

ECF 22 - LOADING AND ENVIRONMENT EFFECTS ON STRUCTURAL INTEGRITY 26 – 31 August 2018

SUMMER SCHOOL 25-26 August 2018, Belgrade, Serbia

www.ecf22.rs



Location and Transportation

Belgrade is the capital of Serbia, with cca 1.8 million inhabitants. It is located in the south-east Europe, in the Balkan Peninsula, at the confluence of the Sava and Danube rivers. The official monetary unit is dinar (RSD). International airport “Nikola Tesla” offers services not only by domestic airlines (Air Serbia), but also by many other companies, including low cost companies. Transfer from the airport to the city center is easy using mini-bus or using taxi (20 euros). The highway network enables frequent bus connection between major European cities, and comfortable travel by car to Belgrade. Train connections are also possible.

Venue

Metropol Palace, a Luxury Collection Hotel, Bulevar Kralja Aleksandra 69, Belgrade, Serbia. More details on accommodation on **www.ecf22.rs**.



<http://www.metropolpalace.com/>

Registration and fees

Registration fee *	Before 28.2.2018	Before 20.8.2018	After 25.8.2018
Regular	530 €	580 €	630 €
ESIS member	450 €	500 €	550 €
Students	150 €	150 €	200 €
Accompanying persons	150 €	150 €	200 €

* on-site cash payment will be possible

The registration fee includes conference material, welcome reception, conference banquet, refreshments and lunch during conference days.

Payment will be possible by bank transfer, credit cards, pay-pal and on-site in cash, see www.ecf22.rs.

Main topics

Loading types

- static and quasi-static loading
- cyclic loading of variable amplitudes (high cycle-loading well below yield stress; low cycle loading after initial yielding)
- vibrations
- impact and earthquake loading
- combined loading

Environment

- corrosion
- high operating temperatures
- temperatures in the range of nil ductility transition (NDT) and below it
- combined environmental effects
- hydrogen embrittlement

Structures

- power plants
- process equipment in petrochemical industry
- welded structures
- civil engineering objects
- transportation

Materials

- metallic materials
- plastics
- ceramics
- composite materials
- nanomaterials

Plenary lecturers:

Jim Rice, Boston, USA, Perspectives on dynamic fracture arising from study of earthquake ruptures

Jovo Jaric, Serbia, Conservation laws of J integral type

Youshi Hong, China, The State of the Art in Very-High-Cycle Fatigue Research

Uwe Zerbst, Germany, Application of fracture mechanics to S-N curve prediction. Requirements and perspectives

Drazan Kozak, Croatia & **Nenad Gubelj**, Slovenia, Fracture behavior of wrought and additive manufactured implant's alloy

Yonggang Huang, USA, Soft Network Composite Materials with Deterministic and Bio-Inspired Designs

Robert Ritchie, USA, Damage Tolerance in Biological and Metallic Material

Takayuki Kitamura, Japan, Challenge toward Nanometer Scale Fracture Mechanics

William Curtin, Switzerland, Mechanisms of Hydrogen Embrittlement: Insights from Atomistic Studies

Meinhard Kuna, Germany, Micromechanical Modeling of Fracture in Metallic Materials”

Proceedings and Publication

Abstracts will be published in the form of ECF22 e-book and available during the registration. Full papers will be published in Procedia Structural Integrity journal by Elsevier in the form of ECF22 Proceedings. Authors of selected papers will be invited to submit extended versions of papers for a special issue of “Engineering Fracture Mechanics”, “Engineering Failure Analysis”, “International Journal of Fatigue” or “Theoretical and Applied Fracture Mechanics”, as well as Structural Integrity and Life (DIVK Journal) journals.

Minisymposia

Siegfried Schmauder and Zeljko Bozic, „Multiscale Damage Analysis of Fatigue and Fracture of Metals“

Vadim Silberschmidt, “Damage and Fracture of Biological and Biomedical Materials“

Filippo Berto and Luca Susmel, “Structural integrity of Additive Manufactured materials“

PetroYasniy and Liviu Marsavina, „Teaching of Structural Integrity“

Jacques Besson, Marko Rakin, „Numerical Methods in Fracture Mechanics and Micromechanical Modelling“

Uwe Zerbst and Stefano Beretta, “Defects and fatigue”

Yuri Petrov and Vadim Silberschmidt, “Fracture and Structural Transformations under High Rate and Impact Loading”

Peter Trampus, Non-destructive methods in Fracture Mechanics

Jose Antonio Correia and Vladimir Moskvichev, Risk Analysis and Safety of Technical Systems.

Milos Djukic, William Curtin and Zhiliang Zhang, Recent Advances on Hydrogen Embrittlement Understanding and Future Research Framework

Giacomo Risitano, Energy Methods for Fatigue Assessment

Rostand Moutou Pitti, Octavian Pop, Damage and Fracture mechanics in wood material

ESIS Support for researchers: <http://www.structuralintegrity.eu/site/pdf/ecf22/ESIS%20Support%20for%20Researchers%20Announcement.pdf>

ESIS AWARDS: <http://www.structuralintegrity.eu/site/pdf/ecf22/ESIS%20AWARDS%20-%20CALL%20FOR%20PROPOSALS.pdf>

ESIS Elsevier young scientist award: <http://www.structuralintegrity.eu/site/pdf/ecf22/ESISELSEVIER%20YOUNG%20SCIENTIST%20AWARD.pdf>

Best paper weld fract.mech:<http://www.structuralintegrity.eu/site/pdf/ecf22/AWARD%20%20for%20the%20best%20paper%20on%20WFM%20Galip.pdf>

Preliminary Timetable

Time	Monday, 27.8	Tuesday, 28.8	Wednesday, 29.8	Thursday, 30.8	Friday, 31.8	
08:00	Registration	Registration				
08:30		Plenary session – Youshi Hong Uwe Zerbst	Plenary session Robert Ritchie Yonggang Huang	Plenary session Takayuki Kitamura William Curtin	Parallel sessions	
09:00	OPENING CEREMONY					
10:15	Honorary lecture James Rice					
10:30		Coffee Break	Coffee Break	Coffee Break		
11:00	Parallel sessions	Parallel sessions	Parallel sessions	Parallel sessions	Coffee Break	
11:30					Plenary session Two medals	
12:00					Lunch Break	
13:00					Lunch Break	
13:30	Lunch Break	Lunch Break		Lunch Break	CLOSING CEREMONY	
14:00						
14:30	Plenary session Jovo Jaric	Plenary session Drazan Kozak & Nenad Gubeljak	Special session for young scientists best paper 75 minutes	Parallel session Meinhard Kuna		
15:00					Coffee break	
15:45	Coffee Break	Coffee Break				
16:00	Parallel sessions ExCo meeting	Parallel sessions Technical Committees		Sightseeing	Parallel sessions	
17:00						
18:00						
18:30	Cultural Programme	Belgrade visit by boat	Technical visits	Conference dinner		
19:00						
19:30						
20:00						
21:00						
22:00			<u>ESIS council</u>			

Important dates

Submission of Abstracts: 31.3.2018
Notification of Acceptance: 15 days after
Deadline for early Registration: 28.2.2018
Submission of Papers: 30.6.2018
Deadline for Registration: 20.8.2018

Registration on-site is also possible!

Local Organizing Committee

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Yuri Lapusta
Zeljko Bozic
Zhiliang Zhang

SUMMER SCHOOL: Two-day event is offered to young researchers, with world's leading experts in the field.

5th Fracture mechanics Summer School – Belgrade, Serbia, 25-26th August 2018

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, restaurant	Lunch, transfer to the Laboratory	
14:00-17:00 MTI, Zarkovo	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
11:00-11.30 FME, 210	Coffee break	
11:30-12:45 FME, room 211	Interface fracture mechanics	Leslie Banks-Sills, Israel
12:45-13:45, FME, restaurant	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 Open for all participants	James Rice, USA

FME – Faculty of Mechanical Engineering; Kraljice Marije 16, Belgrade

MTI - Military-Technical Institute, Ratka Ristanovica 1, Zarkovo, Belgrade

Fee (**125 € before 20.6.2018, 150 € afterwards**) includes lectures, refreshments and buffet lunch.

Social Program

Welcome Reception will be held on Sunday, August 26th evening from 19:00 to 22:00, Faculty of Mechanical Engineering, Kraljice Marije 16, Belgrade
Cultural programme will be organized on Monday evening, August 27th, from 19:00 to 22:00.

Belgrade visit by boat will be organized on Tuesday evening, August 28th, from 19:00 to 22:00.

Conference Dinner, including cultural programme, will be served on Thursday evening.

There will be different one-days excursions every day from Monday till Friday, covering the most important historical and cultural sites in Serbia (Vinča archeological site (5500 BC), Viminacium, once the capital of the Roman province Mesia Superior, Lepenski Vir, archeological site (7500 BC),

Fruska Gora monasteries and wineries, Novi Sad, Petrovaradin and Sremski Karlovci, monasteries in central Serbia (Manasija, Resava, Studenica, Zica)

Post conference tours (one or two day) will also be offered.



Monastery Studenica



Figurine - Vincha "Foremother" Lepenski Vir



Sremski Karlovci



Petrovaradin fortress

Recommended hotels and privileged prices for conference participants

	Hotel	Single room	Double room	Website
1.	Metropol Palace a Luxury Collection Hotel	95 €	110 €	http://www.metropolpalace.com
2.	Hotel Zira	85 €	95 €	http://www.zirahotels.com
3.	Hotel Constantine the Great	80 €	85 €	www.constantinethegreatbelgrade.com
4.	Holiday Inn Express Belgrade	59 €	64 €	www.holidayinnexpress.com/belgrade
5.	Boutique Hotel Tash	30 €	40 €	www.hoteltash.com

For more details visit www.ecf22.rs or send an email to ecf22conference@gmail.com

