



22nd European Conference on Fracture - ECF22
LOADING AND ENVIRONMENT EFFECTS ON STRUCTURAL INTEGRITY

26–31 August 2018

and

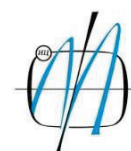
SUMMER SCHOOL, 25–26 August 2018

Belgrade, Serbia

www.ecf22.rs



Sponsors



Support



Hydrogen Embrittlement & Materials Science

~ Discuss matters related to materials science and hydrogen embrittlement mechanisms of metallic materials.



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
- 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

Proceedings and Publication

Abstracts will be published in the form of ECF22 e-book and available during registration.

Full papers will be published in *Procedia Structural Integrity* journal by Elsevier in the form of ECF22 Proceedings. Authors of selected papers shall be invited to submit extended versions of papers for a special issue in journals: *'Engineering Fracture Mechanics'*, *'Engineering Failure Analysis'*, *'International Journal of Fatigue'* or *'Theoretical and Applied Fracture Mechanics'*, as well as in *'Structural Integrity and Life'*.

[ESIS Support for researchers](#)

[ESIS awards](#)

[ESIS Elsevier young scientist award](#)

[Best paper in weldment fracture mechanics](#)

James Rice (USA), Perspectives on dynamic fracture arising from study of earthquake ruptures
Jovo Jarić (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
Plenary lecturers **Dražan Kozak (Croatia)** and **Nenad Gubeljak (Slovenia)**, Fracture behavior of wrought and additive manufactured implant's alloy
William Curtin (Switzerland), Mechanisms of hydrogen embrittlement: Insights from atomistic studies
Meinhard Kuna (Germany), Micromechanical modeling of fracture in metallic materials
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

Siegfried Schmauder and Željko Božić, 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
Petro Yasniy and Liviu Marsavina, Teaching of structural integrity
Jacques Besson, Numerical methods in fracture mechanics
Uwe Zerbst, Stefano Beretta and Andrea Carpinteri, 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 Đukic, 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 and Octavian Pop, Damage and fracture mechanics in wood material

Minisymposia

Time	Monday, 27.8	Tuesday, 28.8	Wednesday, 29.8	Thursday, 30.8	Friday, 31.8			
08:00	Registration							
08:30	Registration							
09:00	OPENING CEREMONY	Plenary session Youshi Hong Uwe Zerbst	Plenary session Robert Ritchie Yonggang Huang	Plenary session Takayuki Kitamura William Curtin	Parallel sessions			
10:15	Honorary lecture James Rice							
10:30		Coffee Break	Coffee Break	Coffee Break				
11:00					Coffee Break			
11:30	Parallel sessions	Parallel sessions	Parallel sessions	Parallel sessions	Plenary session Two medals			
12:00								
13:00								
13:30	Lunch	Lunch	Lunch	Lunch	CLOSING CEREMONY			
14:00	Break	Break	Break	Break				
14:30	Plenary session Jovo Jaric	Plenary session Kozak & Gubeljak Meinhard Kuna	Special session - Young scientists best paper	Parallel sessions				
15:00								
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			Technical visits					
19:00	Cultural Programme	Belgrade visit by boat	ESIS council	Conference dinner				
19:30								
20:00								
21:00								
22:00								

Registration Fee	Before 20 th August, 2018	On-site
Regular	580 €	630 €
ESIS Member	500 €	550 €
Students*	150 €	200 €
Accompanying persons	150 €	200 €
Participation without publication/Regular	550 €	600 €
Participation without publication/ESIS member	470 €	520

* Students should send a copy of their ID or any document proving their status, and bring the original document to the conference.

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).

Submission of abstracts:	March 31, 2018
Notification of acceptance:	15 days after submission
Deadline for early registration:	February 28, 2018
Submission of papers:	June 30, 2018
Deadline for registration:	August 20, 2018
On-site registration:	from August 25, 2018

5th Fracture Mechanics Summer School

Two-day event is offered to young researchers, with world's leading experts in the field.
Belgrade, Serbia, August 25–26, 2018

Saturday, August 25, 2018		
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, room 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 Burzić
Sunday, August 26, 2018		
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, amph. A	J integral - the 50 th 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 EUR before June 20, 2018, and 150 EUR afterwards. Includes lectures, refreshments and buffet lunch.