

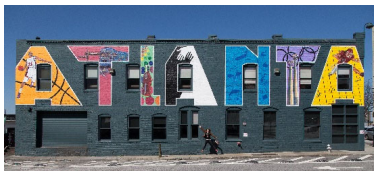
Schedule



www.icf15.org

15th International Conference on Fracture Atlanta, Georgia, USA

June 11-16, 2023



National Steering Committee

Ashok Saxena, Executive Chair
Christopher Muhlstein, Program Chair
Richard Neu, General Secretary
Robert McMeeking
Huseyin Sehitoglu
James R. Rice
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Robert O. Ritchie
Ares Rosakis
Robert Dodds
Brad Boyce
David L. McDowell
John D. Landes
Mimoun Elboujdaini
Ravi Chona
K. Ravi-Chandar

October 1, 2022: Abstract for oral presentation submission deadline

Dec. 1, 2022: Acceptance of Abs.

March 31, 2023: Deadline for early conference registration

April 30, 2023: Deadline for submission of full papers for publication in special issues of archived journals/conference proceedings (optional)

Current Sponsors



Conference Topics

- Fracture & fatigue of advanced materials
- Failure mechanisms and Analysis
- Fracture & fatigue of MEMS and NEMS
- Failure of nanodevices
- Fracture at atomistic & molecular scale
- Fracture & fatigue of thin films
- Failure of nanocomposites
- Physics of fracture
- Brittle fracture
- Ductile fracture
- High temperature creep fracture
- Fretting fatigue
- Thermal-mechanical fatigue
- Stress corrosion & corrosion fatigue
- Environment assisted fracture
- Fracture in ceramics
- Fracture in polymers
- Test methods in fracture
- Nonlinear & linear fracture mechanics
- Computational fracture mechanics
- Residual stress in fatigue and fracture
- Nondestructive testing for fracture prevention
- Fracture in biological materials
- Cracks in geological systems
- Mixed mode fracture
- Structural integrity assessments
- Probabilistic fracture mechanics
- Smart materials & structures
- Fracture in structural foams
- Dynamic & high strain rate fracture
- Fracture in weldments
- Damage mechanics

Conference Venues Georgia World Congress Center, Downtown, Atlanta, GA



Omni Atlanta Hotel, CNN Center



- Registration Opens, Sep 1, 2022
- Registration Fee:
 - Full Participants US \$1,250
 - Student & Post-docs US \$400

Sponsorship Opportunities

Opportunities are available for corporations, foundations, test equipment manufacturers, publishing houses, and government agencies to support ICF15. Funds will be used to attract internationally renowned scholars to the conference, for supporting networking receptions, best student poster awards, best paper awards, and participation of young scientists and graduate students. For more information on sponsorship opportunities, please contact:

Prof. Ashok Saxena, Executive Chair, asaxena@uark.edu

Prof. Richard W. Neu, General Secretary, rick.neu@gatech.edu

Confirmed Symposia (Jan 15, 2022)



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1. **Ductile Fracture Under Complex Loading** (Organizers: David Wilkinson (email: wilkinso@mcmaster.ca), Thomas Pardoen, and Amine Benzerga)
2. **JoDean Morrow and Paul Paris Symposium on Fatigue and Fracture** (Organizers: Huseyin Sehitoglu (email: huseyin@uiuc.edu), Petros Sofronis, and John Landes),
3. **Fracto-emissions in Structural and Seismic Monitoring** (Organizers: Alberto Carpinteri (email: alberto.carpinteri@polito.it), and Giuseppe Lacidogna)
4. **Brittle Fracture: A Century of Progress after Griffith's Theory** (Organizers: Claudio Ruggieri (email: claudio.ruggieri@usp.br) and Laszlo Toth)
5. **Hydrogen Embrittlement and Environmentally Assisted Cracking** (Organizers: Jesus Toribio (email: toribio@usal.es), Chris San Marchi, and Joseph Ronevich),
6. **Microstructures and Fracture in Multiferroic Materials** (Organizers: Tong-Yi Zhang (email: zhangty@shu.edu.cn), Chad Landis, Weiqiu Chen, Ralf Müller, and Jie Wang)
7. **Fracture in Large Scale Metallic Infrastructure: Advances, Challenges, and Opportunities** (Organizers: Amit Kanvinde (email: kanvinde@ucdavis.edu) and Xudong Qian)
8. **Beyond Similitude: Role of Multiscale Heterogeneity in Fracture Prognosis** (Organizers: Ashley Spear (email: ashley.spear@utah.edu) and Gustavo Castelluccio),
9. **Mechanical Failure of Lithium-ion Batteries: from Material to Structure** (Organizers: Juner Zhu (email: zhujuner@mit.edu), Junhe Lian, Kejie Zhao, and Tomasz Wierzbicki)
10. **Fatigue and Fracture of AM Materials** (Organizers: Bo Chen (email: bo.chen@leicester.ac.uk), Nagaraja Iyer, and Filippo Berto)
11. **Small Scale Specimen Testing** (Organizers: Vikram Jayaram (email: qjayaram@iisc.ac.in), Raghu V. Prakash, N Jaya Balila, Robert Lancaster, Bernd Gludovatz, and Dan Gianola)
12. **Finite Fracture Mechanics: Theoretical Aspects, Numerical Procedures and Experimental Applications** (Organizers: Vladislav Mantič (email: mantic@us.es), Pietro Cornetti, Dominique Leguillon and Pedro Camanho)
13. **Phase-Field Models of Fracture** (Organizers: Blaise Bourdin (email: bourdin@mcmaster.ca), Corrado, Maurini Marco Paggi, José Reinoso)
14. **Failure Mechanisms in Advanced Materials and Structures** (Organizers: Zengtao Chen (email: Zengtao@ualberta.ca), Minghao Zhao, Cunfa Gao, and Stathis E. Theotokoglou)
15. **Probabilistic Aspects of Fatigue Crack Growth and Fracture: Frameworks, Tools, and Applications** (Organizers: R. Craig McClung (email: craig.mccclung@swri.org), James C. Sobotka, and Kai Kadau)
16. **Advanced Computational Methods for Fracture** (Organizers: P.R. Budarapu (email: pattabhi@iitbbs.ac.in), M.K. Pandit, A.K. Pradhan, S. Natarajan, T. Rabczuk)
17. **Residual Stress in Fatigue and Fracture** (Organizers: Thomas J. Spradlin (email: thomas.spradlin.1@us.af.mil), Michael R. Hill and Dale L. Ball)
18. **Damage, Fracture, and Fatigue of Composites** (Organizer: Raj Das (email: raj.das@rmit.edu.au))
19. **Properties and Fracture in Nuclear Materials** (Dong Liu, University of Bristol, UK, Dong.Liu@bristol.ac.uk)
20. **Failure Analysis and Prevention** (Donato Firrao (donato.firrao@formerfaculty.polito.it), Erik Mueller, Pierre Dupont)



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Confirmed Plenary & Honor Lectures

Name	Affiliation/Country	Title
Prof. David McDowell	Georgia Tech, USA	Advancing Fatigue Resistant Microstructure Selection and Design via Computation and Data Science
Prof. Robert McMeeking	UC-Santa Barbara, USA	Fracture and the Limitation it Places on Technology: From Lithium-ion Batteries to Medical Implants
Prof. Robert Ritchie	UC Berkeley, USA	Mechanics and Mechanisms of Fracture in Multiple-Element Structural Materials
Prof. Subra Suresh	NTU, Singapore	Fracture Mechanisms Across Living and Engineered Systems: Deep Analysis and Learning from Nature and Machines
Prof. R. Narasimhan	Indian Institute of Science, Bengaluru, India	Tensile Twinning: Bane or Boon for Fracture of Magnesium Alloys
Prof. Tong-Yi Zhang	Shanghai University, China	Microstructures and Fracture in Multiferroic Materials, Machine Learning Approaches
Prof. A.T. Yokobori	Teikyo University, Japan	Noninvasive Diagnosis of Blood Vessel Diseases Related to Visco- elastic Deterioration of Blood Vessel Wall
Prof. Claudio Ruggieri	University of Sao Paulo, Brazil	Critical Concerns and Challenges in Fracture and Fatigue Assessments of Corrosion Resistant Alloy (CRA) Pipes with Dissimilar Weldments: Subsea Applications and Beyond.
Prof. Bill Curtin	EPFL/Switzerland	Understanding Ductility in BCC High Entropy Alloys
Prof. David Wilkinson	McMaster University, Canada	The Path to High Formability and Damage Tolerance in 3 rd Generation Steels
Prof. Sylvie Pommier	University of Paris-Saclay France	Modeling Fretting Fatigue Under Multiaxial and Variable Loading Conditions
Prof. Norman Fleck	Cambridge University	TBD
Prof. Huseyin Sehitoglu	University of Illinois	Interface Nanostructures and Mechanisms Critical for Fatigue

ICF15-Tentative Program



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Time	Sunday, June 11	Mon, June 12	Tuesday, June 13	Wed, June 14	Thurs, June 15	Fri, June 16
7:30 -8:30		Registration	Registration	Registration	Registration	Registration
8:00 -8:30		Conference Opening Session				
8:30 -10:00		ICF Opening Honor Lecture: David McDowell Plenary Lecture: Subra Suresh	Plenary Lecture: Sylvie Pommier Plenary Lecture: William Curtin	Presidential Lecture: Robert McMeeking Plenary Lecture: Tong-Yi- Zhang	Plenary Lecture: A.T. Yokobori Plenary Lecture: Claudio Ruggieri	Plenary Lecture: David Wilkinson Plenary Lecture: R. Narasimhan
10:00 -10:30		Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
10:30 -12:30	Conference Registration Desk Open	Symposia 1-8 Parallel Sessions	Symposia 1-8 Parallel Sessions	Symposia 9-16 Parallel Sessions	Symposia 17-23 Parallel Sessions	Symposia 17-23 Parallel Sessions
12:30 -14:00		Lunch Break	Lunch Break	Lunch Break	Lunch Break	Lunch Break
14:00 – 16:00		Symposia 1-8 Parallel Sessions	Symposia 9-16 Parallel Sessions	Symposia 9-16 Parallel Sessions	Symposia 17-23 Parallel Sessions	Best Paper Awards and Closing Session ICF Closing Honor Lecture: Robert O. Ritchie
16:00 -16:30		Coffee Break	Coffee Break	Coffee Break	Coffee Break	
16:30 – 18:00		Parallel Sessions	Plenary Lecture: Huseyin Sehitoglu Plenary Lecture: Norman Fleck	Poster Session	Parallel Sessions	Conference Ends
18:00 – 19:00	Welcome Reception for all registered participants and registered accompanying persons		Exhibition Opens	Exhibition remains open	Open	
19:00 – 20:00		ICF Executive Committee Meeting	Time set aside for various allied groups to have business meetings	ICF Council Meeting	Conference Banquet – Admission ticket required	
20:00 -21:00						