30 Lunch	13.30-14.30 Lunch	13.30-14.30 Lunch	13.30-14.30 Lunch	
Faculty of Mechanical Engineering, Kraljice Marije 16 **15.30-17.00** **J. Rice** Route to the J-Integral and some of its applications - on the occasion of the 50th anniversary **17.00-20.00** **Registration and Welcome cocktail**	**14.30-15.40** **Plenary 2** **Jovo Jaric,** Conservation laws of J integral type **Drazan Kozak,** Integrity of pipeline by using pipe-ring testing, part 1	**14.30-15.40** **Plenary 4** **Meinhard Kuna,** Micromechanical modeling of fracture in metallic materials **Nenad Gubeljak,** Integrity of pipeline by using pipe-ring testing, Part 2	**14.30-16** **Special session** **Best weldment paper** **Best young scientist paper** **Posters**	**14.30-17** **Parallel 7**	
	15.40-16.00 Coffee break	15.40-16.00 Coffee break			
	16.00-18.15 **Parallel 2**	**16.00-18.15** **Parallel 4**			
	19.00-22.00 **Cultural programme – Metropol Palace**	**18.30-22.00** **Belgrade cruise on Sava & Danube**	**16.30-21.00** **Belgrade sightseeing**	**19.00-23.00** **Conference dinner – Metropol Palace**	

Plenary sessions will be held in Ivo Andric ballroom

Parallel 1: Monday, 27th August 11.00-13.30 h

Ivo Andric A - topic 4.1 **9,16,19,44,49,64,65,82,249**	**Ivo Andric B – topic 1.1** **6,7,21,23,28,70,73,76,623**
Nikola Tesla A – topics 4.2-4.5 **5,20,24,58,59,151,187,300,25**	**Nikola Tesla B – mini-symposium on Hydrogen embrittlement** **170,422,45,1,218,359,188,202**
Lavander - topic 3 **15,17,47,60,84,307,341,608**	**Nikola Tesla C – topics 1.2-1.5** **223,11,12,48,71,75,79,85**

Parallel 2: Monday, 27th August 16.00-18.15 h

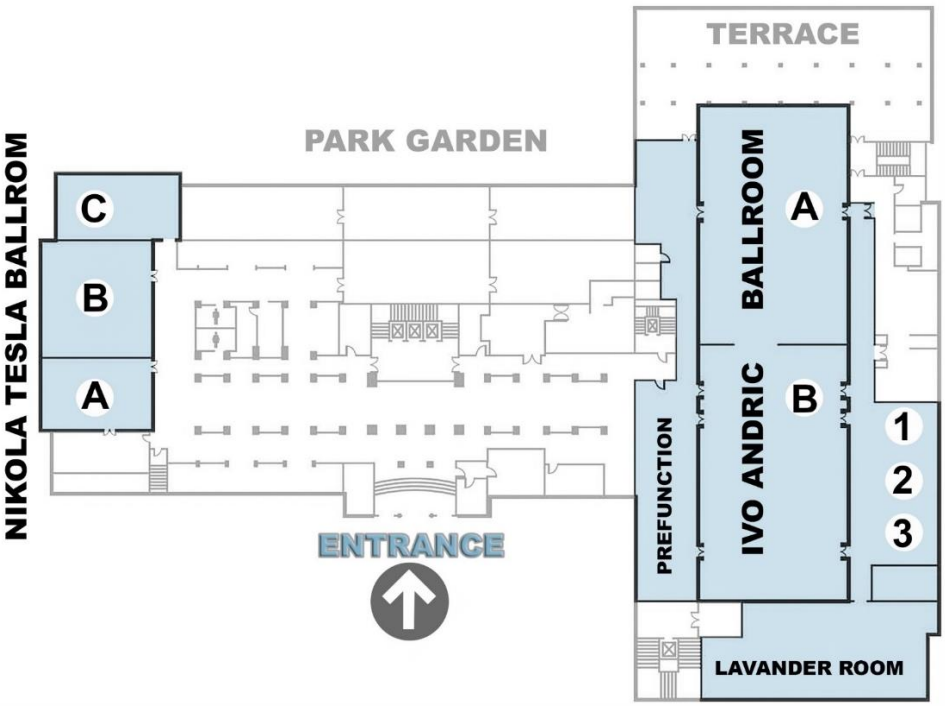
Ivo Andric A - topic 4.1 **132,99,159,166,178,256,362,62**	**Ivo Andric B – topic 1.1** **93,156,163,177,216,564,50,583**
Nikola Tesla A – topics 4.2-4.5 **581,31,66,68,145,206,81,238**	**Nikola Tesla B – mini-symposium on Hydrogen embrittlement** **57,239,208,237,266,323**
Lavander - topic 3 **2,69,95,96,108,164,379,534**	**Nikola Tesla C – topics 1.2-1.5** **101,110,111,120,8,241,494**

Parallel 3: Tuesday, 28th August 11.00-13.30 h

Ivo Andric A - topic 4.1 **209,210,220,221,225,243,244,399**	**Ivo Andric B – topic 1.1** **4,253,258,263,284,286,288,305,351**
Nikola Tesla A – topics 4.2-4.5 **14,89,148,149,154,158,180,197,207**	**Nikola Tesla B – mini-symposium on Hydrogen embrittlement** **204,453,444,337,212,294,393**
Lavander - topic 3 **142,408,433,443,448,565,585,586**	**Nikola Tesla C – topics 1.2-1.5** **155,171,176,179,200,482,595,596,236**
	Room 3 mini-symposium on Risk based analysis & TC12 meeting **199,476,115,272,274,291,285,519**

Parallel 4: Tuesday, 28th August 16.00-18.15 h

Ivo Andric A - topic 4.1 **83,261,264,271,276,279,344,546**	**Ivo Andric B – topic 1.1** **330,331,332,345,361,384,410,411**
Nikola Tesla A – topics 2.1-2.4 **90,139,245,247,407,428,621**	**Nikola Tesla B – mini-symposium on Hydrogen embrittlement** **425,77,232,429,454,483,532**
Lavander - topic 3 **267,452,479,497,543,606,500**	**Nikola Tesla C – topics 1.2-1.5** **184,192,198,222,230,248,610,485**
Room 3 - Mini symposium on Biomaterials: **39,97,136,183,185,26,29,449,430**	**Room 1 mini-symposium on Energy Methods for Fatigue Assess.** **358,278,473,496,577,491**



Parallel 5: Wednesday, 29th August 11.00-13.30 h

Ivo Andric A - topic 4.1 **281,292,302,303,304,309,313,317**	**Ivo Andric B – topic 1.1** **314,418,423,431,440,455,504,507,510**
Nikola Tesla A – topics 4.2-4.5 **227,228,229,298,320,346,378,413,598**	**Nikola Tesla B – mini-symposium on Hydrogen embrittlement** **246,465,191,224,240,340,439,219,329**
Lavander - topic 3 **41,161,273,319,326,364,360,181,235**	**Nikola Tesla C – topics 1.2-1.5** **270,277,287,297,299,301,450,67**

Special sessions: Wednesday, 29th August 14.30-16.30 h

Nikola Tesla C - Competition **Weldment Fracture Mechanics best paper** **144,13,74,165,601,536**	**Ivo Andric B - Competition** **Elsevier/ESIS Young scientist best paper** **3,22,30,275,427,451,493,556**	**Room 1 - TC 17** **Room 3 - TC 14** **kick off meetings**
Lavander - Poster session: **33,34,35,40,467,91,103,109,107,112,118,115,113,114,116,122,135,138,140,168,195,211,226,262,289,447,458,459,477,478, 492,498,499,517,527,535,544,557,558,559,571,579,584,576,582,607,609,533,268,618,318,123,134,133,620,147,461,475,347, 597,374,404,391,538,457,502,234,611,612,214,194,468,469,43,46,18,52,63,78,312,242,53,54,174,545,196,146,121,117,201, 205,252,175,282,106,137,395,424,603,27,480,189,186,193,259,293,414,380,415,420,436,250,162,381,412,421,80,143,525, 353,356,365,233,86,290,437,438,463,568,569,182,419,375,383,392,105,251,104,616,622,119,624,486,487,471,573**		

Parallel 6: Thursday, 30th August 11.00-13.30 h

Ivo Andric A - topic 4.1 **325,327,343,348,357,366,373,387**	**Ivo Andric B – topic 1.1** **511,513,516,518,526,531,537,549,615**
Nikola Tesla A – topics 4.2-4.5 **215,342,367,368,371,614,372,376,160**	**Nikola Tesla B – mini-symposium on Hydrogen embrittlement** **311,231,541,213,333,339,338,306,55**
Lavander - topic 3 **87,349,369,377,390,401,402,254,255**	**Nikola Tesla C – topics 1.2-1.5** **315,316,321,328,336,350,354,460,172**
Room 1 mini-symposium on Multiscale Damage **49,102,124,125,126,257,280,490**	**Room 3 mini-symposium on Defects and Fatigue** **528,590,591,322,605,599,600,604**

Parallel 7: Thursday, 30th August 14.30-17.00 h

Ivo Andric A - topic 4.1 **394,403,406,416,442,540,539**	**Ivo Andric B – topic 1.1** **550,560,561,562,563,572,578**
Nikola Tesla A – topics 4.2-4.5 **389,445,446,464,508,98,524,574**	**Nikola Tesla B – mini-symposium on Hydrogen embrittlement, Round table and Panel discussions**
Lavander - topic 3 **153,167,409,462,542,553**	**Nikola Tesla C – topics 1.2-1.5** **269,352,370,400,405,432,434,566,382,426**
Room 1 – **61,547, TC 13 meeting**	

Parallel 8: Friday, 31st August 9.00-11.30 h

Ivo Andric A - topic 4.1: **456,471,474,488,489,509,512,523**	**Ivo Andric B – topic 1.1:** **10,51,355,589,594,619,520**
Nikola Tesla A – topics 4.2-4.5: **466,552,554,580,587**	**Nikola Tesla B – topics 2.1-2.4:** **217,521,548,555,570,588**
Lavander - topic 3: **481,484,495,501,567,592,602,613**	**Nikola Tesla C – topics 1.2-1.5:** **385,386,486,487,522,141,530,551**

Time slot for oral presentation is 15 minutes, discussion at the end of session

Main topics

1. Loading Types	2. Environment	3. Structures	4. Materials
1.1 static and quasi-static	2.1 corrosion	3.1 power plants	4.1 metallic materials
1.2 cyclic loading	2.2 high operating temperatures	3.2 process equipment	4.2 polymers
1.3 vibrations	2.3 other temperature effects	3.3 welded structures	4.3 ceramics
1.4 impact and earthquake	2.4 combined effects	3.4 different structures	4.4 composite materials
1.5 combined loading	2.5 hydrogen embrittlement	3.5 transportation	4.5 nanomaterials
			4.6 biomaterials

Parallel 1: Monday, 27th August 11.00-13.30 h

Ivo Andric A - topic 4.1 Chairman Francesco Iacoviello

9, Moritz Zistl, Steffen Gerke and Michael Brünig,
Biaxial experiments on the effect of non-proportional loading paths on damage and fracture behavior of ductile metals

16, Marco Schmidt, Steffen Gerke and Michael Brünig
The effect of negative stress triaxialities on ductile damage and fracture behavior in metal sheets

19, Taiko Aiakawa, Shuji Aihara, Fuminori Yanagimoto, Tomoya Kawabata and Kazuki Shibanuma
Computer simulation of cleavage fracture surface morphologies in steel plates

44, Vittorio Di Cocco, Francesco Iacoviello and Stefano Natali,
Grain size influence on fatigue behaviour in a CuZnAl PE SMA

49, Victor Manuel Trejo Navas, Ante Buljac, François Hild, Thilo Morgeneyer, Marc Bernacki and Pierre-Olivier Bouchard
Microscopic strain calculations at the onset of coalescence in nodular cast iron

64, Johannes Tlatlik, Dieter Siegele,
Investigation and Modelling of Local Crack Arrest in Ferritic-Bainitic Steels Under Dynamic Loading

65, Huang Yuan, Cohesive zone modeling for three-dimensional elastic-plastic fatigue cracking with significant constraint effects

82, Jan-Peter Brüggemann, Lena Risse, Gunter Kullmer and Hans Albert Richard
Optimization of the fracture mechanical properties of additively manufactured EN AW-7075

249, Xiang Guo, Guang Yang, George Weng and Jian Lu
Cohesive zone modeling of interface influences on the tensile fracture behavior of bimodal nanostructured Cu

Nikola Tesla A – topics 4.2-4.5 Chairman Konstantin Ustinov

5, Ralf Lach, Andrea Monami, Sören Grießbach, Volker Grießbach and Wolfgang Grellmann, Lifetime assessment of additive manufactured polymer materials by means of the rolling ring test using cyclically loaded notched ring specimens

20, Yasuyuki Furuta, Yuki Nishizono, Shuji Aihara, Fuminori Yanagimoto, Tomoya Kawabata, Kazuki Shibanuma, Carlos Augusto Oliveira and Armando Shinohara, Simulated running ductile fracture experiment using rubber tube

24, Andrea Spagnoli, Roberto Brighenti, Michele Terzano, Federico Artoni and Per Stahle,
Cutting resistance of polymeric materials: experimental and theoretical investigation

58, Konstantin Ustinov, On induced anisotropy of stress-strain relations and fracture resistance in filled elastomers

59, Konstantin Ustinov, On mode mixity of interface cracks in composed layers; some analytical solutions

151, Dani Abdo, Andrew Gleadall, Vadim Silberschmidt, Dirk Sprengel
Experimental and Morphological Investigations of Fracture Behaviour of PBT/TPE-E

187, Jacopo Schieppati, Bernd Schrittesser, Alfred Wondracek, Stefan Robin, Armin Holzner and Gerald Pinter
Impact of temperature on the fatigue and crack growth behavior of rubbers

300, Jung-Wook Wee, Byoung-Ho Choi,
Stochastic analysis of discontinuous slow crack growth of high density PE using crack layer theory

25, Mark Kopietz and Bernd Wetzel, Impact of aggressive media on the interlaminar shear strength of innovative glass fiber reinforced polyurea/polysilica hybrid resins

Lavander - topic 3 Chairman Peter Trampus

15, Ramdane Boukellif and Andreas Ricoeur,
Identification of crack positions and crack loading quantities from strain gauge data by inverse problem solution

17, Isabela Procopio, Sergio Cicero, Kevin Mottershead, Matthias Bruchhausen and Sam Cuvilliez
INCEFA-PLUS (increasing safety in nuclear power plants by covering gaps in environmental fatigue assessment)

47, Aissa Talah, Rachid Belaid and Fattoum Kharchiel, Effects of the Usage of Pharmaceutical Wastes as Partial Replacement of Cement on the Durability of High-Performance Concrete

60, Reza Khadem Hosseini, Root Cause Analysis of Superheat Steam Tube in a Petrochemical Industry

84, Katharina Dibblee, Gunter Kullmer and Hans Albert Richard
Influence of Fracture Mechanical Graded Materials on the Crack Propagation Behaviour in 3-dimensional structures

307, Igor Smolin, Pavel Makarov, Alexey Kulkov, Mikhail Eremin, Vladimir Tunda and Valentina Mikushina
Statistical peculiarities of the mechanical response of loaded solids at the pre-fracture stage

341, Anastasiia Kostina, Maksim Zhelnin and Oleg Plekhov,
Thermo-mechanical model of steam injection in fluid-saturated porous media

608, Peter Trampus, Pressurized Thermal Shock analysis of the reactor pressure vessel

Ivo Andric B – topic 1.1 Chairman Meinhard Kuna

6, Steffen Gerke, Moritz Zistl, Marco Schmidt and Michael Brünig,
Damage and fracture of ductile sheet metal: New biaxially loaded specimens for material parameter identification

7, Ngoc Anh Giang, Meinhard Kuna and Geralf Hütter,
Effect of Gradient Plasticity on Crack Initiation and Propagation in the Ductile-Brittle Transition Region of Ferritic Steel

21, Fuminori Yanagimoto, Kazuki Shibanuma, Teppei Okawa, Katsuyuki Suzuki and Shuji Aihara
Investigation on brittle crack propagation and arrest behaviors under high crack driving force in steel

23, Masayuki Arai, Kazuki Yoshida,
Application of singular integral equation to crack moving near an inclusion in two-dimensional infinite plate

28, Paul Judt, Andreas Ricoeur,
Application of material forces and path independent integrals for prediction of crack initiation and crack paths

70, Larisa Stepanova, Intermediate self-similar asymptotic presentation of the stress and damage fields in the vicinity of the mixed-mode crack tip under creep regime

73, Javier Gomez, Miguel Angel Martin-Rengel, Jesus Ruiz-Hervias and Ali Reza Torabi
Application of the equivalent material concept to fracture of u-notched solids under small-scale yielding

76. Andrzej Neimitz and Jaroslaw Galkiewicz
Are the mechanical field parameters sufficient to predict uniquely the failure due to the ductile or cleavage mechanisms?

623, Vencislav Grabulov, Miodrag Milčić
A new procedure for evaluatingthe R-curve under static and impact loading conditions by applying tje potential drop method

Nikola Tesla B – mini-symposium on Hydrogen embrittlement

170, Dan Eliezer,
Recent studies of hydrogen embrittlement in structural materials

422, A. M. Polyanskiy, V. A. Polyanskiy, K. P. Frolovab, Yu. A. Yakovlev, Vacuum vs argon technology for hydrogen measurement with account for skin effect

45, Zahreddine Hafsi, Sami Elaoud and Manoranjan Mishra,
Hydrogen Embrittlement of Steel Pipelines During Transients

1, Pablo González Gutiérrez, Sergio Cicero González, José Alberto Álvarez Laso and Borja Arroyo Martínez,
Analysis of stress corrosion cracking in X80 pipeline steel: An approach from the Theory of Critical Distances

218, Giovanna Gabetta, Francesco Pagliari and Nesrine Rezgui,
Hydrogen Embrittlement in pipelines transporting sour hydrocarbons

359, Hryhoriy Nykyforchyn, Oleksandr Tsyrulnyk and Olha Zvirko,
Electrochemical fracture analysis of in-service natural gas pipeline steels

188, Gabriella Bolzon and Marco Talassi,
Toward a non-destructive diagnostic analysis tool of exercises pipelines: models and experiences

202, Balitskii Alexander and Valerii Kolesnikov
Hydrogen Effects on the Formation of Nickel Based Superalloys Cutting and Wear Products

Nikola Tesla C – topics 1.2-1.5 Chairman Filippo Berto

223, Patrick Grünewald, Florian Schäfer, Matthias Thielen, Michael Marx and Christian Motz, Small scale fatigue crack growth and fracture of ductile materials: a case study in the nickelbase superalloy CMSX-4

11, Seyed Mohammad Javad Razavi, Majid Reza Ayatollahi and Filippo Berto
Assessment of fatigue crack growth behavior of cracked specimens repaired by indentation

12, Seyed Mohammad Javad Razavi and Filippo Berto
Fatigue strength of notched specimens made of Ti-6Al-4V produced by SLM technique

48, Bhimal Bholah, Yoann Guilhem, Julien Jaravel and Sylvie Pommier
Unified criterion for fatigue endurance modelling under combined loading: static and vibratory

71, Ali Mehmanparast, Pietro Albani, Victor Igwemezie
Crack Growth Monitoring in Corrosion-Fatigue Tests using the Back Face Strain Measurement Technique

75, Meike Funk and Jürgen Bär,
Influence of crack initiation on short crack propagation and cyclic lifetime of AA 7475-T761

79, Ekaterina Damaskinskaya, Ivan Panteleev, Dina Gafurova, Dmitry Frolov
Defect Structure of the Deformed Heterogeneous Materials : Acoustic Emission and X-ray Microtomography

85, Tintu David Joy, Jan-Peter Brüggemann and Gunter Kullmer
Crack Growth Simulation with ADAPCRACK3D in 3D Structures under the influence of Temperature

Parallel 2: Monday, 27th August 16.00-18.15 h

Ivo Andric A - topic 4.1 Chairman Drazan Kozak

132, Milan Micunovic, Ljudmila Kudrjavceva, On slightly disordered quasi rate-independent anisotropic viscoplastic fcc-polycrystals

99, Tuncay Yalcinkaya, Izzet Ozdemir, Ali Osman Firat and Izzet Tarik Tandogan
Micromechanical Modelling of Inter-Granular Localization, Damage and Fracture

159, Avanish Kumar and Aparna Singh,
Improvement of strength-toughness combination in nanostructured bainite

166, Rupendra Singh Rajpurohit, N C Santhi Srinivas and Vakil Singh
Enhancement of tensile properties due to pre-ratcheting of Zircaloy-2 at 400°C

178, Hortigón B., Ancio F., Nieto-García E.J., Herrera M.A., Gallardo J.M.
Influence of rebar design on mechanical behaviour of Tempcore steel

256, Myroslav Khoma, Vasyl Ivashkiv, Marian Chuchman, Chrystyna Vasyliv, Nadiia Ratska and Bohdan Datsko
Corrosion cracking of ferrite-pearlitic steels of different structure in the hydrogen sulfide environment under static load

362, Moritz Lessmann and John Sawyer,
Methods for Complex Cracked Body Finite Element Assessments

62, Walentin Teraud, An experimental method for a high temperature noncontacting measurements of a deformed specimen

Nikola Tesla A – topics 4.2-4.5 Chairman Johan Hoefnagels

581, Johan Hoefnagels, Ondrej Rokos, Ron Peerlings and Marc Geers
Micromechanical Parameter Identification using Integrated DIC with Accurate Kinematic Boundary Conditions

31, Mohammad Reza Khosravani, Sara Nasiri and Kerstin Weinberg
Prediction of fracture in sandwich-structured composite joints using case-based reasoning approach

66, Zhengmao Yang and Huang Yuan,
Evolution and characterization of thermal shock damage in oxide/oxide ceramics matrix composites

68, Konrad Dadej, Barbara Surowska and Jarosław Bieniaś
The interlaminar fracture toughness fatigue behavior of fiber metal laminates

145, Miloš Pjević, Mihajlo Popović, Ljubodrag Tanović and Goran Mladenović
Experimental examinations of machinability of ceramic materials during micro processing

206, Alexey Smolin, Evgeny Shilko and Anna Shalomeeva
Multiscale model of mechanical behavior of ceramics composite with soft matter filling based on movable cellular automaton

81, Sze Ki Ng, Muhammad Ayyub Kamaludin, John P. Dear and Bamber R. Blackman,
Environmental effects in biaxially orientated PMMA

238, Roberto Brighenti and Federico Artoni, Mechanical modelling of self-diagnostic polymers

Lavander - topic 3 Chairman Mordechai Perl

2, Sergiy Kotrechko, E mbrittlement of RPV metal under long-term irradiation and elevated temperatures: state-of-the-art and challenges

69, Filippo Berto, Lise Sandnes, Filippo Abbatinali, Øystein Grong, Paolo Ferro,
Using the Hybrid Metal Extrusion & Bonding (HYB) Process for Dissimilar Joining of AA6082-T6 and S355

95, Mordechai Perl, Matan Steiner, The Combined Effect of Pressure and Autofrettage on the 3-D Stress Intensity Factor of an Internally Cracked Spherical Pressure Vessel

96, Vitor Scarabeli Barbosa and Claudio Ruggieri, Effects of increased span on fracture toughness using non-standard PCVN specimens and implications for the reference temperature

108, Tasko Maneski, Vesna Milošević-Mitić and Nina Anđelić
Diagnostic of the cause of robot gearbox failure in the paint shop company Magneti Marelli Kragujevac

164, Nailong Zhao, Weizhe Wang, Richard A. Adjei and Yingzheng Liu
Creep-Fatigue Behavior Analysis in a Rotor during a Long-term Operation

379, Yinghao Cui and He Xue,
Main factors infecting creep strain at tip of stress corrosion cracking in full life cycle

534, Yoshiki Mikami, Houichi Kitano and Tomoya Kawabata
Through-process modeling of fracture toughness test of multipass welds incorporating residual stress distribution

Ivo Andric B – topic 1.1 Chairman Nenad Gubeljak

93, Harry Coules,
Flaw interaction under bending, residual stress and thermal shock loading

156, Emre Özaslan, Bülent Acar, Mehmet Guler and Demirkan Coker
Experimental and Numerical Investigation of Stress Concentration and Strength Prediction of Carbon/Epoxy Composites

163, Jiaming Wang, Andrey P Jivkov, Dirk L Engelberg and Qingming Li,
Modelling mechanical behaviour and damage evolution in high strength concrete

177, Ali Reza Torabi, Siavash Etesam, Alberto Sapora and Pietro Cornetti,
Brazilian disk tests: Circular holes and size effects

216, Majid R. Ayatollahi, Seyed Mohammad Javad Razavi and Filippo Berto,
Crack path stability in brittle fracture under pure mode I loading

564, Pietro Cornetti, María Del Mar Muñoz-Reja Moreno, Vladislav Mantic and Alberto Sapora
A finite fracture mechanics approach to debonding accounting for residual friction

50, Yoshitaka Nara and Hiroyuki Takeda,
Subcritical crack growth in sandstone in aqueous environment with different calcium ion concentration

583, Ivana Kumpová, Tomáš Fíla, Daniel Kytýř, Daniel Vavřík, Iva Rozsypalová, Michal Vyhlídal, Zbyněk Keršner, Michal Vopálenský and Miloš Drdácký, Investigation of response of selected quasi-brittle material after thermal load via combination of X-Ray computed tomography and four-point bending fracture test

Nikola Tesla B – mini-symposium on Hydrogen embrittlement

57, Xiao Zhou, William Curtin and Jun Song
Hydrogen Diffusion along Grain Boundaries: Atomistic Simulations and Mechanistic Model

239, Haiyang Yu, Jim Stian Olsen, Jianying He and Zhiliang Zhang
Hydrogen-microvoid interaction: bridging the gap between hydrogen embrittlement and ductile failure

208, Ryosuke Matsumoto, Shunki Nagase and Shinya Taketomi
Molecular Dynamics Study of the Influence of Nonhydrostatic Stress on the Diffusion Behavior of Hydrogen in bcc-Fe

237, Shinya Taketomi, Ryosuke Matsumoto
Numerical Simulation of Hydrogen Embrittlement in Iron

266, Yann Charles, Monique Gaspérini, Hung Tuan Nguyen, Kevin Ardon and Jonathan Mougenot
Adaptation of hydrogen transport models at the polycrystal scale

323, Eunan J. McEniry, Tilmann Hickel and Joerg Neugebauer
Atomistic modelling of light-element cosegregation at structural defects in iron

Nikola Tesla C – topics 1.2-1.5 Chairman Mirjana Jelić

101, Mirjana Jelić,
Patents from serbia in the field of seismic reliability of structures and rebuilding landslide with application in 21 st century

110, Željko Žugić, Simon Sedmak and Boris Folić
Geotechnical aspects on seismic retrofit

111, Željko Žugić, Mihajlo Aranđelović and Boris Folić
Permanent ground displacement across earthquake faults, landslides and natural slopes

120, Boris Folić, Simon, Sedmak
The Influence of variation of soil parameters as model p-y curves on seismics response of a structure 2D RC frame

8, Guiyun Gao,
Fracture behavior of rock plate under static and dynamic combined loads

241, Vit Krivy, Monika Kubzova and Katerina Kreislova, Martin Krejsa,
Prediction model of corrosion losses based on probabilistic approach

494, Myroslava Hredil,
Peculiarities of bond strength degradation in reinforced concrete induced by accelerated electrochemical methods

Parallel 3: Tuesday, 28th August 11.00-13.30 h

Ivo Andric A - topic 4.1 Chairman Vencislav Grabulov

209, Akira Maenosono, Motomichi Koyama, Yoshihisa Tanaka, Shien Ri, Qinghua Wang, Hiroshi Noguchi,
Crystallographic orientation-dependent growth modes of microstructurally fatigue small cracks in a laminated Ti-6Al-4V alloy

210, Nina Selyutina and Yuri Petrov,
Temporal effects of dynamic yielding under high-rate loading

220, Frank Teagho, Matthieu Maziere, Franck Yinga, André Galtier, Anne-Françoise Gourgues Lorenzon, The Effect of Microstructure Constituents on the Static and Dynamic Fracture Behavior of High Strength Quenched and Tempered Martensitic Steels

221, Otmar Kolednik, Roland Kasberger, Masoud Sistaninia, Darjan Kozic, Jozef Predan, Marko Kegl, Dieter F. Fischer and Peter Fratzl
Bio-inspired design ideas for improving the damage resistance

225, Reza Hojjati Talemi, Antônio Antônio de Souza Braga Neto, Negar Gilani and Ngo Quang Tien
Cleavage fracture assessment of hot charged steel slab using experimental and numerical approaches

243, Takeshi Eguchi, Motomichi Koyama, Yoshihiro Fukushima, Cemal Cem Tasan and Kaneaki Tsuzaki
Fatigue Crack Growth Behavior and Associated Microstructure in a Metastable High-Entropy Alloy

244, Per Hansson,
Fatigue behaviour of single-crystal nano-sized copper beams

399, Ivan Smirnov and Alexander Konstantinov
Influence of ultrafine-grained structure produced by equal-channel angular pressing on dynamic response and fracture of pure copper

Nikola Tesla A – topics 4.2-4.5 Chairman Uroš Tatić

14, He Yuting and Feng Yu,
Effect of hygrothermal environment on the fatigue behaviors of composite laminates

89, Bernard Odounga, Rostand Moutou Pitti, Evelyne Toussaint and Michel Grediac
Experimental investigation of mixed mode fracture of tropical wood material

148, Uroš Tatić, Barbara Šubic, Aleš Ugovšek, Nejc Starman, Uros Gantar and Jože Lopatič
Development and testing of the reinforced wooden windows

149, Aleš Ugovšek, Barbara Šubic, Nejc Starman, Uroš Tatić
Influence of glued-in reinforcement profiles in on the thermal characteristics of wooden window profiles

154, Seif Eddine Hamdi and Rostand Moutou Pitti
Numerical investigation of climate change impacts on European wood species vulnerability

158, Andrea Zanichelli, Andrea Carpinteri, Giovanni Fortese, Camilla Ronchei, Daniela Scorza and Sabrina Vantadori
Contribution of date-palm fibres reinforcement to mortar fracture toughness

180, Tianyu Chen, Christopher Harvey and Vadim Silberschmidt,
Dynamic interlaminar fracture of layered structures

197, Evgeny Lomakin and Boris Fedulov,
Nonlinear deformation and failure analysis of laminated composites

207, Saeed Mousa, Amr Abd-Elhady, Gap Yong Kim and Hossam Sallam,
Fracture behavior of roll bonded Al-brass-Al multilayer composites – Concept of the maximum undamaged defect size (dmax)

Lavander - topic 3 Chairman Ljubica Milović

142, Dejan Momčilović, Ljubica Milović, Ivana Atanasovska and Zoran Odanović,
Gas cylinder rupture induced by local corrosion damage

408, Arthur Coré, Jean-Benoit Kopp, Jeremie Girardot and Philippe Viot,
Study of the dynamic fracture of hollow spheres under compression using the DEM

433, Milan Kovarbasic, P. Schaumann,
Inclusion of Load Sequence Effects in Fatigue Assessment of Offshore Wind Turbine Support Structures

443, Mohamed El May, Nicolas Saintier, Thierry Palin-Luc and Olivier Devos,
Corrosion fatigue crack initiation model of martensitic stainless steels at high cycle fatigue regime

448, Ivan Shatskyi and I. S. Kurtash,
Strength of Plate with the Filled Crack under Multiparameter Loading

565, Mohammed A. Al-Shuwaili, Analytical investigations to the specimen size effect on the shear resistance of the perfobond shear connector in the push-out test

585, Letícia Santos Pereira, Rodrygo Figueiredo Moço and Gustavo Bolognesi Donato, Ductile fracture of advanced pipeline steels: detailed study of stress states and energies in real gas pipes and dynamic impact specimens – CVN AND DWTT

586, Francisco Barros, Paulo Tavares, Pedro Sousa and Pedro Moreira, Robust reference system for Digital Image Correlation camera recalibration in fieldwork

Ivo Andric B – topic 1.1 Chairman Uwe Zerbst

4, Stefan Reich, M. Raghu Sagar Vanapalli, Hard body impact on glass panes and the fracture energy equilibrium

253, A.Neimitz, I. Dzioba, Sebastian Lipiec,
Calibration of constitutive equations for the stress level estimation in domain with the large strains

258, Yaron Schapira and Zohar Yosibash,
Extracting the T-stress in the vicinity of 3D straight singular edges by the Qusi-Dual Function Method

263, Luis Tavara, Jose Reinoso, Antonio Blazquez and Vladislav Mantic, A computational implementation of 3D mixed-mode fracture criteria which are invariant with respect to the reference system

284, Chris Simpson, Ahmet Cinar, Simon Tonge, Christina Reinhard, James Marrow and Mahmoud Mostafavi
Validating 3D two-parameter fracture mechanics in structural integrity assessments

286, Mina Iskander and Nigel Shrive, Fracture of brittle materials under uniaxial compression

288, Jacques Besson, Takahiro Sakimoto and Yazid Madi, Toughness of highly ductile pipeline steels

305, Kejin Zhang, Shigeru Hamada, Motomichi Koyama, Tatsuo Yokoi and Hiroshi Noguchi,
Influence of shear-affected-zone due to punching in tensile characteristics of steel plate

351, Sebastian Lindqvist and Tommi Seppänen,
Characterization of J-R curves of a HSLA-steel and an Alloy 52 DMW with SE(T) specimens

Nikola Tesla B – mini-symposium on Hydrogen embrittlement

204, Kenichi Takai and Hiroshi Suzuki, Trapping states of hydrogen and hydrogen embrittlement of high strength steels

453, Antonio Alvaro, Di Wan, Vigdis Olden, Afrooz Barnoush, Hydrogen Enhanced Fatigue Crack Growth Rates in a Ferritic Fe-3wt%Si Alloy

444, Xiaofei Guo, Stefan Zaefferer and Wolfgang Bleck, Dislocation and twinning behaviors in high manganese steels in respect to hydrogen and material chemistry

337, Temma Sano, Daisuke Sasaki, Motomichi Koyama, Shigeru Hamada and Hiroshi Noguchi
Proposal and verification of novel fatigue crack propagation simulation method by finite element method.

212, Tsubasa Kumamoto, Motomichi Koyama and Kaneaki Tsuzaki,
Strain Rate Sensitivity of Microstructural Damage Evolution in a Dual-Phase Steel Pre-Charged with Hydrogen

294, Daisuke Sasaki, Yuki Tampa and Toru Kato, Influence of hydrogen for crack formation during mechanical clinching

393, A. Laureys, L. Claeys, M. Pinson, T. Depover, K. Verbeken, EBSD characterization of hydrogen induced cracks in TRIP-assisted steel

Nikola Tesla C – topics 1.2-1.5 Chairman Antonio Martín-Meizoso

155, Junji Sakamoto and Tadahiro Shibutani, Analysis of fatigue damage of aluminum alloy under multiaxial random vibration

171, Sergey Chupakhin, Benjamin Klusemann, Norbert Huber and Nikolai Kashaev
Retardation of the fatigue crack growth in AA2024-T3 through residual stresses induced by laser shock peening

176, Fatih Bülbül, Marcel Wicke, Tina Kirsten, Angelika Brückner-Foit, Martina Zimmermann and Hans-Jürgen Christ
Characterization of the Long Crack Propagation Behaviour in a Hardenable Aluminium Alloy in the Very High Cycle Fatigue

179, Mehul Lukhi, Meinhard Kuna and Geralf Hütter,
A novel micromechanics approach for understanding of fatigue in nodular cast iron

200, Markus Berchtold and Ingbert Klopfer,
Fatigue testing with 1000Hz testing frequency

482, Antonio Martín-Meizoso, José Manuel Martínez-Esnaola, Pedro Arrazola and Arantza Linaza,
Surface machining condition and fatigue life on Inconel 718

595, Seyit Mehmet Demet and Ali Serhat ErsoyoĞlu, Fatigue fracture behaviour of asymmetric spur gear tooth under cyclic loading

596, Seyit Mehmet Demet and Ali Serhat ErsoyoĞlu, Experimental study on fatigue fracture damage of symmetric spur gear tooth

236, Francesca Berti, Lorenza Petrini and Andrea Spagnoli, A discussion about multi-axial fatigue criteria for NiTinol cardiovascular devices

Room 3 mini-symposium on Risk based analysis & TC12 meeting Chairman Jose Correia

199, Vladimir Moskvichev, Applied problems of fracture mechanics, resource and safety of technical systems

476, G. Lesiuk, J.A.F.O. Correia, D. Rozumek, M. Smolnicki and A. M. P. De Jesus
Static load failure predictions in notched components using numerical methods

115, Ivana Vučetić, Aleksandar Sedmak, Tamara Golubović and Snežana Kirin
Risk based structural integrity assessment of pressure vessel with cracks in welded joint

272, Dmitry Reznikov and Nikolay Makhutov
Assessment, Regulation and Management of Risks Induced by Critical Facilities

274, Nikolay Makhutov and Dmitry Reznikov, Evaluation of Lifetime, Risk and Safety of Critical Technical Systems

291, Aleksandar Milovanovic, Aleksandar Sedmak, Structrual integrity assessment of large spherical tank

285, Evgeniia Georgievskaia, Justification of the hydraulic turbines lifetime from the standpoint of the fracture mechanics

519, Peter Koteš and Miroslav Strieška, Decreasing bridge member´s resistance due to reinforcement corrosion

Parallel 4: Tuesday, 28th August 16.00-18.15 h

Ivo Andric A - topic 4.1 Chairman Marko Rakin

83, Jan-Peter Brüggemann, Lena Risse, Gunter Kullmer, Britta Schramm and Hans Albert Richard
Fracture mechanical investigations on selective laser melted Ti-6Al-4V

261, Aderinkola Alabi, Philippa Moore, Luiz Wrobel, James Campbell and Weihong He
Influence of loading rate on the frature toughness of high strength structural steel

264, Yanzeng Wu and Rui Bao, In-situ measurement of near-tip fatigue crack displacement variation in laser melting deposited Ti–6.5Al–3.5Mo–1.5Zr–0.3Si titanium alloy

271, Markus Könemann, Victoria Brinnel, Sebastian Münstermann,
A method for component-oriented toughness analysis of modern multiphase steels

276, Florian Fehringer, Xaver Schuler and Michael Seidenfuss,
Development of a damage mechanics based limit strain concept using an enhanced Rousselier model

279, Satya Anandavijayan, Ali Mehmanparast and Feargal Brennan
A numerical analysis of the effects of manufacturing processes on material pre-strain in offshore wind monopiles

344, M.Kawiak, A.Ballitskii, R.Kawiak, Crack Resistance to Environment-Assinsted Brittle Fracture of Tram Rails

546, Tom Petit, Claire Ritter, Jacques Besson and Thilo Morgeneyer
Impact of machine stiffness and heat treatments on crack propagation instabilities in an Al-Mg-Si alloy

Nikola Tesla A – topics 2.1-2.4 Chairman Hadj Meliani Mohammed

90, Hadj Meliani Mohammed, Effects of eco-friendly corrosion inhibitors on the behaviour of API X65 pipe steel under dynamic loading

139, Gordana Bakić, Ivana Cvetković, Miloš Đukić, Bratislav Rajičić, Aleksandar Maslarević, Petar Stojanović
Modeling of internal corrosion damage on boiler tubes for integrity analyses

245, H.Wärner, M.Calmunger, G.Chai, J.Polak, R.Petras, M. Heczko, T.Kruml, S.Johansson, J.Moverare, Fracture and damage behavior in an advanced heat resistant austenitic stainless steel during LCF, TMF and CF

247, N. Tsutsui, H.Koizumi, Intergranular/transgranular fracture in the liquid metal embrittlement of polycrystalline zinc

407, Nikolaos Alexopoulos, Antonios Pasoudis, Alexis Kermanidis and Stavros Kourkoulis, Effect of solid-solution and subsequent artificial ageing heat treatment on the fracture resistance of pre-corroded 2024 aluminum alloy specimens

428, Christina Charalampidou, Aggeliki Proiou, Stavros Kourkoulis and Nikolaos Alexopoulos
Corrosion-induced mechanical properties decrease of aeronautical Al-Li 2198 alloy for different tempers

621, Isabella Cosentinoa, Luciana Restucciaa, Giuseppe Andrea Ferroa*, Jean-Marc Tullianib,
Influence of pyrolysis parameters on the efficiency of the biochar as nanoparticles into cement-based composites

Lavander - topic 3 Chairman Nenad Mitrović

267, R.Yarullin, A.Zakharov, I.Ishtyriakov, Nonlinear fracture resistance parameters for cracked aircraft GTE compressor disk

452, Evgeny Shilko, Andrey Dimaki, Alexey Smolin, Sergey Psakhie, The determining influence of the competition between pore volume change and fluid filtration on the strength of permeable brittle solids

479, N. Mitrovic, A.Petrovic and M.Milosevic, Strain measurement of pressure equipment components using 3D DIC method

497, Mohamed Seghier, Behrooz Keshtegar, José Correia, Abílio De Jesus and Grzegorz Lesiuk.Structural Reliability Analysis of Corroded Pipeline made in X60 Steel Based on M5 Model Tree Algorithm and Monte Carlo Simulation

543, Robert Lambert, Chris Aylott, Brian Shaw, Evaluation of Bending Fatigue Strength in Automotive Gear Steels Subjected to Shot Peening Techniques

606, I.Čular, K.Vučković, D.Žeželj, Ž.Božić, Effect of friction in gear tooth bending fatigue test with three point load application

500, R.Jovičić, S.Sedmak, R.Prokić Cvetković, O.Popović, K.Jovičić Bubalo, N.Milošević, Effects of welding technology on the occurrence of fracture in welded joints

Room 3 - Mini symposium on Biomaterials Chairman Vadim Silberschmidt

39, Ran He, Liguo Zhao, Vadim Silberschmidt and Yang Liu, Computational Evaluation of Artery Damage in Stent Deployment

97, Guido La Rosa, Carmelo Clienti and Rosalia Mineo, Experimental tests on new Ttitanium alloy interbody cervical cages

136, Tsanka Dikova, Bending fracture of Co-Cr dental bridges, produced by additive technologies: experimental investigation

183, Andy Gleadall, Alper Ekinci, Xiaoxiao Han, Vadim Silberschmidt, Interfacial fracture of 3D printed bioresorbable polymers

185, Sergei Bosiakov, Vadim Silberschmidt, Anna Ershova, Prediction of human femur fracture after surgical resection: the effect of the cortical bone microstructure

26, S.Raghavendra, A.Molinari, V.Fontanari, V.Luchin, G.Zappini, M.Benedetti, F.Johansson, J.Klarin, Tensile and compression properties of variously arranged porous Ti-6Al-4V structures additively manufactured via SLM

29, A.Tokgoz, S. Wang, P.Sastry, C.Sun, N. Figg, M.Bennett, S.Sinha, J.Gillard, M.Sutcliffe, Z. Teng, Effect of the geometrical defectiveness on the mechanical properties of SLM biomedical Ti6Al4V lattices

449, Mrm Aliha, S. Bagherifard, Sh Akhondi, Ss Mousavi, A Mousavi and H Parsania
Fracture and micro-structure study of Bovine bone under mixed mode I/II using a new test specimen

430, Simin Li, Mayao Wang and Vadim Silberschmidt, Finite-element Analysis of Fracture Toughness of Bovine Cortical Bone: Effect of Osteonal Micro-morphology

Ivo Andric B – topic 1.1 Chairman Miloš Milošević

330, Miroslav Hrstka, Stanislav Zak and Tomas Vojtek
Large plastic zones and extensive influence of notch under near-threshold mode II and mode III loading of fatigue cracks

331, Elena Astafurova, Valentina Moskvina, Galina Maier, Nina Galchenko, Sergey Astafurov, Eugene Melnikov, Anastasiya Fortuna, Alexander Burlachenko and Antonina Gordienko, The effect of vanadium alloying on temperature dependence of deformation mechanisms and fracture mode in high-nitrogen steels

332, Sakari Pallaspuro, Saara Mehtonen, Jukka Kömi, Zhiliang Zhang and David Porter
Reference toughness – a pragmatic tool to estimate ductile-brittle transition temperatures

345, Vasily Lapin and Sergey Cherny,
An implicit criterion of fracture growth direction for 3D simulation of hydraulic fracture propagation

361, Marcel Adam, Christian Kontermann, Falk Müller and Matthias Oechsner, A study on failure of double-layer thermal barrier coatings subjected to uniaxial compression tests using acoustic emission analysis and digital image correlation

384, Darjan Kozic, Markus Alfreider, Daniel Kiener, Otmar Kolednik
On the determination of characteristic fracture toughness quantities of micro- and nanocomposites

410, Soliman El Kabir, Frédéric Dubois, Rostand Moutou Pitti, Naman Recho and Yuri Lapusta
Numerical and analytical modeling of crack path for three-dimensional mixed mode crack problem using global approach

411, Juan Pinzon, Juan Rodriguez, Sepideh Ghazvini, Alicia Holguin, Alejandro Leon, Study of strain-rate and temperature effect in Ductile Damage Threshold and Critical Damage Value for different Damage Models and its influence in orthogonal cutting simulations

Nikola Tesla B – mini-symposium on Hydrogen embrittlement

425, Tom Depover and Kim Verbeken, Understanding the interaction between a steel microstructure and hydrogen: the key to develop more hydrogen resistant materials?

77, Motomichi Koyama, Takeshi Eguchi, Kenshiro Ichii, Cemal Cem Tasan and Kaneaki Tsuzaki
A new concept for prevention of hydrogen-induced mechanical degradation: viewpoints of metastability and high entropy

232, Tomoki Shinko, Damien Halm, Guillaume Benoit and Gilbert Hénaff
Environmentally-assisted fatigue crack growth mechanisms in ARMCO iron under high pressure of gaseous hydrogen

429, Dhiraj Kumar Mahajan, Rajwinder Singh, Rakesh Kumar, Aman Arora and Vishal Singh
Tracking Hydrogen Embrittlement using Short Fatigue Crack Behavior of Metals

454, Tuhin Das, E. Legrand, S. V. Brahimi, J. Song and S. Yue, Study on stress coupled hydrogen diffusion and fracture of high strength steels using finite element analysis (FEA) based on incremental step load (ISL) testing methodology

483, Jean-Gabriel Sezgin, Osamu Takakuwa, Hisao Matsunaga and Junichiro Yamabe, Assessment of the contribution of internal pressure to the Structural damage in a hydrogen-charged Type 316L austenitic stainless steel during slow strain rate tensile test

532, Wureguli Reheman and Per Ståhle, Stable and Unstable Growth of Crack Tip Precipitates

Nikola Tesla C – topics 1.2-1.5 Chairman Željko Božić

184, Przemyslaw Strzelecki, Scatter of fatigue life regarding to stress concentration factor

192, Koji Uenishi, Shintaro Sakaguchi, Naoyuki Shigeno, Hiroshi Yamachi and Junichiro Nakamori
Controlled Fracture of Brittle Solid Materials Based on Wave Dynamics

198, Koji Uenishi, Tomoya Yoshida, Ioan R. Ionescu and Kojiro Suzuki,
Dynamic Fragmentation of Ice Spheres: Two Specific Fracture Patterns

222, Koji Uenishi and Tsukasa Goji, Dynamic Fracture and Wave Propagation in a Granular Medium: A Photoelastic Study

230, Christopher Schmandt and Stephan Marzi, Effect of crack opening velocity on the fracture behavior of hyperelastic semi-structural adhesive joints subjected to mode I loading

248, Jean-Benoit Kopp Kopp, Chritstophe Fond and Gilles Hochstetter
A numerical and experimental investigation of dynamic fracture in Polyamide 11: the effect of the sample geometry

610, Sergio Blasón, Alfonso Fernández-Canteli and Enrique Castillo
Model and software for fatigue test planning and damage assessment from a probabilistic approach

485, Yuri Petrov and Nikita Kazarinov, Structural-time nature of the dynamic instability of fracture process

Room 1 mini-symposium on Energy Methods for Fatigue Assess Chairman Giacomo Risitano

358, Oleg Plekhov, Alexei Vshivkov, Anastasia Izumova, Aleksandr Zakharov and Valerii Shlyannikov
The heat dissipation at fatigue crack tip under mix mode loading

278, Jürgen Bär, Plasticity induced heating – an underestimated effect in monotonic and cyclic deformation?

473, Guido La Rosa, Carmelo Clienti, Adriana Marino Cugno Garrano and Fabio Lo Savio
low-cycle fatigue hysteresis by thermographic and digital image correlation methodologies

496, Giacomo Risitano, Eugenio Guglielmino and Dario Santonocito
Evaluation of mechanical properties of polyethylene for pipes by energy approach during tensile and fatigue tests

577, Bruno Atzori, Mauro Ricotta and Giovanni Meneghetti, Correlation among energy based fatigue curves and fatigue design approaches

491, Daniele Rigon, Vittoria Formilan and Giovanni Meneghetti
Analysis of the energy dissipation in multiaxial fatigue tests of AISI 304L stainless steel bars

Parallel 5: Wednesday, 29th August 11.00-13.30 h

Ivo Andric A - topic 4.1 Chairman Blagoj Petrovski

281, Donka Angelova, Svetla Yankova, Rozina Yordanova,
Investigation of Mechanical Characteristics of Rolled ETP Copper Strips

292, Luis Filipe Borrego, José Ferreira and José Costa
A study of the fatigue notch sensibility on titanium alloy TiAl6V4 parts manufactured by selective laser melting

302, K. Kishida, K.Kishida, M.Koyama, N.Yoshimura, E.Sakurada, T. Yokoi, K.Ushioda, K.Tsuzaki, H. Noguchi, Effects of Si on temperature dependence of non-propagation limit of small fatigue crack in a Fe-C alloy

303, Xin Yu, Xiao Huang and Miao Zheng,
Effects of Different Equations of State on the Oblique Shock Wave Reflection in Solids

304, Miao Zheng, Xin Yu and Lan Wei,
Numerical Simulation of Spall Behavior of Metal Under Strong Impact Loading

309, Sandra Baltic, René Hammer, Julien Magnien, Werner Ecker and Thomas Antretter
Modelling damage and localized failure of extruded aluminium alloy

313, Kai Suzuki, Motomichi Koyama and Hiroshi Noguchi,
Small fatigue crack growth in a high entropy alloy

317, Taketo Kaida, Motomichi Koyama, Shigeru Hamada, Hiroshi Noguchi, Eisaku Sakurada, Tatsuo Yokoi, Kousaku Ushioda
Proposal of fractographic analysis method coupled with EBSD and ECCI

Nikola Tesla A – topics 4.2-4.5 Chairman Raj Das

227, Israel G. García and Vladislav Mantic,
Analysis of fracture approaches based on a critical distance and comparison with experiments for cross-ply laminates

228, Zhengkun Liu and Daniel Juhre, Phase-Field Modelling of Crack Propagation in Anisotropic Polycrystalline Materials

229, Mikhail Perelmuter, Structures with bridged cracks and weak interfaces

298, Sohail Ahmed, Xitao Zheng, Di Zhang and Muhammad Zakir Sheikh
Numerical modelling of Hybrid 3D woven composites for stiffness and strength prediction

320, Staroverov Oleg, Wildemann Valerii,
Experimental research of the processes of accumulation of fatigue damages of GRP composites

346, Mar Muñoz-Reja, Luis Távara, Vladislav Mantič,
Debond predictions using finite fracture mechanics along elastic interfaces by FEM code

378, Andrew Lukianchuk, Aleksey Kalinin, Andrey Pankov, Yuriy Svirskiy,
Fracture criterion for tested PCM samples under strain

413, Andreas Klingler and Bernd Wetzel, Block copolymer and core shell rubber hybrid toughening of epoxy based carbon fibre reinforced composites

598, Norberto Feito Sánchez, Raj Das and Ali Daliri, Comparison of 1D truss and 3D solid finite elements in developing a simplified finite element model for ballistic impact response of Kevlar fabrics

Lavander - topic 3 Chairman Dorin Radu

41, Masahiro Kunigita, Kengo Tanaka, Tomoya Kawabata, Tadashi Kasuya, Yoshiomi Okazaki, Masahiro Inomoto, Shuji Aihara, Prediction of steel weld HAZ Charpy impact property based on stochastic fracture model incorporating microstructural parameters

161, Mihaela Iordachescu, Elena Scutelnicu and Andrés Valiente
Plastic hinge performance of repaired welded joints in steel structures

273, Evy Van Puymbroeck, Wim Nagy and Hans De Backer
Influence of the welding process on the residual welding stresses in an orthotropic steel bridge deck

319, Dorin Radu, Aleksandar Sedmak and Simon Sedmak
Engineering Critical Assessment of an Antenna Tower Steel Shell Elements Welded Joints

326, Kota Kishi, Kazuki Shibanuma, Fuminori Yanagimoto and Katsuyuki Suzuki
Development of dynamic s-version FEM for local tensile stress evaluation

364, Kazuki Shibanuma, Yuta Suzuki, Kazuya Kiriyama, Takuhiro Hemmi and Hiroyuki Shirahata, A numerical simulation model of microscopic cleavage crack propagation based on 3D XFEM

360, Yuta Suzuki, Takuhiro Hemmi, Fuminori Yanagimoto, Hiroyuki Shirahata and Kazuki Shibanuma, The influence of grain size on cleavage crack propagation resistance in ferritic steels

181, Ghassen Ben Salem, Philippe Bompard, Stéphane Chapuliot, Arnaud Blouin and Clémentine Jacquemoud
Brittle fracture analysis of Dissimilar Metal Welds between low-alloy steel and stainless steel at low temperatures

235, Guo Yanning, Ma Yu'E and Wang Fei, Effect of Welding Parameters on Dynamic Fracture Properties of 2024-T3 and 7075-T6 Aluminum Friction Stir Welded Joints

Ivo Andric B – topic 1.1 Chairman Jacques Besson

314, Valentin Davaze, Nicolas Vallino, Sylvia Feld-Payet, Bertrand Langrand, Jacques Besson
Experimental study and numerical modelling of a dual phase steel behavior under dynamic loading

418, Adelaida Macías, Vladislav Mantic, Alberto Sapora, Luis Távara and Federico París
New experimental results for brittle fracture of V-notched TPB specimens

423, Yazid Madi, Christophe Leguyader and Jacques Besson, Evaluation of plastic eta factors using key curve for cracked specimens employed in J − R curve testing: application on CT, SENB and SENT specimens

431, Rakhmet Odzhaev, Vyacheslav Kiiko, Kirill Khvostunkov, Elements of non-destructive damage monitoring by electrostatic potential method

440, Simon Bard and Martin Demleitner,
Fracture behaviour of prepreg laminates studied by in-Situ SEM mechanical tests

455, Prokhorov Aleksander, Kostina Anastasiia, Vedernikova Alena, Plekhov Oleg and Venkatraman Balasubramaniam
Experimental and numerical investigation of the fracture in steel welded joints

504, Fuzuli Ağrı Akçay,
Theoretical Prediction of Fracture of Initially Crack-Free Brittle Materials

507, Shengwen Tu, Xiaobo Ren, Jianying He and Zhiliang Zhang, Determining material's equivalent stress-strain curve with axisymmetric notched tensile specimen

510, Yinghao Dong, Xiaofan He and Yuhai Li, An improved K_I expression for a semi-elliptical surface crack in a finite plate subjected to uniform tension

Nikola Tesla B – mini-symposium on Hydrogen embrittlement

246, Hiroyuki Toda, Hang Su, Kazuyuki Shimizu, Hiro Fujihara, Kyosuke Hirayama, Akihisa Takeuchi and Kentaro Uesugi
Assessment of hydrogen embrittlement via in-situ imaging techniques in high Zn Al-Zn-Mg alloys

465, Bjorn Rune Rogne, Yun Deng, Tarlan Hajilou, Di Wan, Xu Lu, Dong Wang and Afrooz Barnoush
Understanding the hydrogen embrittlement by novel critical experiments

191, Jianying He, Kai Zhao and Zhiliang Zhang,
Effect of hydrogen on the motion of dislocations during nanoindentation

224, Masanori Fujinami, Akari Komatsu and Luca Chiari,
The crucial defects induced in austenitic stainless steel upon hydrogen embrittlement by positron annihilation spectroscopy

240, Elisabeth Schwarzenböck, Levke Wiehler, Theo Hack and Christian Engel
Crack initiation of a 7XXX aluminium alloy in humidity analysed via Slow Strain Rate Testing

340, Predrag Andric and William Curtin, Intrinsic ductility as a precursor to ductile fracture

439, Matthew Connolly, Peter Bradley, Damian Lauria, Andrew Slifka and Elizabeth Drexler
High Energy X-Ray Diffraction Measurements of Strain and Dislocation Density Near Steel Fatigue Cracks Grown in Hydrogen

219, Renzo Valentini, Linda Bacchi, Serena Corsinovi, Michele Maria Tedesco, Antonello Cherubini and Marco Beghini
Hydrogen Embrittlement in Advanced High Strength Steels and Ultra High Strength Steels: a new investigation approach

329, Vasyl Pokhmurskii, Myroslav Khoma, Vasyl Vynar, Chrystyna Vasyliv, Nadiia Ratska, Taras Voroniak, Ihor Stasyshyn
The influence of hydrogen desorption on micromechanical properties and tribological behavior of iron and carbon steels

Nikola Tesla C – topics 1.2-1.5 Chairman Siegfried Schmauder

270, Wen Chen, Philippe Spätig and Hans-Peter Seifert,
Mean Stress Effect on Fatigue Behavior of Austenitic Stainless Steel in Air and LWR Conditions

277, Danilo D'Angela, Marianna Ercolino,
Finite Element Analysis of Fatigue Response of Nickel Steel Compact Tension Samples using ABAQUS

287, Vera Turkova,
Nonlinear Solid Mechanics: Applications to Loading of Structures in Damaged Materials

297, Yoshimasa Takahashi, Ryosuke Kuriki, Masaki Kashihara, Takahiro Shikama and Hiroshi Noguchi
Emergence of distinct fatigue limit: impact of excess solute magnesium in 6061-T6 alloy

299, Wenbo Sun, Yu'E Ma, Xiaopeng Ai and Jianghai Li,
Effects of the building direction on fatigue crack growth behavior of Ti-6Al-4V manufactured by selective laser melting

301, Shigeru Hamada, Taro Suemasu, Motomichi Koyama, Masaharu Ueda and Hiroshi Noguchi
Re-examination of fatigue crack propagation mechanism under cyclic Mode II loading

450, Petr Miarka, Pavel Pokorný, Stanislava Fintová, Ludvík Kunz and Stanislav Seitl
Influence of Oxide Induced Crack Closure on the Threshold Values of Fatigue Crack Propagation Rate in Bridge Steel

67, Jingyu Sun and Huang Yuan, Cyclic Plasticity Modeling of Multi-Axial Thermo-Mechanical Fatigue Tests with Experimental Verification on a Nickel-Based Superalloy

Special sessions: Wednesday, 29th August 14.30-16.30 h

Room 3 - Competition for Weldment Fracture Mechanics best paper Chairman Galip Buyukyildirim

144, Elisaveta Doncheva, Bojan Medjo , B. Trajanoska,
Numerical simulation of crack propagation in high-strength low-alloyed welded steel

13, Miodrag Arsić, Srđan Bošnjak, Nebojša Gnjatović, Simon Sedmak, Dušan Arsić and Zoran Savić,
Determination of residual fatigue life of welded structures at bucket-wheel excavators through the use of fracture mechanics

74, Fedor Fomin, Benjamin Klusemann and Nikolai Kashaev,
Surface modification methods for fatigue properties improvement of laser-beam-welded Ti-6Al-4V butt joints

165, Adam Smith and Mark Knop, Quantifying the Deleterious Effect of Sea-water on the Fatigue Life of Welded Steel Joints Using a Fracture-Mechanics Approach

601, A.Čabrilo, K.Gerić, Fracture mechanics and crack growth rate of a crack in the weld metal and the heat affected zone of bullet-proof steel

536, Yuki Nishizono, Tomoya Kawabata and Shuji Aihara,
Development of simplified evaluation method of brittle crack arrest toughness on small-scale bending test in steels

Ivo Andric B - Competition Elsevier/ESIS Young scientist best paper

3, Anke Schmiedt, Lars Lingnau, Matthias Manka, Wolfgang Tillmann, Frank Walther, The effect of condensate corrosion on tensile and fatigue properties of brazed AISI 304L stainless steel joints using BAu-4 gold-base filler metal

22, Mor Mega and Leslie Banks-Sills,
Mixed Mode Fracture Behavior of a Multi-Directional Laminate Composite Produced by a Wet-Layup

30, Aziz Tokgoz, Shuo Wang, Priya Sastry, Chang Sun, Nichola Figg, Martin R. Bennett, Sanjay Sinha, Jonathan H. Gillard, Michael P. F. Sutcliffe and Zhongzhao Teng, Fracture behaviour and microstructure-mechanics relationship of human aortic aneurysms

275, Zaiqing Que, Hans-Peter Seifert, Philippe Spaetig, Sudhakar-Rao Gorja, An Zhang , S.Ritter, Environmental Degradation Effect of High-Temperature Water and Hydrogen on the Fracture Behavior of Low-Alloy Reactor Pressure Vessel Steels

427, Junhe Lian, Wenqi Liu and Sebastian Münstermann, Plasticity and failure behavior modeling of high-strength steels under various strain rates and temperatures: from microstructure to components

451, Yaroslav Dubyk, Igor Orynyak and Elena Yakovleva, Application of the internal and external Williams functions for stress intensity factors assessment in plane stress problems

493, Yaroslav Khaburskyi and Hryhoriy Nykyforchyn, Chemical method of fatigue and corrosion fatigue crack growth arrest in steels by metal treatment with the special technological environment

556, Guian Qian, Wei-Sheng Leib, Shunpeng Zhuc, José Correia, Abílio De Jesus, A new local approach to cleavage fracture and its application in a reactor pressure vessel

Lavander - Poster session

33, Billel Boukert, Amina Benkhedda, El Abees Adda Bedia and Mohamed Khodjet Kesba, Temperature and humidity influence analysis on the behavior of thick composite plates using high order theory

34, Khodjet Kesba Mohamed, Benkhedda Amina, Adda Bedia El Abess and Boukert Billel, Effect of moisture absorption on the elastic properties in cracked composite laminates with transient hygrothermal conditions

35, Simon Barter and Ben Dixon, Quantification of the fatigue severity of porosity in Aluminium Alloy 7050-T7451 thick plate

40, Francesco Iacoviello and Vittorio Di Cocco, Pearlitic Ductile Cast iron: fatigue crack paths and damaging micromechanisms

467, Milan Uhríčik, Monika Oravcová, Peter Palček, Tatiana Oršulová, Lenka Kuchariková and Ružica R. Nikolić
Analysis of dependence of internal damping on temperature of austenitic steels

91, Mohamed Hadj Meliani and Guy Pluvinage, The effectiveness of the green inhibitors against corrosion in hydrochloric acid on mechanical properties of API 5L X52 pipe steel

103, D.Tanasković, B. Đorđević, M.Gajin, M. Aranđelović , N.Gostović, Damages of burner pipes and their repair welding

109, M.Gavrilovski, V.Manojlovic, D.Momčilović, Lj.Sekulić, Integrity of rails in presence of defects in rail weldments

107, Ivica Čamagić, Simon Sedmak, Zijah Burzić and Aleksandar Sedmak, Influence of temperature and exploitation time on the hardness and micro-structure of characteristic zones of a welded jointin a reactor mantle

112, A. Kreadegh, A. Sedmak, A. Grbović, M.Abobaker, Effect of stress ratio on fatigue crack propagation of double T welded joint plate

118, Abubakr Kreadegh, Aleksandar Sedmak and Aleksandar Grbović, Effect of stiffeners on fatigue crack propagation of welded plate

113, Structral Integrity Assesment from the Aspect of Fracture Mechanics, CRACK GROWTH REISTANCE OF WELDMENT CONSTIUENTS

114, Mersida Manjgo, Meri Burzić, Katarina Čolić, Zijah Burzić, Tomaž Vuherer, Structral Integrity Assesment using Fracture Mechanics

116, Nikola Milovanović, Aleksandar Sedmak, Branislav Đorđević and Simon Sedmak, Using the fracture mechanics parameters in assessment of integrity of rotary equipment

122, Boris Folić, Theory game possibility to solve PH plastic hinge of middle RC cross-road frame, problem of strengthening brick infill and repair PH

135, Ana Petrović, Taško Maneski, Dragan Ignjatović, Nataša Trišović, Ines Grozdanović and Wei Li,Model analysis of complex structures' strength – advantages of physical sub-scaled model testing and shortcomings in physical model production

138, Gordana Kastratović, Aleksandar Grbović and N. Vidanović,
Stress intensity factors for multiple cracks on curved panels

140, Radivoje Mitrović, Žarko Mišković, Mileta Ristivojević, Aleksandar Dimić, J. Danko, J. Bucha and T. Milesich
Statistical correlation between the printing angle and stress and strain of 3D printed models

168, Hana Šimonová, Barbara Kucharczykova, Libor Topolar, Zbynek Kersner, Ildiko Merta, Jelena Dragas, Ivan Ignjatovic, Miroslav Komljenovic and Violeta Nikolic, Crack initiation of selected mortars based on alkali-activated binder and natural fibers

195, Felipe Carneiro, Cláudio Schon and Matheus Tunes, Julio Cesar Sagás,
Influence of substrate stiffness and of PVD parameters on the microstructure and tension fracture characteristics of TiN thin films

211, Nina Selyutina and Yuri Petrov, The water-saturation effect for concretes and rocks subjected to high strain rates

226, Zhengkun Liu, Julian Roggel and Daniel Juhre, Phase-Field Modelling of Fracture in Viscoelastic Solids

262, A.Evstifeev, A.Chevrychkina, Y.Petrov, Dependence of strength characteristics of Al alloys on strain rate under tension

289, Fedor Beliaev, Margarita Evard and Aleksandr Volkov, Simulation of fatigue fracture of FeMn-based shape memory alloys at cyclic mechanical and thermomechanical tests

447, Ivan. P. Shatskyi and T. M. Dalyak, Interaction of Contact Cracks and Narrow Slits in Plate Bending

458, Oldřich Sucharda, Petr Lehner, Petr Konečný and Tomasz Ponikiewski
Investigation of Fracture Properties by Inverse Analysis on Selected SCC Concrete Beams with Different Amount of Fibres

459, Vít Křivý, Petr Lehner, Martin Krejsa, Přemysl Pařenica and Jaroslav Kozák
Stochastic service life prediction of historical steel structure loaded by overhead cranes

477, Nenad Milosevic, A.Sedmak, R.Jovicic, Analysis of strain distribution in overmatching V groove weld using digital image correlation

478, Aleksandra Mitrovic, Vesna Miletic, Nenad Mitrovic and Milos Milosevic, Measurement of strain field in glass ionomer cements

492, F. Miletic, P.Jovancic, S.Djenadic, Behavior determining of bucket wheel drive depending on wear impact of the cutting elements

498, F.Sofiani, B.Farahani , J.Belinha, Fracture analysis of semi-circular bend specimen: A numerical study based on meshless method

499, Đorđe Đurđević, Nina Anđelić,Taško Maneski, Ana Petrović, Andrijana Đurđević, Vesna Milošević Mitić, Development of numerical-experimental model of connecting lugs and application on the lugs calculation of container terminals

517, Martina Drdlová and René Čechmánek, Comparison of tensile behaviour of polypropylene, aramid and carbon fibre reinforced cementitious composite at high strain rate loading

527, R. Čechmánek, V. Prachař, M.Drdlová, M.Boháč, Methods for characterization of fresh and hardened state of fibre concrete

535, Anatoly Bragov, A.Konstantinov, A.Lomunov, S.Atroshenko , Y.Petrov, Dynamic deformation and fracture toughness of X90 pipe steel

544, Marijana Milković, Nenad Gubeljak and Denis Đonlagić, Change of residual stresses due surface conditions of Al7075-T6

557, P.Stefane, S.Naib, S.Hertelé, W. De Waele, N.Gubeljak, Effect of crack length on fracture toughness of welded joints with pronounced strength heterogeneity

558, Vera Vujović, The Mala Rijeka Bridge - Specificity of maintenance,

559, Alexey Zaitsev, Vitaliy Koksharov and Yuriy Sokolkin
Regularities of Multiparticle Interactions in Random Structures, Damage and Failure of Unidirectional Glass-epoxi Plastics

571, Petra Bujňáková, Load tests of precast segmental bridge in Slovakia

579, Igor Bunin, Mariya Ryazantseva and Nataliya Anashkina, Effect of High-Power Nanosecond Electromagnetic Pulses on the Structural, Chemical, and Technological Properties of Dielectric Minerals

584, M. Milčić, Z. Burzić, I. Radisavljević, T.Vuherer, D. Milčić, V.Grabulov, Experimental investigation on fatigue properties of FSW in AA 2024-T351

576, Darko Panić, The effect of transient material behavior on predicted residual stress fields and the cyclic J-Integral

582, Pablo Lopez-Crespo, M Carrera, B. Moreno, J. Zapatero and P J Withers,EXPERIMENTAL MEAUSREMENT OF THE PLASTIC ZONE IN FATIGUE WITH SYNCHROTRON X-RAY DIFFRACTION ON BAINITIC STEEL

607, Admir Supic, Almir Becirovic, Aldin Obucina and Milorad Zrilic, Modeling and Simulation for Aluminium Profile Extrusion

609, Andrzej Kurek, Tadeusz Łagoda and Marta Kurek, Strain-life fatigue curves on the basis of shear strains from torsion

533, Lucie Malikova and Jan Klusak, Influence of the Interfacial Transition Zone on the crack behaviour in a matrix/aggregate system

268, N.Boychenko, Elastic and plastic stress intensity factor in specimen of Al alloys under tension and bending in the temperature range

618, Muhammad Zakir Sheikh, Zhen Wang, Tao Suo, Yulong Li, Sohail Ahmed and Uzair Ahmed Dar,
Effect of Polymeric Interlayer on Wave Propagation in Transparent Soda-lime Glass

318, Dorin Radu, Teofil Gălățanu and Simon Sedmak, Structural Integrity of Butt Welded Connection after Fire Exposure

123, Mohamed Swei, Aleksandar Sedmak and Gordana Bakić, Numerical simulation of creep crack growth

134, Emil Veg, Aleksandar Sedmak, Goran Šiniković, Mladen Regodić,
Structural Integrity Assessment by Using Cross-Correlated Modal Identification

133, Ahmed Sohail, Zheng Xitao and Shiekh Muhammad Zakir, High velocity impact response of 3D hybrid woven composites

620, Ugur Yolum, Eda Gök, Demirkan Coker and Mehmet Ali Guler, Peridynamic Modelling of delamination in DCB specimen

147, V. Vujovic, Case Study: The Mehmed Pasha Sokolovic Bridge Maintenance Design and Monitoring

461, D. Závodská, L. Kuchariková, E. Tillová, M. Guagliano, M. Chalupová, M.Uhríčik, J.j Belan,
The fatigue lifetime of AlZn10Si8Mg with different percentage of iron

475, G. Lesiuk, K. Junik, M. Smolnicki, J.A.F.O. Correia, A. M. P. De Jesus, B. Babiarczuk and K. Otczyk,
Structural integrity assessment of rigid polyurethane components using energy methods

347, Libor Topolář, Luboš Pazdera and Šárka Keprdová, The influence of aggregate grain size on the parameters of acoustic emission signals obtained from the three-point bending test on concrete specimens degraded by high-temperatures

597, Marko Katinić, Dražan Kozak, Steam turbine moving blades failure caused by corrosion fatigue – case history

374, A. Kostina, I.Panteleev, M. Zhelnin, Oleg Plekhov, Lev Levin, Creep behavior of an ice-soil retaining structure during a shaft sinking

404, I.Shardakov, A. Shestakov, K. Sobyanin, I.lot, Shock interaction of elements of the system "Striker-Gasket-Reinforced concrete beam"

391, I.Shardakov, I.Glot, Sh.Aleksey, M.Son, A.Zemlanuhin, G. Kashevarova, Beam to column flange connection: from elasticity to de-struction

538, Dragana Barjaktarević, Jelena Bajat, Ivana Cvijović-Alagić, Ivana Dimić, Anton Hohenwarter, Veljko Đokić, Marko Rakin
The corrosion resistance in artificial saliva of titanium and Ti-13Nb-13Zr alloy processed by high pressure torsion
457, A.Vaško, J.Belan, L.Kuchariková, E.Tillová, Microstructure, mechanical and fatigue properties of SiMo and SiCu nodular iron
502, Tatiana Oršulová, Peter Palček, Marek Roszak, Milan Uhríčik, Milan Smetana and Jozef Kúdelčík,
Change of magnetic properties in austenitic stainless steels due to plastic deformation
234, Madoka Nippa, Yuko Ikeda, Atsushi Kato, Luca Chiari and Masanori Fujinami, Free Volume in Strained Rubber with Carbon Black Filler by in situ Positron Annihilation Lifetime Spectroscopy
611, Michal Jurek, Katarzyna Majewska, Magdalena Mieloszyk and Wieslaw Ostachowicz
Load and temperature assessment in sandwich structured composite using embedded optical sensors
612, Michal Jurek, Maciej Radzienski, Pawel Kudela and Wieslaw Ostachowicz, Non-contact excitation and focusing of guided waves in CFRP composite plate by air-coupled transducers for application in damage detection
214, Keke Tang and Z. Q. Wang, Multiscale segmentation model of short fatigue crack growth for metal alloys
194, Xinlong Dong, Xinlu Yu and Yingqian Fu, Analysis of Fracture Behavior of Exploded Metal Cylinders with Varied Charge
468, Akram Atig, Rabii Ben Sghaier, Raoudha. Seddik and Raouf Fathallah
Probabilistic fatigue life prediction of parabolic leaf spring based on Latin hypercube simulation method
469, Atig Akram, Rabii Ben Sghaier, Raoudha. Seddik and Raouf Fathallah
Probability density evolution method for the evaluation of fatigue reliability of parabolic leaf spring
43, Ali Ghahremaninezhad, K.Farzanian, K.Ravi-Chanda, Experimental Investigation of Deformation and Failure in Ductile Alloys under Shear Loading
46, Shuxin Li, Yunshuai Su and Siyuan Lu, Phase transformation in white etching area in rolling contact fatigue
18, Ivana Franjić , Dubravka Živoder, Application of the PAM method in the milk production sector
52, Maria Temerova, A comprehensive study of the mechanical properties of woven materials for various types of loading and temperatures
63, Jin Yan, Suyang Yu, Hangyue Li and Pual Bowen, Research on fatigue and dwell-fatigue crack growth in an advanced austenitic stainless steel (Fe-20Cr-25Ni)
78, Svyatoslav Eleonskiy, Yury Matvienko, Vladimir Pisarev, Experimental simulation of fatigue crack growth by consecutive notches
312, Richa Agrawal, Veerababu J, Sunil Goyal, Sandhya R, Rashmi Uddanwadiker and Pramod Padole, Low Cycle Fatigue Life Prediction of Circumferentially Notch Round Bars
242, Jungsub Lee and Byoung-Ho Choi, Evaluation of the compressive behavior of Periodic Central Voronoi Tessellation(PCVT) cellular structures using finite element method
53, Elena Strungar and Valery Wildemann, Evolution of deformation fields in the regions of defects and concentrators in inelastic deformation and destruction of composite objects
54, Dmitrii Lobanov, Mechanical behaviour and fracture of composite sound-absorbing sandwich panels by tension and compression tests at normal and increased operating temperature
174, Anton Beliaev, Tatiana Beliakova, Alexander Inyukhin, Liliia Kostyreva, Pavel Mossakovsky and Petr Chistyakov, Experimental investigation and computational modelling of weaving type influence on dynamic loading results in a multilayer woven barrier
545, Yanpei Wang,Yulong Li, In-situ quasi-static and dynamic experimental studies on the compression behavior and failure process of a porous SiC
196, Eduardo Maeda, Cláudio Schon, Update on the interaction between microstructure and stress state in duplex stainless steels
146, G.Mladenović, M.Đurković, M.Milošević, M.Milovanović, M.Pjević, N.Mitrović, The influence of welded ribs on the stability of the x table construction
121, Boris Folić, Influence Aftershock on 2D RC Frame Founded on Piles with p-y Curves
117, A.Đurđević, A.Sedmak, A. Živković, M. Marković, M.Milčić, Microhardness and Macrostructures of Friction Stir Welded T-joints
201, Asad Hanif, Pavithra Parthasarathy, Zeyu Lu, Muhammad Usman and Zongjin Li, Numerical Modelling of Flexural Fatigue Behavior of Lightweight Laminated Cementitious Composites
205, Natalia Chernyakova, Statistical regularities of the parameter scatter of the crack growth rate equation in service life estimation
252, Guocai Chai and Lars Ewenz, Cyclic loading induced heterogeneous deformation and damage in an austenitic ferritic two phase steel during low cycle fatigue
175, Elena Gulidova, Vadim Silberschmidt and Sergei Bosiakov, Assessment of the cortical bone micromorphology effect on the crack propagation in the bone domain with single osteon
282, Mikhail Perelmuter, Analysis of stresses concentration in dental implants,
106, Miloš Milošević, Jovan Cabunac, Aleksa Milovanović, Nenad Mitrović, Goran Mladenović and Vesna Miletić
Experimental setup for determining strain in dental composite veneers subjected to compressive load
137, Igor Balać, Vladimir Buljak, Milorad Milovančević, Influence of friction and contact area on long term performance of total prostheses
395, Juan Silva-Henao, Juan Casas-Rodríguez, Roberto Rueda-Esteban, Alejandro Marañon-Leon, Study of the effect of anatomical location and presence of bone marrow on mechanical properties of porcine trabecular bone at several strain rates
424, I.Cvijović-Alagić, B.Međo, Z.Cvijović, N.Gubeljak, M.Rakin, Numerical simulation of fracture in Ti-6Al-4V alloy for orthopedic applications
603, Miloš Milošević, Srđan Poštić, Nenad Mitrović, Aleksa Milovanović, Milan Travica, Zorana Golubović, Goran Mladenović, Experimental setup development of additively manufactured mandible with teeth and compensations subjected to compressive load
27, Shao-Ping Wang, Jian Xu, TiZrNbTaMo high-entropy alloys designed for orthopedic implants: optimization for mechanical properties
480, A. Merida and F. Kharchi, Chloride permeability of slag concrete in sulphate environment
189, Ch Visweswara Rao, N.C.Santhi Srinivas, Vakil Singh, Deformation behaviour and Strain rate sensitivity of Inconel 617 alloy

186, Artem Erak, Evgenia Kuleshova, Aleksei Kiselev, Andrey Bandura and Sergey Bubyakin, Local toughness of brittle fracture origins in irradiated pressure vessel steel after fracture toughness tests
193, Nebab Mokhtar and Hassen Ait Atmane, Free vibration of functionally graded materials plates resting on elastic foundation
259, Ivan Panteleev, Leonid Bogomolov and Oleg Naimark, Spatio-temporal variations of acoustic emission in the deformed granite under various modes of vibration
293, Diego Avendaño-Rodríguez, Lais Mujica-Roncery and Rodolfo Rodríguez-Baracaldo, Microstructure degradation for damage measurement in a dual phase steel
414, Soliman El Kabir, Rostand Moutou Pitti, Frédéric Dubois, Naman Recho and Yuri Lapusta, A three-dimensional local mechanical field around crack front for isotropic and orthotropic materials
380, Dinesh Kumar Samal, Sonalisa Ray and Hemalatha T, Analytical Prediction of Fracture Energy at Meso-Scale
415, Kirill Khvostunkov, Effect of the component properties on the creep life prediction of composites
420, D. Telicyn, K. Khvostunkov, Fracture energy dissipation for fiber composites with various interface and fiber strength distribution
436, Mathias Rengstl, Aspects in Design of Low Cycle Fatigue in Aluminium Structures
250, Saad Khodir, Mohamed Newishy and Hamed Abdel-Aleem, Failure analysis of Carbon Steel Gas Pipeline
381, Sonali Bhowmik and Sonalisa Ray, Scaling laws for concrete under fatigue
412, Valentin Tkachenko, Alexander Nikitin and Ilia Nikitin,Crack growth in titanium alloy under ultrasonic loading
421, Boris Stratula, Alexander Nikitin and Ilia Nikitin, Multiaxial criteria for in-phase and antiphase cyclic loading
80, Madhulika Srivastava, Sergej Hloch, Rupam Tripathi, Dražan Kozak, Somnath Chattopadhyaya, Amit Rai Dixit, Josef Foldyna, Investigation of pulsating water jet peening on the surface integrity of welded austenitic stainless steel joints
143, D.Momčilović, I.Atanasovska, Lj.Milović,Z.Odanović, Morphology of corrosion fatigue and stress corrosion cracks on low alloy steels
525, Deepak Sutar and Sonalisa Ray, Calculation of Size Independent Fracture Energy of Concrete
353, Andrey Yankin and Roman Bulbovich, Theoretical and experimental research of mechanical behavior of viscoelastic highly-filled polymers during complex harmonic loads
356, M.Choi, B.Choi, Effects of molecular orientation and loading rate on the essential work of fracture properties of PET film
365, Saeed Doagou Rad, Ali Davoudinejad, David Bue Pederson, Aminul Islam and Guido Tosello, Influence of printing direction on the mechanical properties of the additive manufactured polymeric components
233, Alexander Chudnovsky, Structural Reliability of Engineering Plastics
86, J. Djokovic, Ruzica Nikolic, B.Hadzima, D.Arsic, L.Trsko, Working life estimate of the tube's t-joint by application of the lefm concept
290, Hamed Abdel-Aleem, Saad Khodir and Mohamed Newishy, EFFECT OF DEFECTS ON FAILURE OF WELDED STEAM BOILER FLANGE
437, Š.Major, V.Kocour, M.Hanuš, M.Růžička, Case Study: Failure Analysis of Spinal Implant and the effect of machining
438, N.Mouhib, S.Sandabad, M. Lahlou, M. Elghorba, Damage-reliability prediction of strand extracted from steel wire rope
463, Xiang Guo, Guang Yang, Wenbin Wu, Linli Zhu and George Weng, Tensile behavior of trimodal nanostructured metals
568, Youn-Young Jang, Nam-Su Huh, Ik-Joong Kim, Cheol-Man Kim and Young-Pyo Kim, Numerical Investigation into Crack-Tip Constraint of SEN(T) and Full-Scale Pipe with a Surface Crack
569, Oldřich Ševeček, Zdeněk Machů, Dominique Leguillon, Eric Martin and Raul Bermejo, Prediction of the Hertzian contact damage in ceramic materials using Finite Fracture Mechanics
182, Vitor Scarabeli Barbosa, Diego F. B. Sarzosa, Claudio Ruggieri and Eduardo Hippert,Measurements of Fracture Resistance in Clad Pipeline Girth Welds Using Single Edge Notch Tension Specimens
419, Eric Heppner, Elmar Woschke, Numerical and experimental identification of tensile strength properties of friction welded joints
375, Tianmi Li, Yuxuan Zheng and Fenghua Zhou, EXPERIMENTAL STUDY OF FRAGMENTATION OF PMMA RING
383, Xun Xiong, Zhen Xu, Yuxuan Zheng and Fenghua Zhou, Dynamic failure of glass rod under high speed Taylor impact loading
392, Yongang Wang, Jun Liu and Yuanyuan Ding, Applications of multi-channel photonic Doppler velocimetry for investigating the dynamic mechanical behavior of materials
105, S.Sedmak, R.Jovičić, B.Đorđević, M.Aranđelović, F.Vučetić, Numerical analysis of fatigue crack growth in welds with multiple defects
251, Qiuqiu Sun, Xiang Guo, George Weng and Gang Chen, Cohesive zone model for the high-cycle fatigue of surface-nanostructured metals under axial-torsional load
104, Nikola Milovanović, Gordana Bakić, Branislav Đorđević and Aleksandar Sedmak
The influence of oxide deposits on the remaining life and integrity of pressure vessels equipment
616, Ivica Galić, Ivan Čular, Krešimir Vučković and Zdenko Tonković
Comparison of SIF solutions obtained by XFEM and conventional FEM for cracks in complex geometries like valve body
622, M. Amara, B. G. N. Muthanna, M. Tahar Abbes and M. Hadj Meliani, Effect of sand particles on the Erosion-corrosion for a different locations of carbon steel pipe elbow
462, Radica Prokić Cvetković, Olivera Popović, Radomir Jovičić, Nenad Milošević, Zijah Burzić and Ivana Cvetković
Microstructural and fracture analysis of microalloyed steel weld metal
119, L.Grubiša, D. Bajić, T.Vuherer, Influence of activating flux on the mechanical properties of the plasma welded joint of austenitic steel
624, Žarko Mišković et al, The development and application of the new methodology for conveyor idlers fits testing
486, Robert Kruzel and Malgorzata Ulewicz, Analysis of fatigue life of steel cord used in tires in unidirectional and bidirectional bending
487, Robert Ulewicz, Frantisek Novy, Pavol Novak and Peter Palcek, Cause analysis of the train drawhook fatigue failure
471, Lenka Kuchariková and Magdalena Mazur,fracture behavior of the secondary A226 cast alloy with 0.9 % Fe

573, I.Haq ,W.Guo, Numerical Investigation of Various Caliber-Radius-Head Ogive Projectiles Impact on Inconel-718 Target

Parallel 6: Thursday, 30th August 11.00-13.30 h

Ivo Andric A - topic 4.1 Chairman Gabriel Testa

325, Hiroaki Ito, Kazuki Shibanuma, Koya Ueda, Masao Kinefuchi, Katsuyuki Suzuki and Manabu Enoki
Prediction model for fatigue life and limit of steel based on small crack micromechanics

327, David Lenz, Markus Könemann, Victoria Brinnel, Julius Langenberg and Sebastian Münstermann
Simulating toughness properties under varying temperatures with micromechanical and phenomenological damage models

343, A.Vedernikova, A.Kostina, O.Plekhov, Physical explanation of the critical distance theory and a link with structure of material

348, Woojoo Kim, Junyeong Kim, Seunghun Choi and Dongil Kwon
Estimation of fracture toughness of metallic material by using instrumented flat-end shaped indentation test

357, Valeriy Lepov, Albert Grigoriev, Mbelle Samuel Bisong, Valentina Achikasova, Kyunna Lepova, Nikolay Balakleiskii, Boris Loginov, Artem Loginov, Microstructure analyses and multiscale stochastic modelling of steel structures operated in the extreme environment

366, Gabriel Testa, Nicola Bonora and Domenico Gentile,
Computational simulation of abnormal fracture appearance in dwtt of x65 steel using micromechanical modelling

373, T.Brynk, B.Romelczyk-Baishya, Residual stress estimation based on 3D DIC displacement field measurements around drilled holes

387, Fuhui Shen, Junhe Lian and Sebastian Münstermann, An Experimental and Numerical Investigation of the Anisotropic Plasticity and Fracture Properties of High-strength Steels from Laboratory to Component scales

Nikola Tesla A – topics 4.2-4.5 Chairman Otmar Kolednik

215, Olisaemeka H Ezeh and Luca Susmel, Fatigue behaviour of additively manufactured polylactide (PLA)

342, Karel Slámečka, Petr Skalka, Ladislav Čelko and Jaroslav Pokluda, On fracture modes of thermally-cycled plasma-sprayed MCrAlY+YSZ thermal barrier coatings: the role of the bond-coat interfacial features in the crack initiation phase

367, Sheikh Muhammad Zakira, Wang Zhena, Suo Taoa, , Li Yulonga, Zhou Fenghuab, Ahmed Sohaila, Uzair Ahmed Dara
High Rate Response and Dynamic Failure of Aluminosilicate Glass under Compression Loading

368, Ali Davoudinejad, Lucia C Diaz Perez, Danilo Quagliotti, David Bue Pedersena, José A. Albajez García, José A. Yagüe-Fabrab and Guido Tosello, Geometrical design effects on direct stereolithography micro polymer additively manufactured components

371, T.Sumigawa. T.Kitamura, Formation of Slip Bands in Nano-polycrystalline Copper sandwiched between Nanoscale Brittle Materials

614, F.Yanagimoto, K.Shibanuma, K. Suzuki, High speed observation of fast crack propagation and arrest behaviors in 3D transparent structures

372, Jan Klusák, Ondřej Krepl, Multi-parameter average strain energy density factor criterion applied on the bi-material notch problem

376, Ondřej Krepl, Jan Klusák, Multi-parameter average strain energy density criterion applied on the sharp material inclusion problem

160, Borislav Vasic, Rados Gajic, Igor Stankovic, Nanoscale wear and fracture of graphene and protection by graphene

Lavander - topic 3 Chairman Tomaž Vuherer

87, Luigi Mario Viespoli, Francesco Mutignani, Heikki Remes and Filippo Berto
Cruciform welded joints: hot-dip galvanization effect on the fatigue life and local energetic analysis

349, Hikaru Yamaguchi, Takahiro Hosoe, Kazuki Shibanuma and Shuji Aihara
Dynamic measurement of CTOA and its application to numerical model of unstable ductile fracture of high pressure gas pipelines

369, Ingo Scheider, A.Barbini, J. Dos Santos, Numerical Residual Strength Prediction of Stationary Shoulder Friction Stir Welding Structures

377, Rui Guo, He Xue, Influence of Residual Stress and Mechanical Heterogeneity on Mechanical field at Crack Tip in Safety End of Nuclear Power Plant

390, Theano Examilioti, Stefan Riekehr, Josephin Enz, Nikolai Kashaev, Benjamin Klusemann and Nikolaos Alexopoulos, Microstructure and tensile mechanical behavior of laser beam welded AA2198 joints - Effect of process parameters and post-weld heat treatment

401, F.Smaili, T.Vuherer, Fatigue crack propagation initiated at artificially made small defect in two different HAZ microstructures

402, Catrin Davies, Richard Williams and Paul Hooper, Thermo-Mechanical Modelling of the Selective Laser Melting Process

254, Li Sun, Xiaobo Ren, Jianying He, Jim Stian Olsen, Zhiliang Zhang,
A computationally efficient fe approach for residual stress induced by additive manufacturing

255, K.Kouzoumis, I.Hadley, M.Mostafavi, Validation of BS7910 in assessing the integrity of pipes containing axial flaws

Room 1 mini-symposium on Multiscale Damage Chairmen Željko Božić and Siegfried Schmauder

49, Victor Manuel Trejo Navas, Ante Buljac, François Hild, Thilo Morgeneyer, Marc Bernacki and Pierre-Olivier Bouchard, Microscopic strain calculations at the onset of coalescence in nodular cast iron

102, Hans-Jakob Schindler, Fracture mechanics properties for engineering application: There is a need for more suitable standards.

124, M.Babić, O.Verić, Ž.Božić, A.Sušić, Reverse Engineering Based Fatigue Life Assessment of a Hip Endoprosthesis

125, Danijel Barjašić, Željko Božić and Siegfried Schmauder, Modeling of Residual Stresses in Welded Stiffened Panels

126, Željko Božić, Filip Kovačić and Siegfried Schmauder,Fracture Analysis of Pressurized Plates Damaged With Multi-Site Cracks

257, Petr Skalka, Martin Friák, Tomáš Profant, Michal Kotoul and Jaroslav Pokluda
Examples of combined atomistic and gradient-elasticity approaches in fracture mechanics

280, Katarina Monkova, Peter Monka, Marek Urban, Miroslav Zetek, Ivana Zetkova,
Vibrodiagnostics as the tool of tool wear monitoring

490, Elena Golovneva, Igor Golovnev and Vasily Fomin,
Molecular-dynamic investigation of the influence of the frequency and amplitude of cyclic loading on the fracture of a nano-sized rod

Ivo Andric B – topic 1.1 Chairman Liviu Marsavina

511, E.Martin, D.Leguillon, O.Sevecek, R.Bermejo, Understanding the tensile strength of ceramics in the presence of small critical flaws

513, Mikhail Tretyakov, Tatyana Tretyakova and Valery Wildemann
Experimental study of mechanical properties of steel 40Cr in the necking area of specimen during the postcritical deformation

516, Sameera Naib, Wim De Waele, Primož Štefane, Nenad Gubeljak and Stijn Hertelé
Analytical limit load predictions in heterogeneous welded Single Edge notched Tension (SE(T)) specimens

518, Tatyana Tretyakova and Ekaterina Zubova, Influence of additional vibration impact and stress concentrators on kinetics of strain bands due to the Chernov-Lüders deformation and Portevin-Le Chatelier effect in metals

526, Tatyana Tretyakova, Mikhail Tretyakov and Valery Wildemann
Stable crack growth in Al-Cu-Mg alloy under various stiffness of loading system in bodies with concentrators

531, Joseph Corcoran, Catrin Davies and Peter Nagy, Quasi-DC Potential Drop Measurements for Materials Testing

537, W. Musrati, N.Gubeljak, P.Štefane, D. Veljić, A.Sedmak, M.Rakin, Fracture analysis of axially flawed ring-shaped bending specimen

549, R. Negru, D.Serban, F.Berto, L.Marsavina, Mode II fracture parameter determination for notched polyurethane materials

615, E.Pasiou, S.Kourkoulis, M.Tsousi, C.Markides, Experimental investigation of the displacement field in a circular disc drilled eccentrically

Nikola Tesla B – mini-symposium on Hydrogen embrittlement

311, Mohsen Dadfarnia, Akihide Nagao, Brian P. Somerday, Petros Sofronis and Robert O. Ritchie
Plasticity-induced intergranular and “quasi-cleavage” fracture of lath martensitic steels in hydrogen

231, Xavier Feaugas, Guillaume Hachet, Jiaqi Li, Arnaud Metsue and Abdelali Oudriss
Multi-scale analyses of the different interactions between defects and hydrogen: on the цontribution of the elastic fields")

541, M. Djukic, G. Bakic, B. Rajicic, V. Sijacki Zeravcic, A. Sedmak, R. Mitrovic, Z. Miskovic, The synergistic interplay of the localized plasticity (HELP) and decohesion (HEDE) mechanisms of hydrogen embrittlement in steels: effects on macromechanical properties

213, Kenshiro Ichii, Motomichi Koyama, Cemal Cem Tasan and Kaneaki Tsuzaki
Localized Plasticity and Associated Cracking in Stable and Metastable High-Entropy Alloys Pre-Charged with Hydrogen

333, Evgeniy Merson, Pavel Myagkikh, Vitaliy Poluyanov, Dmitriy Merson and Alexei Vinogradov
Revealing of hydrogen-assisted crack growth mechanism in the low-carbon steel by the in situ mechanical testing in SEM

338, Haiyang Yu, Jim Stian Olsen, Jianying He, Edmund Tarleton, Alan Cocks and Zhiliang Zhang
A hydrogen embrittlement model based on hydrogen-microvoid interactions

306, Elena Astafurova, Valentina Moskvina, Galina Maier, Evgeny Melnikov, Sergey Astafurov, Anastasia Fortuna and Nina Galchenko, Effect of vanadium-alloying on hydrogen embrittlement of austenitic high-nitrogen steels

339, H.Yu, E.Tarleton, A.Cocks, Modelling of hydrogen embrittlement with a discrete dislocation plasticity coupled cohesive zone approach

55, Evy De Bruycker, Staf Huysmans and Frédéric Vanderlinden, Investigations into the hydrogen embrittlement susceptibility of T24 boiler tubing in the context of Stress Corrosion Cracking issues of T24 welds

Nikola Tesla C – topics 1.2-1.5 Chairman Thierry Palin-Luc

315, M. Thielen, M.Marx, C. Motz, The effect of overloads on fatigue crack propagation measured by DIC, BEMI and synchrotron

316, Tomoki Mizoguchi, Motomichi Koyama and Hiroshi Noguchi, Quantification method for parameters affecting multi-scale roughness-induced fatigue crack closure.

321, Taro Suemasu, Motomichi Koyama, Shigeru Hamada, Masaharu Ueda and Hiroshi Noguchii
The influence of fracture surface contact in fatigue crack propagation of material having texture under Mode II loading

328, Alexander Zakharov, Valery Shlyannikov, Andrey Tumanov and Anastasya Tartygasheva
Generalization of mixed mode crack behavior on the base of nonlinear fracture resistance parameters

336, M.Aibara, M.Koyama, Sh. Hamada, H.Noguchi, Analysis of fatigue crack configuration influence on fatigue life

350, Aleksei Vshivkov, Anastasiia Iziumova, Aleksandr Zakharov, Valerii Shlyannikov and Oleg Plekhov
The experimental and theoretical study of plastic deformation in the fatigue crack tip based on method of digital image correlation

354, B. Nečemer, J. Kramberger, Srečko Glodež, Fatigue crack initiation and propagation in auxetic porous structure

460, Thierry Palin-Luc and Dalenda Jeddi, The gigacycle fatigue strength of steels: a review of structural and operating factors

172, Mihaela Iordachescu, Maricely De Abreu, Andrés Valiente, Effect of Transversal Loading on the Fatigue Life of High-Strength, Cold Drawn Duplex Stainless Steel Wires

Room 3 mini-symposium on Defects and Fatigue Chairman Uwe Zerbst

528, Ali Aydin, Igor Varfolomeev and Christian Amann, Modelling Approach for Predicting Crack Initiation at Forging Defects

590, Uwe Zerbst and Mauro Madia, DEFECTS AND FATIGUE FAILURE

591, Yanhui Zhang, Fatigue life prediction of girth welded pipes under constant and variable amplitude loading

322, Slobodanka Boljanović, Stevan Maksimović and Andrea Carpinteri, FATIGUE LIFE ANALYSIS OF EDGE-NOTCH WITH DAMAGES

605, M.D. Tran, B. Pennings and S.V. Kamath, Effect of surface finish on the fatigue strength of pushbelt components

599, Chao Gu, Junhe Lian, Yanping Bao and Sebastian Münstermann
A microstructure sensitive modeling approach for fatigue life prediction considering the residual stress effect from heat treatment

600, Ann-Christin Hesse, Thomas Nitschke-Pagel, Klaus Dilger, Markus Wagner and Axel Jahn
On the effect of weld defects on the fatigue strength of beam welded butt joints

604, Mikhail Seleznev, Johannes Gleinig, Ka Yiu Wong, Sebastian Henschel, Lutz Krüger, Anja Weidner and Horst Biermann
Influence of plate-like alumina on the high cycle fatigue behaviour of 42CrMo4 steel

Parallel 7: Thursday, 30th August 14.30-17.00 h

Ivo Andric A - topic 4.1 Chairman Žarko Mišković

394, Camille Caisso, Nicolas Jacques, Younes Demmouche, Harold Fresnel and Aboulgihit El Malki Alaoui
Characterization of the ductile and brittle failure of thin-walled tubular materials
403, Svetlana Atroshenko, Yuri Petrov and Alexey Evstifeev
Relation between structure of metallic materials and fracture properties under conditions of solid particle erosion
406, Svetlana Atroshenko, Viktor Morozov, Victor Kats and Yuri Petrov
Rupture of copper rings by a magnetic-pulse method over a wide range of loading times
416, Vladica Nikolic, Johann Riesch, Manuel Pfeifenberger and Reinhard Pippan
The effect of heat treatments on the microstructure and fracture toughness properties of drawn tungsten wires
442, Guy Khosla, Analysis of an as-cast 3.2% Si Slab to elucidate fundamental causes of the fracture mechanism: Clinking
540, Kitade Atsuhisa, Kawabata Tomoya, Kimura Shintaro, Kagehira Kiyoshi and Mitsuzumi Tatsuki
Clarification of micromechanism on Brittle Fracture Initiation Condition of TMCP Steel with MA as the trigger point
539, Barış Tanrıkulu, Burak Muhammed Toparlı, Emrah Kılınçdemir, Sezgin Yurtdas and Umut İnce,
Effect of socket depth on failure type of fasteners

Nikola Tesla A – topics 4.2-4.5 Chairman Andrea Carpinteri

389, Lukas Loh and Stephan Marzi
A Mixed-Mode Controlled DCB test on adhesive joints loaded in a combination of modes I and III
445, Chukwudi Okeke, A N Thite, J F Durodola, N A Fellows and M T Greenrod,Modelling of hyperelastic polymers of automotive lamp under random vibration loading with proportional damping for robust fatigue analysis
446, Chukwudi Okeke, A N Thite, J F Durodola and M T Greenrod
A novel test rig for measuring bending fatigue using resonant behaviour
464, Mauro Ricotta, Michele Zappalorto, Mattia Marchiori, Alberto Campagnolo and Giovanni Meneghetti
The Peak Stress Method applied to bi-material corners
508, Tuan Duc Le, Petr Lehner and Petr Konecny
Advanced Modelling of Chloride Penetration Considering Concrete Heterogeneity
98, Joseph Wood, Cecilia Gauvin, Christina Young, Ambrose Taylor, Daniel Balint, Maria Charalambides,
Failure of thin films under low-cycle fatigue
524, Lesley-Anne Wray, David Ayre, Philip Irving, Paul Jackson, Peter Jones and Fangming Zhao
Implications of substrate geometry and coating thickness on the cracking resistance of polymer-based protective coatings
574, Shayan Eslami, Paulo J Tavares and Pedro M. G. P. Moreira, Mechanical strength of friction stir welded polymers

Lavander - topic 3 Chairman Seyed Mohammad Javad Razavi

153, Anais Jacob, Ali Mehmanparast, Joe Kelleher and Genoveva Burca
Neutron diffraction and neutron imaging techniques for residual stress measurements of welded joints
167, Yuebao Lei, A local limit load model for J prediction via the reference stress method
409, Catrin Davies, Richard Williams, Paul Hooper and Tobias T Ronneberg
Structural Integrity Analysis of 316L Steel Samples Manufactured by Selective Laser Melting
542, Nikolai Kashaev, Jin Lu and Norbert Huber, Fatigue life extension of airframe structures by combining geometrical modifications and laser heating
553, Song Wei, Liu Xuesong and Berto Flilippo, Low cycle and high cycle fatigue of mismatched load-carrying welded joints
382, Garcia Juan-Manuel, T.Morgeneyer, Fracture mechanisms of similar Ti6242 Linear Friction Welds under monotonic and cyclic loading
426, Evangelia Dovletoglou, Vasilis Stergiou, Stavros Kourkoulis and Nikolaos Alexopoulos, Corrosion resistance of 2024 aluminum alloy electron beam welded joints for different post weld heat treatments

Room 1 – 61,547, TC13 meeting Chairmen: Petro Yasniy, Liviu Marsavina

61, Aleksandar Sedmak, Blagoj Petrovski, Vencislav Grabulov, Fracture Mechanics Sumemer Schools in exYu and Serbia 1980-2008
547, Liviu Marsavina, Raluca Pepelan, Ion Octavian Pop, Mark traking technique for experimantal determination of fracture parameters

Ivo Andric B – topic 1.1 Chairman Nenad Radović

550, Gustavo Henrique Bolognesi Donato and Felipe Cavalheiro Moreira, Validity limits of the one-parameter elastic-plastic fracture mechanics (J-integral) considering SE(B), C(T) and clamped SE(T) specimens

560, Leonardo Giangiulio Ferreira de Andrade and Gustavo Henrique Bolognesi Donato, Effects of crack tunneling and plasticity on the elastic unloading compliance technique for SE(B) – current limitations and proposals

561, Rodrigo Figueiredo Moço, Fábio Gonçalves Cavalcante and Gustavo Henrique Bolognesi Donato, Effects of manufacturing plastic prestrains found on calendered and UOE pipes and pressure vessels on structural integrity assessments regarding fatigue crack growth and LBB

562, Yuri Kovalenko, Ivan Panteleev, Alexey Zaitsev, Vladimir Karev, Yuriy Sokolkin, Yuriy Sidorin and Konstantin Ustinov
Inelastic deformation, strain-softening and localized failure in sandstone media under triaxial quasistatic loading

563, Luděk Stratil, Ivo Dlouhý, Yazid Madi and Jacques Besson
Experiments and modelling of ductile fracture behaviour and fracture toughness of low–alloy C–Mn steel

572, Israr Ul Haq, Weiguo Guo, Mariyam Arif and Muhammad Zakir Sheikh,
Study of Various Conical Projectiles Penetration into Inconel-718 Target

578, Daniel Vavrik, Tomas Fila, Petr Koudelka, Ivana Kumpova, Daniel Kytyr, Kamil Soucek and Leona Vavro
Tomographic investigation of the fracture parameters of the quasi-brittle specimens subjected to four-point bending test

Nikola Tesla B – mini-symposium on Hydrogen embrittlement - Round table and Panel discussions

Nikola Tesla C – topics 1.2-1.5 Chairman Aleksandar Sedmak

269, Irfan Habeeb Chuzhali Nilath and Shmuel Osovski,
An experimental study on crack-hole interaction under dynamic loads

352, Anastasiia Chevrychkina and Alexey Evstifeev,
Deformation and failure of titanium alloy under tensile dynamic loading

370, Roberta Goncalves, Marcos Pereira and Fathi Darwish,
Multiaxial High Cycle Fatigue Criteria Applied to Motor Crankshafts

400, Igor Shardakov, Aleksey Shestakov and Irina Glot,
Experimental-theoretical approach to the determination of elastic and dissipative properties of concrete

405, Josef Květoň and Jan Eliáš,
Influence of inertia and material properties on discrete simulation of dynamic fracture of concrete

432, Hichem Mazighi, Mustapha Kamel Mihoubi, David Santillàn Sanchez,
Study of seismic water pressure inside cracked concrete gravity dam

434, Grigory Volkov, Yuri Petrov and Roberta Springhetti,
Peculiarities of adhesive zone fracture under combined pulse-vibrational load

566, Ho-Wan Ryu, Determination of Combined Hardening Parameters to Simulate Deformation Behavior of C(T) Specimen under Cyclic Loading

Parallel 8: Friday, 31st August 9.00-11.30 h

Ivo Andric A - topic 4.1 Chairman Aleksandar Grbovic

456, Valmir Bussola Martin, Cláudio Schon and Hercilio de Melo
Hydrogen permeation in 22MnB6 steels: revisiting the role of Nb additions

474, Bojana Aleksic, Ljubica Milovic, Aleksandar Grbovic, Abubkr Hemer , Vujadin Aleksic, Milorad Zrilic,
Numerical and experimental investigations of the critical values of J-integral for the steel of steam pipelines

488, Barbara Romelczyk-Baishya and Tomasz Brynk
Development of FEM model for residual stress calculations based on displacement field measurements near drilled hole

489, František Nový, Michal Jambor, Trško Libor, Peter Palček and Otakar Bokůvka
Analysis of causes of brittle fractures of locomotive drawhooks

509, Marc Moonens, Eric Wyart, Dieter De Baere, Patrick Guillaume and Michaël Hinderdael
Numerical Simulation of Fatigue Crack Growth in Straight Lugs Equipped with Efficient Structural Health Monitoring

512, Petro Yasniy, Volodymyr Iasnii, Yura Lapusta and Oleksandr Kononchuk
Functional and structural fatigue of pseudoelastic NiTi shape memory

523, Klas Solberg, Filippo Berto and Jan Torgersen
Fatigue Behaviour of Additively Manufactured Inconel 718 produced by selective laser melting

Nikola Tesla A – topics 4.2-4.5 Chairman Paulo Reis

466, Kumar Anubhav Tiwari, Renaldas Raisutis and Liudas Mazeika, Refinement of defect detection in the contact and non-contact ultrasonic non-destructive testing of wind turbine blade using guided waves

552, Ghouaoula Abdelhamid, Haj Meliani Mohammed and Hocine Abdelkader
Analytical prediction of damage in a multilayer composite tubular structure under a cyclic loading

554, Martin Demleitner, Comparison between theoretical crack index and fatigue crack propagation of an Al2O3-filled epoxy resin system: Influence of Particle Size, Silanization and Thermal Cycling

580, Johan Hoefnagels, Andre Ruybalid, Olaf van der Sluis, Marc van Maris and Marc Geers
Mixed-mode cohesive zone parameters from integrated digital image correlation on micrographs only

587, Paulo Reis, Larissa Gorbatikh, Jan Ivens and Stepan Lomov
Viscoelastic behaviour of self-reinforced polypropylene composites under bending loads

Lavander - topic 3 Chairman Donato Firrao

481, Olivera Popović, Radica Prokić Cvetković, Ljubica Radović, Zijah Burzic and Arsić Dušan
The influence of heat input on the toughness and fracture mechanism of surface weld metal

484, Daniel Braga, Luciano Bergmann, Virginia Infante, Lucas Da Silva, Jorge Dos Santos and Pedro M. G. P. Moreira
Fatigue strength of hybrid FSW and adhesive bonded joints for longitudinal fuselage joints

495, R.A. Ribeiro, P.D.C. Assunção, V. Infante, P. Vilaça, G.P. Ciprinano, P.M.G.P. Moreira, D. Braga and E.M. Braga
Comparison between fatigue lives of AA5052 H-32 butt joints produced by FSW, GMAW AND CW-GMAW

501, Ho-Sung Lee, Jong-Hoon Yoon and Joon-Tae Yoo,
An Experimental Study on Failure of Welded Aerospace Components

567, Shuai Wang, He Xue, Yinhao Cui and Rui Guo
A Measuring Residual Stress Approach Based on Combining Vickers Hardness Test and Elastic-Plastic Finite Element Analysis

592, Weijian Wu, Haohui Xin, Henk Kolstein and Milan Veljkovic
Crack propagation analysis in the rib-to-deck welded joint at the crossbeam conjunction in orthotropic steel bridge decks

602, Ali Waqas, Qin Xiansheng and Xiong Jiangtao,Yang Chaoran, Liu Fan, Impact toughness of components made by GMAW based additive manufacturing

613, Donato Firrao, L. Marmo and P. Matteis,
Pressure vessels that explode after many years of service Is there a common cause?

Ivo Andric B – topic 1.1 Chairman Per Stahle

10, Jack Beswick, Diego Sarzosa, Rafael Savioli, Peter James, Claudio Ruggieri and Andrey Jivkov
Applicability of local approaches to assessment of cleavage fracture in complex constraint and load history cases

51, Mastaneh Moattari, Hessamoddin Moshayedi and Iradj Sattari-Far
Fracture assessment of an internal surface cracked vessel using the modified Master Curve method

355, Yi Shi, Xiaoguang Yang, Guolei Miao and Duoqi Shi
The study of Physically Short Crack Behavior of FGH96 based on in-situ Testing Method combined with DIC

589, Zoi S. Metaxa and Stavros K. Kourkoulis,
Dispersion of graphene nanoplatelets reinforcing Type II cement paste

594, Mohammed A. Al-Shuwaili, Alessandro Palmeri and Mariateresa Lombardo
Experimental characterisation of Perfobond shear connectors through a new one-sided push-out test

619, Bojan Perić, Aleksandar Simonović, Toni Ivanov, Slobodan Stupar, Miloš Vorkapić, Ognjen Peković and Jelena Svorcan,
Designing and testing characteristics of thin stainless steel diaphragms

520, Lucien Laiarinandrasana, 3D stress fields versus void distributions ahead of a notch tip for semi-crystalline polymers

Nikola Tesla B – topics 2.1-2.4 Chairman Ružica Nikolić

217, Elena Fedorova, Andrey Burov, Nadezgda Sukhodoeva and Vladimir Moskvichev
Microstructural and numerical analysis of fracture mechanisms in a thermal barrier coating system on Ni-based superalloys

521, Farnoosh Farhad, Xiang Zhang and David Smyth-Boyle
Environmentally assisted fatigue cracking from corrosion pits in oil and gas pipelines

548, Takehiro Shimada, Kenji Tokuda, Kimiaki Yoshida, Nobutada Ohno and Tatsuya Sasaki
Creep-Fatigue Life Prediction of 316H Stainless Steel by Utilizing Non-Unified Constitutive Model

555, Rastislav Nigrovic, Jozef Mesko and Ruzica Nikolic
Influence of selected laser cutting parameters to the formation of intergranular corrosion on austenitic stainless steel X10CrNi18-8

570, Jaroslav Odrobiňák, Jozef Gocál and Jozef Jošt
Experimental measurement of structural steel corrosion

588, Dejan Zagorac, Jelena Zagorac, Milos B. Djukic, Dragana Jordanov, Milena Rosic, Maria Cebela, Jelena Lukovic, Vesna Maksimovic and Branko Matovic, Theoretical investigation of structural, mechanical, elastic and vibrational properties of advanced materials under extreme conditions

Nikola Tesla C – topics 1.2-1.5: Chairman Przemysław Strzelecki

385, Gyo Geun Youn, Hyun Suk Nam, Yun Jae Kim and Jin Won Kim, Numerical Simulation of Thermal Ageing Effect on Fracture Behavior for CF8A Cast Stainless Steels under Very Low Cyclic Loading Conditions

386, Gyo Geun Youn, Hyun Suk Nam, Yun Jae Kim and Jin Won Kim, Numerical analysis for the thermal ageing effect on fracture behaviors of CF8A pipes and piping systems under monotonic and very low cycle fatigue loading conditions

522, Tomasz Tomaszewski,
Analysis of the statistical size effect models with a critical volume in the range of high-cycle fatigue

141, Milosav Georgijević, Dragana Radaković and Atila Zelić,
Load spectrums as the basis of fatigue calculation, simulation as a tool and the significance of frequency analyses

530, Henrique Soares, Pedro Costa, Manuel Freitas and Luis Reis,
Fatigue life assessment and failure analysis of a railway wheel material

551, Mirko Maksimovic, Ivana Vasovic, Katarina Maksimovic, Stevan Maksimovic and Dragi Stamenkovic
Crack growth analysis and residual life estimation of structural elements under mixed modes

5th Fracture mechanics Summer School

25.8.2018, Saturday		
9:00-10:45 FME, room 211	**Basics of experimental fracture mechanics, linear elastic and elastic-plastic crack growth**	**John Landes, USA**
10:45-11:00 FME, 210	Coffee break	
11:00-12:45 FME, room 211	**Basics of experimental fracture mechanics, fatigue crack growth**	**Francesco Iacoviello, Italy**
12:45-14:00, FME	Lunch, transfer to the Laboratory	
14:00-18:00 MTI, FTM	**Experimental work at the Laboratory**	**John Landes, Francesco Iacoviello, Blagoj Petrovski, Zijah Burzic**
26.8.2018, Sunday		
9:00-11:00 FME, room 211	**Deformation and fracture of polymers and composites**	**Bamber Blackman, UK**
11:00-11.30FME, 210	Coffee break	
11:30-12:45 FME, room 211	**Interface fracture mechanics**	**Leslie Banks-Sills, Israel**
12:45-13:45, FME	Lunch	
13:45-15:00 FME, room 211	**Interface fracture mechanics**	**Leslie Banks-Sills, Israel**
15:00-15:30 FME, 210	Coffee break	
15:30-17:00 FME, amphitheater A	**J integral - on the occasion of the 50th anniversary** **James Rice, USA, Open for public**	

FME – Faculty of Mechanical Engineering; Kraljice Marije 16, Belgrade
MTI - Military-Technical Institute, Ratka Ristanovica 1, Zarkovo, Belgrade
FTM – Faculty of Technolgy and Metallurgy, Karnegija 4, Belgrade






Social programme

27.8 Monday

Belgrade Metropol -Viminacium	8.30-10	BUS
VIminacium	10-14	Sightseeing, Lunch
Viminacium-Oplenac	14-15	BUS
Oplenac	15-17	Sightseeing
Oplenac-Belgrade	17-18	BUS
Cultural programme	19-22	Metropol Palace

28.8 Tuesday

Belgrade Metropol-Vincha	8.30-9	BUS
Vincha	9-10.30	Sightseeing
Vincha-Manasija	10.30-12	BUS
Manasija	12-13.30	Sightseeing
Konaciste Resava	13.30-14.30	Lunch
Despotovac Park	14.30-16	Sightseeing
Despotovac-Belgrade Metropol	16-18	BUS
Cruise Danube & Sava	18.30-22	Sirena/Golden heart boat

29.8 Wednesday

Belgrade Metropol-Novi Sad	8.30-9.45	BUS
Novi Sad	9.45-12.45	Sightseeing
Novi Sad-Petrovaradin	12.45-13	BUS
Petrovaradin	13-16	Lunch, Sightseeing
Petrovaradin-Belgrade Metropol	16-17	BUS
Belgrade tour	17.30-21.30	Sightseeing

30.8 Thursday

Belgrade Metropol -Sremski Karlovci	8.30-9.45	BUS
Sremski Karlovci	9.45-11.45	Sightseeing
SremskiKarlovci-Krusedol	11.45-12	BUS
Krusedol Monastery	12-13	Sightseeing
Krusedol-Kovacevic winery	13-13.15	BUS
Kovacevic winery	13.15-14.45	Lunch
Kovacevic-Hopovo	14.45-15	BUS
Hopovo Monastery	15-16	Sighseeing
Hopovo-Belgrade Metropol	16-17	BUS
Conference dinner	19-23	**Metropol Palace**

Post-conference tour:

1.9 Saturday: start 8 h Viminacium 9.30-12 h, Golubac & Lunch 13-15 h, Lepenski Vir 16-17.30 h, Belgrade 20 h

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