

Plenary Lectures
Location: Grand Ballroom E

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
P1 Monday, June 12, 8:00-10:00 Session Chair: Ashok Saxena	Opening Session Welcome (Ashok Saxena) and Greetings from ICF President (Robert McMeeking) Announcements (Richard Neu and Christopher Muhlstein)			6/12/23 8:00	30
	David McDowell	Georgia Institute of Technology, Atlanta, Georgia, United States of America	ADVANCING MICROSTRUCTURE-SENSITIVE FATIGUE SELECTION AND DESIGN VIA COMPUTATION AND DATA SCIENCE [Honor Lecture]	6/12/23 8:30	40
	Subra Suresh	MIT, Cambridge, Massachusetts, United States of America	DEEP LEARNING FROM NATURE AND MACHINES: FRACTURE AND FATIGUE OF ENGINEERED AND BIOLOGICAL MATERIALS [Plenary Lecture]	6/12/23 9:20	40
P2 Tuesday, June 13, 8:30-10:00 Session Chair: Robert McMeeking	David Wilkinson	McMaster University, Hamilton, Ontario, Canada	THE PATH TO HIGH FORMABILITY AND DAMAGE TOLERANCE IN 3RD GENERATION HIGH STRENGTH STEELS [Plenary Lecture]	6/13/23 8:30	40
	William Curtin	Brown University, Providence, Rhode Island, United States of America	HYDROGEN EMBRITTLEMENT IN STEELS AND HIGH ENTROPY ALLOYS [Plenary Lecture]	6/13/23 9:10	40
P3 Tuesday, June 13, 16:30-18:00 Session Chair: David McDowell	Huseyin Sehitoglu	University of Illinois, Urbana, United States of America	INTERFACE NANOSTRUCTURES AND MECHANISMS CRITICAL FOR FATIGUE [Plenary Lecture]	6/13/23 16:30	40
	Norman Fleck	University of Cambridge, United Kingdom of Great Britain and Northern Ireland	THE FAILURE OF ADHESIVE LAYERS: FROM FAST FRACTURE TO STRESS CORROSION [Plenary Lecture]	6/13/23 17:10	40
P4 Wednesday, June 14, 8:30-10:00 Session Chair: Richard Neu	Robert McMeeking	University of California, Santa Barbara, United States of America	FRACTURE AND THE LIMITATION IT PLACES ON TECHNOLOGY: FROM LITHIUM-ION BATTERIES TO MEDICAL IMPLANTS [Presidential Lecture]	6/14/23 8:30	40
	Tong-Yi Zhang	Hong Kong University of Science and Technology, Guangzhou, China	DOMAIN KNOWLEDGE-GUIDED MACHINE LEARNING AND CASE STUDIES OF METAL OXIDATION [Plenary Lecture]	6/14/23 9:15	40
P5 Thursday, June 15, 8:30-10:00 Session Chair: K. Ravi-Chandar	A. Toshimitsu Yokobori	Teikyo University, Itabashi -ku, Japan	NONINVASIVE DIAGNOSIS OF BLOOD VESSEL DISEASES RELATED TO VISCOELASTIC DETERIORATION OF BLOOD VESSEL WALL [Plenary Lecture]	6/15/23 8:30	40
	Claudio Ruggieri	University of Sao Paulo, SP, Brazil	CRITICAL CONCERNS AND CHALLENGES IN FRACTURE AND FATIGUE ASSESSMENTS OF CORROSION RESISTANT ALLOY (CRA) PIPES WITH DISSIMILAR WELDMENTS: SUBSEA APPLICATIONS AND BEYOND [Plenary Lecture]	6/15/23 9:15	40
P6 Friday, June 16, 8:30-10:00 Session Chair: Richard Neu	Sylvie Pommier	LMPS and Safran, Paris-Saclay, France	MODELING FRETTING FATIGUE IN MULTIAXIAL AND VARIABLE LOADING CONDITIONS [Plenary Lecture]	6/16/23 8:30	40
	R. Narasimhan	Indian Institute of Science, Bangalore, India	TENSILE TWINNING: BANE OR BOON FOR FRACTURE OF MAGNESIUM ALLOYS [Plenary Lecture]	6/16/23 9:10	40
P7 Friday, June 16, 14:00-15:30 Session Chair: Christopher Muhlstein	Closing Session Remarks from Incoming ICF President (TBA) Student Awards Presentation (Christopher Muhlstein)			6/16/23 14:00	40
	Robert O. Ritchie	University of California Berkeley, United States of America	DAMAGE-TOLERANCE IN NATURAL AND ENGINEERING MATERIALS [Honor Lecture]	6/16/23 14:40	40
	Closing Remarks (Richard Neu)			6/16/23 15:20	10

Symposium 1: Ductile Fracture Under Complex Loading
Organizers: David Wilkinson, Thomas Pardoen, and Amine Benzerga
Location: Grand Ballroom A

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
M1 Monday, June 12, 10:30-12:30 Session Chair: David Wilkinson	Sharlotte Kramer	Sandia National Laboratories, Albuquerque, New Mexico, United States of America	THE FOURTH SANDIA FRACTURE CHALLENGE - PREDICTING PUNCTURE IN A METAL STRUCTURE [Keynote]	6/12/23 10:30	30
	Diego Felipe Sarzosa Burgos	University of Sao Paulo, Brazil	PREDICTING DUCTILE FRACTURE FOR MIXED MODE OF LOADING USING THE MODIFIED MOHR-COULOMB CRITERION	6/12/23 11:00	20
	Thirupathi Maloth	Johns Hopkins University, Baltimore, United States of America	COUPLED CRYSTAL PLASTICITY PHASE-FIELD MODEL FOR DUCTILE FRACTURE IN POLYCRYSTALLINE MICROSTRUCTURES	6/12/23 11:20	20
	Antonio Kaniadakis	Institut Clément Ader, ISAE- SUPAERO, Toulouse, France	A UNIFIED NONLINEAR XFEM-CZM BASED METHODOLOGY TO DEAL WITH DUCTILE FRACTURE	6/12/23 11:40	20
M2 Monday, June 12, 14:00-16:00 Session Chair: Thomas Pardoen	Kim Lau Nielsen	Technical University of Denmark, Kongens Lyngby, Denmark	VOID SIZE, SHAPE, AND ORIENTATION EFFECTS UNDER INTENSE SHEARING ACROSS SCALES	6/12/23 14:00	20
	Amine Benzerga	Texas A&M University, College Station, Texas, United States of America	ANALYSES OF DUCTILE FRACTURE USING HUNNY THEORY	6/12/23 14:20	20
	Johan Hoefnagels	Eindhoven University of Technology, Eindhoven, Netherlands	1-TO-1 COMPARISON OF SEM-DIC TO CP STRAIN FIELDS OF ULTRATHIN STEEL FILMS TO UNRAVEL PLASTICITY TO DAMAGE INITIATION	6/12/23 14:40	20
	Longhui Zhang	University of Oxford, United Kingdom of Great Britain and Northern Ireland	INFLUENCE OF LARGE STRAIN REVERSE LOADING ON DYNAMIC STRAIN LOCALIZATION AND FAILURE OF DUCTILE METALLIC RODS	6/12/23 15:00	20
Tu1 Tuesday, June 13, 10:30-12:30 Session Chair: Amine Benzerga	Francois Roubaud	Framatome, Paris, La Defense, France	A GURSON-TYPE LAYER MODEL FOR DUCTILE POROUS SOLIDS CONTAINING ARBITRARY ELLIPSOIDAL VOIDS WITH ISOTROPIC AND KINEMATIC HARDENING	6/13/23 10:30	20
	Shuyue Wang	KTH Royal Institute of Technology, Stockholm, Sweden	A NON-LOCAL GURSON MODEL WITH TWO FRACTURE-MECHANISM ASSOCIATED LENGTH SCALES: SUPPORTED BY NUMERICAL ANALYSES AND EXPERIMENTS	6/13/23 10:50	20
	Reiner Trautmannsberger	Ostbayerische Technische Hochschule (OTH) Regensburg, Germany	ASSESSMENT OF EXISTING OFFSHORE GAS TRANSMISSION PIPELINES IN TERMS OF DUCTILE FRACTURE CONTROL USING A MODELING FRAMEWORK	6/13/23 11:10	20
	Wei Jun Wong	Delft University of Technology, Delft, Netherlands	ESTIMATING PLASTICITY AND DUCTILE DAMAGE MODEL PARAMETERS FOR S355-S690 STEEL FROM MILL TEST CERTIFICATE DATA	6/13/23 11:30	20
	Kazutake Komori	Daido University, Nagoya, Aichi, Japan	PREDICTING DUCTILE FRACTURE DURING TORSION TESTING USING ELLIPSOIDAL VOID MODEL AND ANALYTICAL MODEL	6/13/23 11:50	20

Symposium 1: Ductile Fracture Under Complex Loading
Organizers: David Wilkinson, Thomas Pardoen, and Amine Benzerga
Location: Grand Ballroom A

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Tu2 Tuesday, June 13, 14:00-16:00 Session Chair: Thomas Pardoen	Kevin Jacob	IIT Bombay, Mumbai, India	EFFECT OF HPT PROCESSING ON FRACTURE BEHAVIOUR OF MARAGING STEELS	6/13/23 14:00	20
	Yannis Korkolis	Ohio State University, Columbus, United States of America	DUCTILE FRACTURE OF SS-304L MICROTUBE UNDER COMBINED AXIAL FORCE AND INTERNAL PRESSURE	6/13/23 14:20	20
	Asmae Elochi	Centre des Matériaux, Mines Paris,PSL Research University, Paris, France	MODELING OF THE ELASTO-PLASTIC BEHAVIOR OF HSLA X140 STEEL: EFFECT OF PRE-STRAIN AND TRIAXIALITY	6/13/23 14:40	20
	Hiroto Shoji	Graduate School of Engineering, Osaka University, Japan	MICRO-STRUCTURAL DAMAGE ANALYSIS FOR PREDICTING THE EFFECT OF LOADING PATH ON DUCTILITY OF TWO-PHASE STEELS	6/13/23 15:00	20
	Nizia Mendes-Fonseca	McMaster University, Hamilton, Ontario, Canada	STRAIN EVOLUTION AND DAMAGE DEVELOPMENT DURING TIGHT-RADIUS BENDING OF ADVANCED HIGH STRENGTH STEELS	6/13/23 15:20	20
	Concetta Pelligra	McMaster University, Hamilton, Ontario, Canada	THE INFLUENCE OF TRANSFORMATION INDUCED PLASTICITY IN THIRD-GENERATION ADVANCED HIGH STRENGTH STEELS	6/13/23 15:40	20
W1 Wednesday, June 14, 10:30-12:30 Session Chair: Amine Benzerga	Nicolas Larrosa	University of Bristol, United Kingdom of Great Britain and Northern Ireland	A MODIFIED J-Q CONSTRAINT APPROACH TO ASSESS EFFECTIVE NOTCH FRACTURE TOUGHNESS	6/14/23 10:30	20
	James Newman	Mississippi State University, Mississippi State, United States of America	FRACTURE ANALYSES OF THIN-DUCTILE MATERIALS USING CRITICAL CTOA AND TWO-PARAMETER FRACTURE CRITERION	6/14/23 10:50	20
	Sihan Cheng	Université Paris-Saclay, Gif-sur-Yvette, France	CHARACTERIZATION AND NUMERICAL SIMULATION OF DUCTILE CRACK INITIATION AND PROPAGATION IN CT SPECIMENS OF DIFFERENT SIZES MACHINED FROM A 316L THICK PLATE	6/14/23 11:10	20
	Zeng Chen	University of Bristol, United Kingdom of Great Britain and Northern Ireland	APPLICATION OF A NOVEL UNIFIED PARAMETER ON CHARACTERIZING IN-PLANE AND OUT-OF-PLANE CRACK-TIP CONSTRAINTS FOR AL7075 T651 SEN(B) SPECIMENS	6/14/23 11:30	20
	Zeljko Bozic	University of Zagreb, Croatia	FRACTURE MODELLING AND ANALYSIS OF MULTIPLE SITE CRACKS IN PLATES UNDER LATERAL PRESSURE	6/14/23 11:50	20

Symposium 2: JoDean Morrow & Paul Paris Memorial Symposium on Fatigue & Fracture
Organizers: Huseyin Sehitoglu, Petros Sofronis, Carmine Maletta, and John Landes
Location: Grand Ballroom B

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
M1 Monday, June 12, 10:30-12:30 Session Chair: Huseyin Sehitoglu	Carmine Maletta	University of Calabria, Rende, Italy	MULTIAXIAL FATIGUE BEHAVIOR OF SLM Ti6Al4V ALLOY: X-RAY COMPUTED M-TOMOGRAPHY ANALYSIS [Keynote]	6/12/23 10:30	40
	Rami Bouaziz	Czech Technical University, Prague, Czech Republic	BIAXIAL LOADING IMPACT ON FATIGUE CRACK PROPAGATION IN METALLIC MATERIALS	6/12/23 11:10	20
	Emiel Amsterdam	Royal NLR, Marknesse, Netherlands	BACK TO BASICS FOR THE FATIGUE CRACK GROWTH RATE IN METALLIC ALLOYS	6/12/23 11:30	20
	Fabien Briffod	The University of Tokyo, Japan	FATIGUE AND DWELL-FATIGUE BEHAVIOR OF A FORGED Ti-6Al-4V ALLOY INVESTIGATED BY HIGH-RESOLUTION DIGITAL IMAGE CORRELATION	6/12/23 11:50	20
	K. S. Ravi Chandran	University of Utah, Salt Lake City, United States of America	A DIRECT APPROACH TO FATIGUE CRACK GROWTH UNDER LARGE SCALE PLASTICITY (PRESENTATION IN HONOR OF JODEAN MORROW, UNIVERSITY OF ILLINOIS)	6/12/23 12:10	20
M2 Monday, June 12, 14:00-16:00 Session Chair: Carmine Maletta	Hans-Jürgen Christ	Universität Siegen, Germany	EFFECT OF DYNAMIC EMBRITTLEMENT ON FATIGUE CRACK PROPAGATION MECHANISM AND CRACK GROWTH RATE IN IN718 [Keynote]	6/12/23 14:00	40
	Pengxu Ren	Kyushu University, Fukuoka, Japan	FATIGUE CRACK EXTENSION MODE OF 18%Ni MARTENSITIC STEEL	6/12/23 14:40	20
	Shigeru Hamada	Kyushu University, Nishi-ku Fukuoka, Japan	DAMAGE ACCUMULATION MODE FATIGUE CRACK PROPAGATION AND PROPAGATION BEHAVIOR PREDICTION METHOD	6/12/23 15:00	20
	Kishore Appunhi Nair	Johns Hopkins University, Baltimore, Maryland, United States of America	CRACK TIP ENHANCED CRYSTAL PLASTICITY PHASE FIELD MODEL FOR CRACK PROPAGATION IN Ti64 ALLOYS	6/12/23 15:20	20
	Ayhan Ince	Concordia University, Montreal, Quebec, Canada	A GENERALIZED TWO-PARAMETER DRIVING FORCE MODEL FOR SHORT AND LONG FATIGUE CRACK PROPAGATION	6/12/23 15:40	20
M3 Monday, June 12, 16:30-18:00 Session Chair: Hans-Jürgen Christ	Thierry Palin-Luc	Arts et Metiers Institute of Technology, Talence, France	INFRARED TEMPERATURE MEASUREMENT AND X-RAY TOMOGRAPHY FOR INTERNAL FATIGUE CRACK MONITORING DURING ULTRASONIC FATIGUE TESTS [Keynote]	6/12/23 16:30	30
	Zeineb Meskine	Safran Tech, France	THERMO-MECHANICAL FATIGUE CRACK GROWTH INVESTIGATION FOR CAST AUSTENITIC STAINLESS STEEL	6/12/23 17:00	20
	Ting Zhu	Georgia Institute of Technology, Atlanta, Georgia, United States of America	CRYSTAL PLASTICITY MODELING OF FATIGUE CRACK GROWTH IN STAINLESS STEEL	6/12/23 17:20	20
	Longguan Jin	Korea University, Seoul, Korea (Republic of)	DEVELOPMENT OF THE NOVEL MIXED MODE ULTRASONIC FATIGUE TEST SYSTEM BASED ON FREQUENCY RESPONSE FUNCTION AND DYNAMIC MODAL ANALYSIS	6/12/23 17:40	20

Symposium 2: JoDean Morrow & Paul Paris Memorial Symposium on Fatigue & Fracture
Organizers: Huseyin Sehitoglu, Petros Sofronis, Carmine Maletta, and John Landes
Location: Grand Ballroom B

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Tu1 Tuesday, June 13, 10:30-12:30 Session Chair: K. S. Ravi Chandran	Fabien Szymtka	ENSTA Paris Institut Polytechnique de Paris, IMSIA, Palaiseau, France	CONSTITUTIVE MODELING OF ALLOYS UNDER HIGH TEMPERATURE LOW-CYCLE AND THERMAL- MECHANICAL FATIGUE: A KEY ISSUE IN COMPONENT DESIGN [Keynote]	6/13/23 10:30	40
	Yongming Liu	Arizona State University, Tempe, AZ, United States of America	FATIGUE ANALYSIS WITHOUT CYCLE COUNTING: SUBCYCLE FATIGUE CRACK GROWTH AND EQUIVALENT INITIAL FLAW SIZE MODEL	6/13/23 11:10	20
	Masahiro Takanashi	IHI Corporation, Yokohama, Kanagawa, Japan	PROPOSAL OF FATIGUE DESIGN METHOD FOR STRUCTURAL DISCONTINUITES CONSIDERING STRESS GRADIENT	6/13/23 11:30	20
	Amir Abdelmawla	Iowa State University, Ames, United States of America	EFFECT OF PRE-ACCUMULATED PLASTIC STRAIN ON STRESS CORROSION CRACKING AND FATIGUE LIFE OF STEELS; EXPERIMENT AND MODELING	6/13/23 11:50	20
Tu2 Tuesday, June 13, 14:00-16:00 Session Chair: Richard Neu	Ulrich Krupp	RWTH Aachen University, Aachen, Germany	MONITORING FATIGUE DAMAGE IN HYPOEUTECTIC AL-SI CASTINGS WITH VARYING MICROSTRUCTURE CHARACTERISTICS [Keynote]	6/13/23 14:00	30
	André Carvalho	State University of Ponta Grossa, PR, Brazil	CRYSTALLOGRAPHIC ORIENTATION ANALYSIS OF FATIGUE CRACK SURFACE FROM AA7050 SAMPLES WITH MULTI-STAGE AGING TREATMENTS	6/13/23 14:30	20
	Luca Patriarca	Politecnico di Milano, Italy	ORIENTATION-DEPENDENT FATIGUE ASSESSMENT OF Ti6Al4V MANUFACTURED BY L-PBF	6/13/23 14:50	20
	Wael Abuzaid	American University of Sharjah, United Arab Emirates	FUNCTIONAL FATIGUE PROPERTIES OF TiNiZrSn BIOCOMPATIBLE SHAPE MEMORY ALLOY	6/13/23 15:10	20
W1 Wednesday, June 14, 10:30-12:30 Session Chair: Luca Patriarca	Wenyi Yan	Monash University, Clayton, Victoria, Australia	NUMERICAL ANALYSIS OF ROLLING CONTACT FATIGUE CRACK GROWTH ON CURVED RAILWAY TRACKS	6/14/23 10:30	20
	Abdalrhaman Koko	University of Oxford, United Kingdom of Great Britain and Northern Ireland	FATIGUE TESTING FOR COATINGS: A SYSTEMATIC APPROACH USING MICRO-IMPACT TESTING ON TIN	6/14/23 10:50	20
	Ming Dao	Massachusetts Institute of Technology, Cambridge, MA, United States of America	FATIGUE OF HUMAN RED BLOOD CELLS IN HEALTH AND DISEASE	6/14/23 11:10	20

Symposium 3: Fracto-emissions in Structural and Seismic Monitoring
Organizers: Alberto Carpinteri and Giuseppe Lacidogna
Location: Grand Ballroom C

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
M1 Monday, June 12, 10:30-12:30 Session Chair: Giuseppe Lacidogna, Politecnico di Torino, Turin, Italy	Alberto Carpinteri	Politecnico di Torino, Italy	GYPSUM AND QUARTZ SPECIMENS IN COMPRESSION FAILURE: FRACTO-EMISSIONS AND RELATED STOICHIOMETRIC BALANCES [Keynote]	6/12/23 10:30	40
M2 Monday, June 12, 14:00-16:00 Session Chair: Dimitrios Aggelis, Vrije Universiteit Brussel, Brussels, Belgium	Tomoki Shiotani	Kyoto University, Katsura Campus, Nishikyo-Ku, Kyoto, Japan	INTEGRATION OF ELASTIC WAVE VELOCITY INTO BIM OF DAM FACILITY [Keynote]	6/12/23 14:00	40
	Manabu Enoki	The University of Tokyo, Bunkyo-ku, Tokyo, Japan	STRUCTURAL HEALTH MONITORING OF FATIGUE BEHAVIOR FOR TI ALLOYS BY DATA ASSIMILATION OF AE	6/12/23 14:40	20
	Nicolas Ospitia	Vrije Universiteit Brussel, Department of Mechanics of Materials and Constructions, Belgium	ACOUSTIC EMISSION AND ELECTROMAGNETIC MONITORING OF THIN TRC SANDWICH COMPOSITES IN BENDING	6/12/23 15:00	20
	Vidya Sagar Remalli	Indian Institute of Science, Bangalore, Karnataka, India	APPLICATION OF ACOUSTIC EMISSION TESTING IN ORDER TO UNDERSTAND MODE I FRACTURE PROCESS IN STEEL FIBRE REINFORCED CONCRETE	6/12/23 15:20	20
	Vimalathithan Paramsamy Kannan	Politecnico di Bari, Italy	INVESTIGATION OF THE MECHANICAL PERFORMANCE OF THE UNSATURATED POLYESTER/CENOSPHERE SYNTACTIC FOAMS USING ACOUSTIC EMISSION TECHNIQUE	6/12/23 15:40	20
M3 Monday, June 12, 16:30-18:00 Session Chair: Tomoki Shiotani, Kyoto University, Katsura Campus, Nishikyo-Ku, Kyoto, Japan	Dimitrios Aggelis	Department of Mechanics of Materials and Constructions, Vrije Universiteit Brussel, Brussels, Belgium	RECENT ADVANCES IN ULTRASOUND MONITORING OF CRACKING AND SELF-HEALING OF CONCRETE [Keynote]	6/12/23 16:30	40
	Giuseppe Lacidogna	Politecnico di Torino, Italy	EXPERIMENTAL ANALYSIS BY ACOUSTIC EMISSION ON FULL-SCALE PC DECK BEAMS AFTER 50 YEARS OF SERVICE [Keynote]	6/12/23 17:10	30

Symposium 4: Brittle Fracture: 100 years After Publication of Griffith's Theory
Organizers: Claudio Ruggieri and Laszlo Toth
Location: Grand Ballroom C

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Th1 Thursday, June 15, 10:30-12:30 Session Chair: Prof. Claudio Ruggieri, University of Sao Paulo	Claudio Ruggieri	University of Sao Paulo USP, Brazil	REVISITING LOCAL APPROACHES TO CLEAVAGE FRACTURE: AN OVERVIEW OF PROGRESS AND CHALLENGES FOR ENGINEERING-LEVEL APPLICATIONS	6/15/23 10:30	20
	Tamás Fekete	Centre for Energy Research, Budapest, Hungary	EVOLUTION OF GRIFFITH'S CONCEPT FROM 1921 TO THE PRESENT	6/15/23 10:50	20
	K. S. Ravi Chandran	University of Utah, Salt Lake City, United States of America	GRIFFITH FRACTURE THEORY FOR THE SIZE EFFECT ON STRENGTH OF BRITTLE MATERIALS	6/15/23 11:10	20
	Mitsuru Ohata	Graduate School of Engineering, Osaka University, Osaka, Japan	LOCAL APPROACH TO CORRELATE CLEAVAGE FRACTURE TOUGHNESS WITH MICROSTRUCTURE OF STEEL	6/15/23 11:30	20
	Dov Sherman	Tel-Aviv University, Tel-Aviv, Israel	MACRO CLEAVAGE ENERGY TO MICRO BOND BREAKING MECHANISMS-SHORTER IS TOUGHER	6/15/23 11:50	20
	Praveen Kumar	Indian Institute of Science, Bangalore, India	FAILURE OF THERMALLY SPRAYED 7YSZ COATINGS UNDER CYCLIC BENDING	6/15/23 12:10	20
Th2 Thursday, June 15, 14:00-16:00 Session Chair: Prof. Mitsuru Ohata, Osaka University	Kazuma Shimizu	Osaka University, Osaka, Japan	NEW MODEL FOR BRITTLE FRACTURE ASSESSMENT UNDER COMBINED STRESS FIELD BASED ON THE LOCAL APPROACH	6/15/23 14:00	20
	Daniela V. Klein	KTH Royal Institute of Technology, Stockholm, AB, Sweden	INFLUENCE OF HETEROGENEITY ON FAILURE PROBABILITY BASED ON WEAKEST LINK MODELING	6/15/23 14:20	20
	Regis Kenko	Mines Paris, PSL University, Centre for Material Sciences (MAT), Paris, France	STATISTICAL SIMULATION OF FRACTURE TOUGHNESS IN SEGREGATED RPV STEEL USING DEEP-LEARNING-BASED RANDOM FIELD GENERATION AND HIGH-FIDELITY FEA MODELING	6/15/23 14:40	20
	Jacques Besson	Mines Paris PSL -- Centre des Matériaux --- CNRS UMR 7633, Corbeil Essonnes, France	USING MIXED FINITE ELEMENTS AND REMESHING TO ASSESS BRITTLE FAILURE USING THE BEREMIN MODEL	6/15/23 15:00	20
	Jacques Besson	EDF R&D, Moret-sur-Loing-Orvanne 77250, France	COUPLING OF A GRADIENT-ENHANCED GTN MODEL TO THE BEREMIN MODEL FOR THE SIMULATION OF DUCTILE-TO-BRITTLE TRANSITION	6/15/23 15:20	20
	George Gazonas	CCDC Army Research Laboratory, Aberdeen Proving Ground, Maryland, United States of America	PERIDYNAMIC MODELING OF DYNAMIC FRACTURE OF B4C IN A SPLIT-HOPKINSON PRESSURE BAR	6/15/23 15:40	20
Th3 Thursday, June 15, 16:30-18:00 Session Chair: Prof. Jacques Besson, Mines ParisTech -- Centre des Matériaux	Claudio Ruggieri	University of Sao Paulo USP, Brazil	DUCTILE-BRITTLE TRANSITION FRACTURE MODE AND THE OCCURRENCE OF ABNORMAL FRACTURE APPEARANCE IN X65 Q & T SEAMLESS PIPELINE STEEL	6/15/23 16:30	20
	Xian-Kui Zhu	Savannah River National Lab, Aiken, South Carolina, United States of America	ANALYTICAL SOLUTION OF CMOD COMPLIANCE FOR SINGLE EDGE NOTCHED TENSION SPECIMENS IN END-CLAMPED CONDITIONS	6/15/23 16:50	20
	Barna Szabo	Engineering Software Research and Development Inc., Chesterfield, United States of America	PREDICTORS OF CRACK PROPAGATION	6/15/23 17:10	20
	Nagamani Jaya Balila	Indian Institute of Technology, Bombay, Mumbai, India	NOVEL BENDING BASED METHODS FOR INTERFACE FRACTURE ENERGY MEASUREMENT OF THERMAL SPRAY COATINGS	6/15/23 17:30	20

Symposium 4: Brittle Fracture: 100 years After Publication of Griffith's Theory
Organizers: Claudio Ruggieri and Laszlo Toth
Location: Grand Ballroom C

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
F1 Friday, June 16, 10:30-12:30	Yuri Petrov	St.-Petersburg State University & RAS Inst Probl Mech Engng, St.-Petersburg, Russian Federation	AN ANALOGY IN FRACTURE DYNAMICS: CRACKS AS OSCILLATORS	6/16/23 10:30	20
Session Chair: Christos Athanasiou, Georgia Tech	Christos Athanasiou	Georgia Tech, Atlanta, United States of America	OPERANDO EXPERIMENTS TO CHARACTERISE BRITTLE FRACTURE- LIKE EVENTS IN CERAMIC ELECTROLYTES VIA PHOTOELASTICITY	6/16/23 11:10	20

Symposium 5: Hydrogen Embrittlement and Environmentally Assisted Cracking
Organizers: Jesus Toribio, Chris San Marchi, and Joseph Ronevich
Location: Grand Ballroom C

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Tu1 Tuesday, June 13, 10:30-12:30	James Burns	University of Virginia, Charlottesville, United States of America	EXPLORING THE PHNOMENOLOGY AND GOVERNING MECHANISMS FOR THE LOADING RATE DEPENDENCE OF ENVIRONMENTALLY ASSISTED CRACKING IN STRUCTURAL ALLOYS	6/13/23 10:30	20
	Chris San Marchi	Sandia National Laboratories, Livermore, California, United States of America	COMPARISON OF LINEAR-ELASTIC FRACTURE AND ELASTIC-PLASTIC FRACTURE OF FERRITIC STEELS IN GASEOUS HYDROGEN	6/13/23 10:50	20
	Laura De Pue	Ghent University, Belgium	HYDROGEN EMBRITTEMENT SUSCEPTIBILITY OF L485MB PIPELINE STEEL AND WELD THROUGH TENSILE TESTING WITH DIFFERENT STRESS TRIAXIALITIES	6/13/23 11:10	20
	Luciano Santana	Centre des Matériaux, MINES Paris, CNRS UMR 7633, PSL Research University, France	REVISITING THE DISC TEST METHOD FOR THE STUDY OF HYDROGEN EMBRITTEMENT IN STEEL	6/13/23 11:30	20
	Joseph Ronevich	Sandia National Laboratories, Livermore, California, United States of America	EFFECTS OF TESTING RATE ON HYDROGEN-ASSISTED FRACTURE OF FERRITIC STEELS	6/13/23 11:50	20
Tu2 Tuesday, June 13, 14:00-16:00	Byoung-Ho Choi	Korea University, Seoul, Korea (Republic of)	MODELING OF STRESS CORROSION CRACK INITIATIONS OF POLYETHYLENE PIPE TRANSPORTING CHLORINATED WATER	6/13/23 14:00	20
	Michal Sedlak Mosesson	Royal Institute of Technology KTH, Stockholm, Sweden	MODELING OF INTERGRANULAR STRESS CORROSION CRACKING MECHANISM THROUGH COUPLING OF SLIP-OXIDATION AND COHESIVE ZONE MODEL	6/13/23 14:20	20
	Gustavo Castelluccio	Cranfield University, Bedfordshire, United Kingdom of Great Britain and Northern Ireland	INTEGRATED MODELING OF STRESS CORROSION CRACKING IN SUPERALLOYS	6/13/23 14:40	20
	Kuo Yuan	University of Bristol, United Kingdom of Great Britain and Northern Ireland	IN-SITU CORROSION SMALL PUNCH TEST ON STRESS CORROSION CRACKING WITH DIGITAL IMAGE CORRELATION	6/13/23 15:00	20
	Vivek Vishwakarma	Indian Institute of Technology Roorkee, India	COUPLED CORROSION AND FATIGUE EFFECTS IN REINFORCED CEMENT CONCRETE MEMBERS USING MULTI-PHYSICS APPROACH	6/13/23 15:20	20

Symposium 5: Hydrogen Embrittlement and Environmentally Assisted Cracking
Organizers: Jesus Toribio, Chris San Marchi, and Joseph Ronevich
Location: Grand Ballroom C

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
W1 Wednesday, June 14, 10:30-12:30	David Mittermayr	Institute of Polymeric Materials and Testing, Johannes Kepler University Linz, Linz / Upper Austria, Austria	ENVIRONMENTAL STRESS CRACKING RESISTANCE OF HIPS UNDER CYCLIC LOADING USING CRACKED ROUND BAR SPECIMENS	6/14/23 10:30	20
	John Emery	Sandia National Laboratories, Cumberland, ME, United States of America	FATIGUE DESIGN SENSITIVITIES OF STATIONARY TYPE 2 HIGH-PRESSURE HYDROGEN VESSELS	6/14/23 10:50	20
	T.E.F. Silva	INEGI, Porto, Portugal	MECHANICAL CHARACTERIZATION AND DEFECT ANALYSIS OF NATURAL GAS PIPELINE STEEL TOWARDS HYDROGEN INJECTION	6/14/23 11:10	20
	Robert Wheeler	Sandia National Laboratories, Livermore, California, United States of America	SUBCRITICAL CRACK GROWTH IN HIGH-PRESSURE HYDROGEN AND HYDROGEN WITH OXYGEN IMPURITY	6/14/23 11:30	20
	Kaushik Kethamukkala	Arizona State University, Tempe, Arizona, United States of America	CRACK GROWTH-BASED FATIGUE LIFE PREDICTION FOR AGING PIPELINE STEEL IN HYDROGEN WITH PRE-EXISTING CORROSION	6/14/23 11:50	20
W2 Wednesday, June 14, 14:00-16:00	Toshihito Ohmi	Shonan Institut of Technology, Fujisawa, Kanagawa, Japan	NUMERICAL ANALYSIS OF HYDROGEN DIFFUSION AROUND THE NOTCH UNDER CYCLIC LOADING WITH AN OVERLOAD	6/14/23 14:00	20
	Mingjie Zhao	Cornell University, Ithaca, New York, United States of America	MATERIAL DISSOLUTION AT THE CRACK TIP	6/14/23 14:20	20
	Akinobu Shibata	National Institute for Materials Science, Tsukuba, Japan	THREE-DIMENSIONAL ANALYSIS ON HYDROGEN-RELATED INTERGRANULAR CRACK PROPAGATION IN MARTENSITIC STEEL	6/14/23 14:40	20
	Scott Grutzik	Sandia National Laboratories, Albuquerque, New Mexico, United States of America	EFFECTS OF CRACK TIP STRESS RELAXATION ON SUBCRITICAL CRACK GROWTH IN SILICATE GLASSES: THRESHOLD AND STOCHASTICITY	6/14/23 15:00	20
	Daniella Lopes Pinto	Centre des Matériaux, Mines Paris, PSL Research University / Transvalor S.A., Paris, France	MODELING OF HYDROGEN EMBRITTLMENT USING MIXED NONLOCAL FINITE ELEMENTS	6/14/23 15:20	20
W3 Wednesday, June 14, 16:30-18:00	David Lindblom	KTH Royal Institute of Technology, Stockholm, Sweden	IN-SITU NEUTRON IMAGING AND MODELING OF HYDROGEN EMBRITTLMENT IN HIGH STRENGTH STEELS	6/14/23 16:30	20
	Rama Srinivas Varanasi	Institute for Materials Research, Tohoku University, Sendai, Miyagi, Japan	HYDROGEN EMBRITTLMENT BEHAVIOR OF A 1.5 GPA CLASS DUAL-PHASE STEEL	6/14/23 16:50	20
	Pierrick Francois	CEA Saclay / MINES Paris, France	FRACTURE TOUGHNESS OF ZIRCALOY-4 CLADDING IN CASE OF DELAYED HYDRIDE CRACKING	6/14/23 17:10	20

Symposium 6: Microstructures and Fracture in Advanced Materials
Organizers: Tong-Yi Zhang, Chad Landis, Weiqiu Chen, Ralf Müller, and Jie Wang
Location: Grand Ballroom A

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
W2 Wednesday, June 14, 14:00-16:00 Session Chairs: Tong-Yi Zhang & Aidin Barabi	Chad Landis	University of Texas at Austin, United States of America	CRACK TIP TRANSFORMATION ZONE MORPHOLOGY IN SMA MATERIALS WITH TRANSFORMATION SOFTENING [Keynote]	6/14/23 14:00	40
	Aidin Barabi	Polytechnique Montreal, Quebec, Canada	EFFECT OF STRAIN RATE AND REFORMED AUSTENITE ON MECHANICAL PROPERTIES OF AISI 415 STAINLESS STEEL	6/14/23 14:40	20
	Yabin Yan	East China University of Science and Technology, Shanghai, China	FROM CONTINUUM TO QUANTUM MECHANICS STUDY ON THE FRACTURE OF NANOSCALE NOTCHED BRITTLE MATERIALS	6/14/23 15:00	20
	Felix Bödeker	Technische Hochschule Mittelhessen, Gießen, Germany	MICROMECHANICAL MODELING OF THE FRACTURE PROCESS IN ADVANCED METAL SANDWICH PLATES USING FFT-BASED HOMOGENIZATION	6/14/23 15:20	20
	Luc Bremaud	I2M / CEA / 3SR, Bordeaux, Gironde / Le Barp, Gironde / Saint Martin d'Hères, Auvergne-Rhône-Alpes, France	NUMERICAL MODELING OF SPALLING PHENOMENON ON ALUMINA BY DISCRETE ELEMENT METHOD.	6/14/23 15:40	20
W3 Wednesday, June 14, 16:30-18:00 Session Chairs: Chad Landis & Kaikai Li	Jie Wang	Zhejiang University, Hangzhou, Zhejiang, China	THE JUMPING DIELECTRIC BREAKDOWN BEHAVIOR INDUCED BY CRACK PROPAGATION IN FERROELECTRIC MATERIALS: A PHASE FIELD STUDY [Keynote]	6/14/23 16:30	30
	Luis Llanes	CIEFMA - Universitat Politècnica de Catalunya - BarcelonaTechCIEFMA -, Barcelona, Spain	TOUGHNESS AND FATIGUE CRACK GROWTH MECHANISMS OF WC-CO CERAMIC-METAL COMPOSITES: A COMPARATIVE STUDY USING CONTROLLED SMALL INDENTATION FLAWS AND LONG THROUGH-THICKNESS CRACKS	6/14/23 17:00	20
	Kenneth Liechti	University of Texas Austin, United States of America	HIGH QUALITY GROWTH AND ADHESION ENERGY MEASUREMENT OF BILAYER GRAPHENE ON SAPPHIRE	6/14/23 17:20	20
Th1 Thursday, June 15, 10:30-12:30 Session Chairs: Weiqiu Chen & Dong Li	Xiangyu Li	Southwest Jiaotong University, PR ChinaChengdu, Sichuan, China	FRACTURE OF 2D RANDOM POROUS MEDIA PHASE FIELD MODELING AND MACHINE LEARNING [Keynote]	6/15/23 10:30	30
	Dong Li	Nanyang Technological University, Singapore	ADVANCES IN NECKING-ASSISTED CONTROLLED FRAGMENTATION BY COMPOSITE COLD DRAWING [Keynote]	6/15/23 11:00	30
	Manon Lenglet	ONERA/MINES Paris, PSL University, Châtillon, France	FATIGUE DAMAGE MODELLING OF ALUMINIUM ALLOY POLYCRYSTALS CONTAINING INTERMETALLIC PHASES	6/15/23 11:30	20
Th2 Thursday, June 15, 14:00-16:00 Session Chairs: Ralf Mueller & Sergey Kozinov	Hongjun Yu	Harbin Institute of Technology, Harbin, Heilongjiang, China	I-INTEGRAL FOR MAGNETO-ELECTRO-ELASTIC MATERIALS WITH RESIDUAL STRAIN [Keynote]	6/15/23 14:00	30
	S Arjun Sreedhar	Indian Institute of Science, Bangalore, India	EFFECT OF TEMPERATURE ON THE MODE I FRACTURE BEHAVIOR OF A ROLLED MAGNESIUM ALLOY	6/15/23 14:30	20
	Xiaoguang Yang	Beihang University, Beijing, China	SMALL CRACK GROWTH BEHAVIORS AND CLOSURE EFFECTS IN A NICKEL-BASE POWDER METALLURGY SUPERALLOY AT HIGH TEMPERATURE	6/15/23 14:50	20
	Mohamed Sadek	Karlstad University, Karlstad, Sweden	20 KHZ CRACK GROWTH RATE TESTING IN ADVANCED HIGH STRENGTH TOOL STEELS	6/15/23 15:10	20

Symposium 6: Microstructures and Fracture in Advanced Materials
Organizers: Tong-Yi Zhang, Chad Landis, Weiqiu Chen, Ralf Müller, and Jie Wang
Location: Grand Ballroom A

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Th3 Thursday, June 15, 16:30-18:00 Session Chairs: Jie Wang & Yabin Yan	Sergey Kozinov	Ruhr University Bochum, Germany	MIXED FINITE ELEMENT METHOD FOR FRACTURE MODELING OF PIEZO- AND FERROELECTRIC MATERIALS WITH STRAIN GRADIENTS (FLEXOELECTRICITY) [Keynote]	6/15/23 16:30	30
	Yangqin Guo	Southwest Jiaotong University, PR China, Chengdu, China	THE INFLUENCE OF FLEXOELECTRIC EFFECT ON THE DOMAIN STRUCTURE AND FRACTURE TOUGHNESS OF FERROELECTRIC MATERIALS	6/15/23 17:00	20
	Ashraf Bastawros	Iowa State University, Ames, United States of America	CHARACTERIZATION OF ICE ADHESION: MODES OF LOADING AND MICROSTRUCTURE	6/15/23 17:40	20
F1 Friday, June 16, 10:30-12:30 Session Chairs: Xiangyu Li & Hongjun Yu	Bingbing Hao	Harbin Institute of Technology, Harbin, China	HOW DOES THE CRACK VELOCITY AFFECT THE CRACK FRONT DEFORMATION AND THE EFFECTIVE TOUGHNESS IN HETEROGENEOUS MATERIAL?	6/16/23 10:30	20
	Sophie Schackert	Fraunhofer Institute for Mechanics of Materials IWM, Freiburg, Germany	GROWTH AND COALESCENCE OF MULTIPLE CRACKS - EXPERIMENTS AND FRACTURE MECHANICS BASED MODEL	6/16/23 10:50	20
	Martina Prof. Zimmermann	TU Dresden, Germany	CHARACTERIZATION OF THE DAMAGE TOLERANCE OF NANODESIGNED COATINGS BASED ON HIGH ENTROPY ALLOYS	6/16/23 11:10	20
	Boyu Pan	RWTH Aachen University, Aachen, Germany	A HYBRID EXPERIMENTAL AND NUMERICAL INVESTIGATION ON THE FRACTURE PROPERTIES OF ZIRCONIUM WITH MAX PHASE COATINGS COVERING A WIDE RANGE OF STRESS STATES	6/16/23 11:30	20

Symposium 7: Fracture in Large Scale Metallic Infrastructure: Advances, Challenges, and Opportunities
Organizers: Amit Kanvinde and Xudong Qian
Location: Dogwood A

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
W1 Wednesday, June 14, 10:30-12:30	Gregory Deierlein	Stanford University, Stanford, California, United States of America	TOWARDS PRACTICAL SIMULATION OF STEEL FRACTURE IN STRUCTURAL AND EARTHQUAKE ENGINEERING APPLICAITONS [Keynote]	6/14/23 10:30	40
	Surajit Dey	North Dakota State University, Fargo, North Dakota, United States of America	MICROVOID CHARACTERISTICS AT FRACTURE IN ASTM A992 STEEL UNDER MONOTONIC AND ULTRA-LOW CYCLE FATIGUE LOADING	6/14/23 11:10	20
	Zucheng Yao	Tongji University, Shanghai, China	DUCTILE FRACTURE OF LOW-YIELD-POINT STEEL UNDER DIFFERENT STRESS STATED	6/15/23 10:30	20
	Amit Kanvinde	University of California Davis, United States of America	MULTISCALE SIMULATION OF STRUCTURAL WELDMENTS	6/15/23 10:50	20
W2 Wednesday, June 14, 14:00-16:00	Sudip Talukdar	Indian Institute of Technology Guwahati, India	FATIGUE LIFE ASSESSMENT OF A TRUSS GIRDER BRIDGE USING LINEAR FRACTURE MECHANICS APPROACH	6/14/23 14:00	20
	Liuyang Feng	National University of Singapore	ENHANCED REAL TIME FATIGUE CRACK MONITORING AND UPDATING IN WELDED STRUCTURAL COMPONENTS	6/14/23 14:20	20
	Kevin Koch	Technische Universität Bergakademie Freiberg, Germany	EFFECT OF NON-METALLIC INCLUSIONS ON THE FRACTURE TOUGHNESS OF 42CRMO4 STEEL IN THE DUCTILE-BRITTLE TRANSITION RANGE	6/14/23 14:40	20
	Bohan Li	Tongji University, Shanghai, China	LOW-CYCLE FATIGUE ANALYSIS OF ALUMINUM ALLOY GUSSET JOINTS AND LATTICED SHELL BASED ON CONTINUUM DAMAGE MECHANICS	6/14/23 15:00	20
	Tamilselvan Nambirajan	Indian Institute of Technology, Roorkee, India	MODELLING OF PLASTICITY AND DUCTILE FRACTURE FOR LOW TO MEDIUM INDIAN STRUCTURAL STEEL GRADES	6/14/23 15:20	20
W3 Wednesday, June 14, 16:30-18:00	Weichen Kong	Tsinghua University, Beijing, China	THE TIP FIELDS OF SHARP V-NOTCH UNDER CREEPING CONDITION CONSIDERING OUT-OF-PLANE EFFECT	6/14/23 16:30	20
	Xian-Kui Zhu	Savannah River National Lab, Aiken, South Carolina, United States of America	CONSTANT CTOA DETERMINATION FOR STABLE DUCTILE CRACK GROWTH AND ITS APPLICATION TO RUNNING FRACTURE CONTROL FOR GAS TRANSMISSION PIPELINE	6/14/23 16:50	20
	Francois Churlaud	AEF, SNCF, Massy, France	FAILURE ANALYSIS AND RESIDUAL LIFE ESTIMATION USING A MIXED METHOD OF X-RAY FRACTOGRAPHY AND SIMULATION	6/14/23 17:10	20

Symposium 7: Fracture in Large Scale Metallic Infrastructure: Advances, Challenges, and Opportunities
Organizers: Amit Kanvinde and Xudong Qian
Location: Dogwood A

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Th1 Thursday, June 15, 10:30-12:30	Robert Dodds	University of Illinois at Urbana-Champaign, United States of America	WARP3D: OPEN SOURCE SOFTWARE FOR 3D NONLINEAR FRACTURE MECHANICS [Keynote]	6/15/23 10:30	40
	Timothy Truster	University of Tennessee, Knoxville, United States of America	ASSESSING UNCERTAINTY IN CREEP LIFE OF GRADE 91 STEEL USING CRYSTAL PLASTICITY AND GRAIN BOUNDARY MICROSTRUCTURAL MODELS	6/15/23 11:10	20
	Greg Thorwald	Quest Integrity, Boulder, Colorado, United States of America	3-D CRACK MODELING CASE STUDIES FOR FITNESS-FOR-SERVICE ASSESSMENT USING WARP3D AND FEACRACK	6/15/23 11:30	20
	Huck Beng Chew	University of Illinois Urbana-Champaign, United States of America	CRACK-DEFECT INTERACTIONS IN ADDITIVELY MANUFACTURED TI-6AL-4V: DUAL SCALE POROSITY MODELLING USING WARP3D	6/15/23 11:50	20
Th2 Thursday, June 15, 14:00-16:00	Xudong Qian	National University of Singapore	A NODE RELEASE APPROACH TO CALIBRATE COHESIVE PROPERTIES FOR FRACTURE SPECIMENS AND WELDED PLATE CONNECTIONS	6/15/23 14:00	20
	Claudio Ruggieri	University of Sao Paulo, SP, Brazil	3-D CONSTRAINT EFFECTS IN SUBSIZE SE(B) SPECIMENS OF NFA-14YWT WITH TRANSVERSE DELAMINATION	6/15/23 14:20	20
	Brian Leitch	Canadian Nuclear Laboratories, Chalk River, Ontario, Canada	WARP3D AT CANADIAN NUCLEAR LABORATORIES	6/15/23 14:40	20
	Bruce Williams	CanmetMATERIALS, Natural Resources Canada, Hamilton, Ontario, Canada	PIPE RUPTURE SIMULATIONS FOR TWO-PHASE CO ₂ -MIXTURE	6/15/23 15:00	20
	Frederick (Bud) Brust	Engineering Mechanics Corporation of Columbus, Ohio, United States of America	VFT COMPUTATIONAL WELD MODELING CODE ADAPTED TO WARP3D: PROBLEMS OF CRACK GROWTH AND FRACTURE IN RESIDUAL STRESS FIELDS	6/15/23 15:20	20
	Andy Ziccarelli	North Carolina State University, Raleigh, North Carolina, United States of America	DEVELOPMENT AND VALIDATION OF A COMPUTATIONAL FRAMEWORK TO SIMULATE DUCTILE CRACK PROPAGATION IN STEEL STRUCTURES DUE TO ULTRA-LOW CYCLE FATIGUE USING WARP3D	6/15/23 15:40	20
Th3 Thursday, June 15, 16:30-18:00	Yiping Wu	Monash University, Melbourne, Victoria, Australia	MIXED MODE FATIGUE CRACK GROWTH BEHAVIOUR UNDER MICROSTRUCTURAL VARIATION IN FLASH-BUTT WELDS	6/15/23 16:30	20
	Enrico Lucon	National Institute of Standards and Technology, Boulder, Colorado, United States of America	FRACTURE TOUGHNESS CHARACTERIZATION OF 316L STAINLESS STEEL WELDED PLATES AT LIQUID NITROGEN (77 K) AND LIQUID HELIUM (4 K) TEMPERATURES	6/15/23 16:50	20
	Alireza Zangouie	University of Saskatchewan, Saskatoon, Canada	EFFECT OF BOLT PRELOAD ON FRETTING FATIGUE BEHAVIOUR OF DOUBLE LAP BOLTED JOINTS WITH CLASS B SURFACE FINISH IN HIGH-CYCLE FATIGUE: EXPERIMENTAL AND NUMERICAL INVESTIGATION.	6/15/23 17:10	20

Symposium 8: Beyond Similitude: Role of Multiscale Heterogeneity in Fracture Prognosis
Organizers: Ashley Spear and Gustavo Castelluccio
Location: Walnut

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Tu1 Tuesday, June 13, 10:30-12:30 Session Chair: Gustavo Castelluccio	Reinhard Pippan	Austrian Academy of Sciences, Leoben, Austria	SIMILITUDE A BASIC CORNERSTONE FOR THE ANALYSES OF CRACK PROPAGATION [Keynote]	6/13/23 10:30	40
	Mark Jhon	Institute of High Performance Computing, Singapore	COMPETITION BETWEEN INTERGRANULAR AND TRANSGRANULAR FAILURE IN ALUMINUM ALLOY: EXPERIMENTS AND CRYSTAL PLASTICITY MODELING	6/13/23 11:10	20
	Vignesh Babu Rao	University of Utah, Salt Lake City, United States of America	USING DEEP LEARNING TO PREDICT MICROSTRUCTURALLY SMALL FATIGUE CRACK GROWTH PARAMETERS IN POLYCRYSTALLINE MATERIALS	6/13/23 11:30	20
	Takayuki Shiraiwa	The University of Tokyo, Japan	FORWARD AND INVERSE ANALYSIS OF TENSILE PROPERTIES OF DUAL-PHASE STEELS	6/13/23 11:50	20
Tu2 Tuesday, June 13, 14:00-16:00 Session Chair: Ashley Spear	Pania Newell	University of Utah, Salt Lake City, United States of America	INVESTIGATION OF HIERARCHICAL POROUS STRUCTURES USING PHASE-FIELD FRACTURE MODELING INFORMED BY MOLECULAR DYNAMICS SIMULATION [Keynote]	6/13/23 14:00	40
	Sailendu Biswal	Indian Institute of Technology Delhi, New Delhi, India	FRICTIONAL CRACK GROWTH INITIATION IN A NATURAL ORTHOTROPIC QUASI-BRITTLE SOLID	6/13/23 14:40	20
	Vincent Longchamp	University of Limoges - IRCER, CEA, Bordeaux, Nouvelle-Aquitaine, France	MICROSCALE DISCRETE ELEMENT SIMULATION OF SHOCK WAVE PROPAGATION IN PLASMA SPRAYED CERAMICS	6/13/23 15:00	20
	Martin Kroon	Linnaeus University, Växjö, Sweden	REGULARIZATION OF DAMAGE AND FAILURE USING A NON-LOCAL HARDENING VARIABLE IN AN EULERIAN FORMULATION OF INELASTICITY	6/13/23 15:20	20
	Laurent Ponson	Sorbonne Université, CNRS, Paris, France	UNRAVELING THE INTERMITTENCY OF DAMAGE EVOLUTION FOR PREDICTING THE FAILURE OF QUASI-BRITTLE SOLIDS	6/13/23 15:40	20
W1 Wednesday, June 14, 10:30-12:30 Session Chair: Gustavo Castelluccio	Leslie Banks-Sills	Tel Aviv University, Ramat Aviv, Israel	QUANTIFYING THE EFFECT OF FIBER BRIDGING ON MODE I QUASI-STATIC AND FATIGUE TESTING [Keynote]	6/14/23 10:30	40
	Swapnil Patil	Indian Institute of Technology Hyderabad, Kandi, India	ANALYSIS OF RIGID CURVED INCLUSION EMBEDDED IN A SOFT MATRIX: EXPERIMENTAL INSIGHTS	6/14/23 11:10	20
W2 Wednesday, June 14, 14:00-16:00 Session Chair: Ashley Spear	William Musinski	University of Wisconsin-Milwaukee, United States of America	EXAMINING SUB-GRAIN DRIVING FORCES FOR SMALL CRACK GROWTH [Keynote]	6/14/23 14:00	40
	Brian Phung	University of Utah, Salt Lake City, United States of America	PREDICTING MICROSTRUCTURALLY SENSITIVE FATIGUE-CRACK PATH IN WE43 MAGNESIUM USING HIGH-FIDELITY NUMERICAL MODELING AND THREE-DIMENSIONAL EXPERIMENTAL CHARACTERIZATION	6/14/23 14:40	20
	Gustavo Castelluccio	Cranfield University, Bedfordshire, United Kingdom of Great Britain and Northern Ireland	EFFECT OF LOCAL HETEROGENEITY ON FRACTURE DRIVING FORCES	6/14/23 15:00	20
	Glynn Gallaway	Purdue University, West Lafayette, Indiana, United States of America	CONSIDERATIONS ON THE R-CURVE OF HUMAN CORTICAL BONE	6/14/23 15:20	20

Symposium 9: Fatigue and Fracture of Additively Manufactured Materials
Organizers: Bo Chen, Nagaraja Iyyer, and Filippo Berto
Location: Grand Ballroom E

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Tu1 Tuesday, June 13, 10:30-12:30 Session Chair: Bo Chen	Ashley Spear	University of Utah, Salt Lake City, United States of America	PREDICTING MICROSTRUCTURE-SENSITIVE FRACTURE BEHAVIOR IN AM IN625 USING A DAMAGE-ENABLED ELASTO-VISCOPLASTIC FFT FRAMEWORK	6/13/23 10:30	20
	Alexander Caputo	Georgia Institute of Technology, Atlanta, Georgia, United States of America	EFFECTS OF PROCESS CONDITIONS AND MICROSTRUCTURE ON THE FATIGUE AND FRACTURE OF AM IN718 UNDER	6/13/23 10:50	20
	Jim Lua	Global Engineering and Materials, Inc., Princeton, United States of America	MICROSTRUCTURE-PROPERTY PREDICTIONS AND MULTISTAGE FATIGUE LIFE PREDICTION OF HOLE RESTORATION COUPONS USING AFSD	6/13/23 11:10	20
	Timo Brune	Technical University of Darmstadt, Hesse, Germany	SHORT CRACK GROWTH BEHAVIOR OF IN718 UNDER HIGH TEMPERATURE CONDITIONS IN CONSIDERATION OF PLASTICITY INDUCED CRACK CLOSURE	6/13/23 11:30	20
	Juan Carlos Nieto-Fuentes	Universidad Carlos III de Madrid, Leganes, Spain	MICROSTRUCTURALLY INFORMED HIGH-VELOCITY IMPACT EXPERIMENTATION ON ADDITIVELY-MANUFACTURED METALLIC MATERIALS	6/13/23 11:50	20
	Mohammadbagher Mahtabi	Purdue University Northwest, Hammond, Indiana, United State of America	CRACK GROWTH-BASED FATIGUE-LIFE PREDICTION OF ADDITIVELY MANUFACTURED MATERIALS	6/13/23 12:10	20
Tu2 Tuesday, June 13, 14:00-16:00 Session Chair: Bo Chen	Bryan Proano	Kyushu University, Fukuoka, Japan	INFLUENCE OF THE CONTOUR PARAMETER IN MICROSTRUCTURE DUALITY AND FRACTURE INITIATION IN NON-COMBUSTIBLE MAGNESIUM ALLOYS FABRICATED BY LASER POWDER BED FUSION	6/13/23 14:00	20
	Taeseul Park	Kyushu university, Fukuoka, Japan	EVALUATION OF STRENGTH CHARACTERISTICS FOR NON-COMBUSTIBLE MAGNESIUM ALLOY PRODUCTS FABRICATED BY LASER POWDER BED FUSION UNDER AS-BUILT CONDITION	6/13/23 14:20	20
	Garrett Pataky	Clemson University, Clemson, South Carolina, United States of America	REDUCING LOW CYCLE FATIGUE LIFE SCATTER OF ADDITIVE MANUFACTURED ALSI10MG USING LASER SHOCK PEENING	6/13/23 14:40	20
	Nha Uyen Huynh	Sandia National Labs, Albuquerque, New Mexico, United States of America	COMPUTATIONAL MODELING FOR IDENTIFYING VOIDS IN ADDITIVELY MANUFACTURED AL-SI10-MG	6/13/23 15:00	20
	Raj Das	RMIT University, Melbourne, Victoria, Australia	FINITE ELEMENT MODELLING IN PREDICTING THE EFFECT OF DEFECTS ON STRESS CONCENTRATION AND FATIGUE LIFE OF L-PBF ALSI10MG ALLOY	6/13/23 15:20	20

Symposium 9: Fatigue and Fracture of Additively Manufactured Materials
Organizers: Bo Chen, Nagaraja Iyyer, and Filippo Berto
Location: Grand Ballroom E

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
W1 Wednesday, June 14, 10:30-12:30 Session Chair: Derek Warner	Bernd Gludovatz	UNSW Sydney, Australia	IMPACT OF MICRO AND MESOSTRUCTURE ON THE FAILURE RESISTANCE OF LASER POWDER BED FUSION-PROCESSED MATERIALS	6/14/23 10:30	20
	Nagaraja Iyyer	Technical Data Analysis Inc, Falls Church, United States of America	PREDICTING SURFACE ROUGHNESS IN METALLIC ADDITIVELY MANUFACTURED PARTS USING MACHINE LEARNING	6/14/23 10:50	20
	Ghita Bahaj Filali	CNRS, GeM, Nantes, France	ANALYSIS OF FATIGUE CRACK GROWTH WITH OVERLOAD EFFECTS THROUGH T-STRESS	6/14/23 11:10	20
	Raj Das	RMIT University, Melbourne, Victoria, Australia	FATIGUE LIFE OF LASER POWDER BED FUSION (L-PBF) ALSi10MG ALLOY: EFFECTS OF SURFACE ROUGHNESS AND POROSITY	6/14/23 11:30	20
W2 Wednesday, June 14, 14:00-16:00 Session Chair: Nagaraja Iyyer	Dimitrios Nikas	Karlstad University, Karlstad, Sweden	HIGH CYCLE FATIGUE OF AM PRODUCED HOT WORK TOOL STEEL	6/14/23 14:00	20
	Zachary Harris	University of Pittsburgh, Pittsburgh, Pennsylvania, United States of America	ON THE MECHANISTIC ORIGINS OF THE INCREASED HYDROGEN ENVIRONMENT-ASSISTED CRACKING SUSCEPTIBILITY OF AM 17-4PH STEEL	6/14/23 14:20	20
	Michael Roach	University of Virginia, Charlottesville, United States of America	ENVIRONMENTAL CRACKING OF ADDITIVELY MANUFACTURED 316L STAINLESS STEEL	6/14/23 14:40	20
	Ravi Kiran	North Dakota State University, Fargo, United States of America	DEFECT STATISTICS AND FRACTURE INITIATION MECHANISMS IN AS-BUILT AND HEAT-TREATED ADDITIVE MANUFACTURED 17-4 STEEL	6/14/23 15:00	20

Symposium 9: Fatigue and Fracture of Additively Manufactured Materials
Organizers: Bo Chen, Nagaraja Iyyer, and Filippo Berto
Location: Grand Ballroom E

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Th1 Thursday, June 15, 10:30-12:30 Session Chair: Bo Chen	Punit Kumar	Lawrence Berkeley National Lab, Berkeley, California, United States of America	RESISTANCE TO FRACTURE AND FATIGUE IN ADDITIVELY MANUFACTURED ALLOYS [Keynote]	6/15/23 10:30	30
	Grégoire Brot	ONERA, the French Aerospace Lab, Université Paris Saclay, Châtillon, France	VERY HIGH-CYCLE FATIGUE BEHAVIOR OF ADDITIVELY MANUFACTURED TI-6AL-4V USING ULTRASONIC FATIGUE MACHINE AND SELF-HEATING TESTING.	6/15/23 11:00	20
	Taylor Sloop	Georgia Institute of Technology, Atlanta, Georgia, United States of America	ANALYSIS OF POROSITY EFFECTS ON SPALL FAILURE OF ADDITIVELY MANUFACTURED 316L SS	6/15/23 11:20	20
	Brian Fuchs	Sandia National Laboratories, Albuquerque, New Mexico, United States of America	FAILURE CHARACTERIZATION IN 17-4PH STAINLESS STEEL ACROSS MULTIPLE MANUFACTURING METHODS	6/15/23 11:40	20
Th2 Thursday, June 15, 14:00-16:00 Session Chair: Nagaraja Iyyer	Ali Fatemi	University of Memphis, Memphis, Tennessee, United States of America	MODELING OF MIXED-MODE CRACK GROWTH BEHAVIOR IN LB-PBF TI-6AL-4V USING A CRITICAL PLANE FRAMEWORK	6/15/23 14:00	20
	Melody Mojib	University of Washington, Seattle, United States of America	SIGNIFICANCE OF INTRA-BUILD DESIGN VARIABLES ON THE FRACTURE TOUGHNESS PROPERTIES OF ELECTRON BEAM MELTED Ti6Al4V	6/15/23 14:20	20
	Derek Warner	Cornell University, Ithaca, New York, United States of America	FACTORS GOVERNING THE FATIGUE PERFORMANCE OF AM TI-6AL-4V COMPONENTS	6/15/23 14:40	20
	Naila Hfaiedh	Léonard de Vinci Pôle Universitaire, Research Center, Paris La Défense, France	FATIGUE LIFE PREDICTION OF THE AA2024-T351 ALUMINUM ALLOY	6/15/23 15:00	20
	Fabien Szymtka	ENSTA Paris, Institut Polytechnique de Paris, France	MECHANICAL RESISTANCE ASSESMENT OF 316L STAINLESS STEEL ADDITIVELY-REPAIRED STRUCTURES	6/15/23 15:20	20
	David Roucou	ENSTA Paris, France	FRACTURE TOUGHNESS OF A DUPLEX STAINLESS STEEL BUILT BY DIRECTED ENERGY DEPOSITION : EFFECT OF THE DEPOSITION DIRECTION	6/15/23 15:40	20
F1 Friday, June 16, 10:30-12:30 Session Chair: Ali Fatemi	Yu Qiao	OTH Regensburg, Regensburg, Germany	ACCELERATED DESIGN AND INTEGRITY ASSESSMENT OF ADDITIVELY MANUFACTURED METALLIC STENTS USING MACHINE-LEARNING MODELS	6/16/23 10:30	20
	Franck Morel	LAMPA, Arts et Métiers Institute of Technology, Angers, France	EFFECTS OF DEFECT, LOADING MODE AND MICROSTRUCTURE ON LPBF 316L FATIGUE BEHAVIOR	6/16/23 10:50	20
	Christine Smudde	University of California, Davis, United States of America	CORRECTING FOR RESIDUAL STRESS EFFECTS ON FATIGUE CRACK GROWTH RATES OF ADDITIVELY MANUFACTURED TYPE 304L STAINLESS STEEL	6/16/23 11:10	20

Symposium 10: Small Scale Specimen Testing**Organizers: V. Jayaram, Raghu V. Prakash, N Jaya Balila, Robert Lancaster, Bernd Gludovatz, and Dan Gianola****Location: Grand Ballroom B**

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
W3 Wednesday, June 14, 16:30-18:00 Session Chair: Christoph Kirchlechner	Jamie Kruzic	University of New South Wales, Sydney, NSW, Australia	RELATING NANOSCALE STRUCTURE AND PROPERTIES TO MACROSCALE FRACTURE TOUGHNESS FOR BULK METALLIC GLASSES [Keynote]	6/14/23 16:30	40
	Alejandro Barrios	Sandia National Laboratories, Albuquerque, New Mexico, United States of America	IN SITU SEM HIGH-THROUGHPUT CYCLIC TESTING OF FREESTANDING THIN FILMS	6/14/23 17:10	20
	Raghu V. Prakash	Indian Institute of Technology Madras, Chennai, Tamilnadu, India	UNDERSTANDING FATIGUE DAMAGE PROGRESSION IN A STRUCTURAL STAINLESS STEEL THROUGH CYCLIC BALL INDENTATION TESTING	6/14/23 17:30	20
	Olivier Pierron	Georgia Tech, Atlanta, Georgia, United States of America	DETERMINING THE RATE-CONTROLLING, GRAIN-BOUNDARY-MEDIATED MECHANISMS IN ULTRAFINE GRAINED AU AND AL FILMS	6/14/23 17:50	20
Th1 Thursday, June 15, 10:30-12:30 Session Chair: Jaya Balila	Christoph Kirchlechner	Karlsruher Institut of Technology, Eggenstein-Leopoldshafen, Germany	INSIGHTS INTO VOID NUCLEATION AND GROWTH IN A DUAL PHASE STEEL BY SMALL SCALE MECHANICAL TESTING [Keynote]	6/15/23 10:30	40
	Qi Zhu	Nanyang Technological University, Singapore	IN SITU TRANSMISSION ELECTRON MICROSCOPY STUDY OF NANOMECHANICAL DEFORMATION AND ATOMIC-SCALE FRACTURE IN HIGH ENTROPY ALLOYS	6/15/23 11:10	20
	Lina Daza	Georgia Tech, Atlanta, Georgia, United States of America	EFFECTS OF IRRADIATION DAMAGE LEVELS ON ACTIVATION VOLUME AND DEFORMATION MECHANISMS IN IRRADIATED GOLD THIN FILMS USING IN SITU TEM STRAINING	6/15/23 11:30	20
	Eloho Okotete	Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany	QUANTIFICATION OF INTERFACE STRENGTH OF A THIN FILM USING A NEW MICROCANTILEVER GEOMETRY.	6/15/23 11:50	20
	Dong Liu	University of Bristol, United Kingdom of Great Britain and Northern Ireland	EVALUATING THE INTERFACIAL TOUGHNESS OF GAN-ON-DIAMOND USING BLISTERING METHOD WITH NANO-INDENTATION	6/15/23 12:10	20
Th2 Thursday, June 15, 14:00-16:00 Session Chair: Bernd Gludovatz	Daniel Kiener	Montanuniversität Leoben, Leoben, Austria	IMPACT OF GRAIN BOUNDARY MODIFICATIONS ON FRACTURE TOUGHNESS OF TUNGSTEN BASED NANOMATERIALS [Keynote]	6/15/23 14:00	40
	Elsiddig Elmukashfi	University of Oxford, United Kingdom of Great Britain and Northern Ireland	A NOVEL SMALL-SCALE BEND GEOMETRY CREEP TEST TO EVALUATE DEFORMATION AND CAVITATION DAMAGE IN POLYCRYSTALLINE AND BI CRYSTAL COPPER	6/15/23 14:40	20
	Nagamani Jaya Balila	Indian Institute of Technology Bombay, India	ANALYSIS OF FRACTURE BEHAVIOUR OF MULTILAYERS BY CANTILEVER AND CLAMPED BEAM BENDING GEOMETRY	6/15/23 15:00	20
	Stanislav Zak	Erich Schmid Institute of Materials Science, Austrian Academy of Sciences, Leoben, Austria	OPTIMIZATION AND USE OF HIGH-THROUGHPUT MICROMECHANICAL TESTING DESIGN FOR 3D-PRINTED POLYMERS	6/15/23 15:20	20
	Santiago El Awad	University of Houston, Texas, United States of America	MICRO-BENDING FOR MULTI-SCALE FRACTURE CHARACTERIZATION OF CEMENT-BASED MATERIALS AND CERAMICS	6/15/23 15:40	20

Symposium 10: Small Scale Specimen Testing

Organizers: V. Jayaram, Raghu V. Prakash, N Jaya Balila, Robert Lancaster, Bernd Gludovatz, and Dan Gianola

Location: Grand Ballroom B

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Th3 Thursday, June 15, 16:30-18:00 Session Chair: Praveen Kumar	Brad Boyce	Sandia National Laboratories, Albuquerque, New Mexico, United States of America	HIGH-CYCLE FATIGUE IN THE TEM: NANOCRYSTALLINE METALS [Keynote]	6/15/23 10:30	40
	Luis Llanes	CIEFMA - Universitat Politècnica de Catalunya - BarcelonaTech, Barcelona, Spain	UNDERSTANDING OF TOUGHENING IN CEMENTED CARBIDES BY MEANS OF SMALL-SCALE MECHANICAL TESTING AND CHARACTERIZATION	6/15/23 11:10	20
	Belkacemi Said	Centre des Matériaux, Mines Paris, CNRS UMR 7633, PSL Research University, Paris, France	CHARACTERIZATION METHODOLOGY OF PIPELINE STEELS USING MINIATURE SPECIMENS	6/15/23 11:30	20
F1 Friday, June 16, 10:30-12:30 Session Chair: V. Raghuprakash	Praveen Kumar	Indian Institute of Science, Bangalore, India	EFFECT OF ELECTRIC CURRENT ON PRE-CRACKED THIN METALLIC SHEETS: FROM CRACK PROPAGATION TO CRACK HEALING [Keynote]	6/16/23 10:30	40
	Nagamani Jaya Balila	Department of Metallurgical Engineering and Materials Science, IIT Bombay, India	FRACTURE AND FATIGUE BEHAVIOR OF ADDITIVELY MANUFACTURED MAR-M 509 CO-BASED SUPERALLOYS	6/16/23 11:10	20
	Xing Liu	Georgia Tech, Atlanta, Georgia, United States of America	INTEGRATING SIMULATION, MACHINE LEARNING, AND EXPERIMENTAL APPROACHES FOR HIGH-THOUGHTPUT SMALL-SCALE FRACTURE INVESTIGATIONS	6/16/23 11:30	20

Symposium 11: Finite Fracture Mechanics: Theoretical Aspects, Numerical Procedures, and Experimental Applications
Organizers: Vladislav Mantić, Pietro Cornetti, Dominique Leguillon and Pedro Camanho
Location: Dogwood B

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Tu1 Tuesday, June 13, 10:30-12:30 Session Chair: Vladislav Mantić	Pietro Cornetti	Politecnico di Torino, Torino, Italy	3D FINITE FRACTURE MECHANICS UNDER MODE I LOADING: THE FLAT ELLIPTICAL CRACK [Keynote]	6/13/23 10:30	40
	Dominique Leguillon	CNRS - Sorbonne Université, Paris, France	ON THE DIFFICULTY OF IMPLEMENTING THE COUPLED CRITERION TO PREDICT GLASS FRACTURE [Keynote]	6/13/23 11:10	40
	Sara Jiménez Alfaro	Sorbonne University, Paris, France	MODELING OF GLASS MATRIX COMPOSITES BY THE COUPLED CRITERION AND THE MATCHED ASYMPTOTICS APPROACH. THE ROLE OF A SINGLE PLATELET.	6/13/23 11:50	20
	María De Los Ángeles Herrera Garrido	Universidad de Sevilla, Spain	ON-LINE TOOL FOR ANALYSIS OF SINGULAR STRESSES AND DISPLACEMENTS IN ANISOTROPIC MULTI-MATERIAL CORNERS	6/13/23 12:10	20
Tu2 Tuesday, June 13, 14:00-16:00 Session Chair: Luca Susmel	Zohar Yosibash	Tel Aviv University, Faculty of Engineering, School of Mechanical Engineering, Tel Aviv, Israel	ON FFM/PFM FAILURE CRITERIA FOR METALS UNDERGOING SSY - NEW INSIGHTS AT V-NOTCHED TIPS [Keynote]	6/13/23 14:00	40
	Israel García	Universidad de Sevilla, Spain	CRACK DEFLECTION AT CURVED INTERFACES. A FINITE FRACTURE MECHANICS ANALYSIS [Keynote]	6/13/23 14:40	40
	Arturo Chao Correas	Politecnico di Torino, Turin, Italy	FINITE FRACTURE MECHANICS VERSUS PHASE FIELD: A CASE STUDY ON THE CRACK ONSET FROM CIRCULAR HOLES UNDER BIAXIAL LOADING CONDITIONS	6/13/23 15:20	20
	Sachin Yadav	Indian Institute of Technology Delhi, Hauz Khas, New Delhi, India	MECHANICS OF THE INTERACTION OF TWO PARALLEL, SIMULTANEOUSLY GROWING CRACKS USING LEFM	6/13/23 15:40	20
W1 Wednesday, June 14, 10:30-12:30 Session Chair: Pietro Cornetti	Luca Susmel	University of Sheffield, Sheffield, United Kingdom of Great Britain and Northern Ireland	THE THEORY OF CRITICAL DISTANCES TO MODEL THE STATIC STRENGTH OF ADDITIVELY MANUFACTURED CONCRETE/POLYMERS CONTAINING MANUFACTURING DEFECTS/VOIDS [Keynote]	6/14/23 10:30	40
	Vladislav Mantić	Universidad de Sevilla, Spain	SINGULAR ELASTIC SOLUTIONS IN CORNERS AND CRACKS WITH SPRING BOUNDARY CONDITIONS WITH VARYING STIFFNESS [Keynote]	6/14/23 11:10	40
	Karthik Ambikakumari Sanalkumar	Universidad de Sevilla, Spain	FEM IMPLEMENTATION OF THE COUPLED CRITERION BASED ON MINIMIZATION OF THE TOTAL ENERGY SUBJECTED TO A STRESS CONDITION TO PREDICT MIXED MODE CRACK ONSET AND GROWTH	6/14/23 11:50	20
	Mahsa Sakha	ETH Zurich, Switzerland	MODELING HYDRAULIC FRACTURE INITIATION OF A NOTCH-FREE WELLBORE IN ANISOTROPIC ROCKS	6/14/23 12:10	20
W2 Wednesday, June 14, 14:00-16:00 Session Chair: Zohar Yosibash	Alberto Sapora	Politecnico di Torino, Italy	V-NOTCHED COMPONENTS UNDER TORSIONAL FATIGUE LOADING [Keynote]	6/14/23 14:00	40
	Luis Távora	University of Seville, Spain	MULTIPLE DELAMINATIONS PREDICTION ON ILTS SPECIMENS BY AN ABAQUS IMPLEMENTATION OF THE COUPLED CRITERION OF FFM AND LEBIM [Keynote]	6/14/23 14:40	40
	Jean Vereecke	I2M, CNES, Bordeaux, France	STUDY OF INTRA- AND INTER-LAMINAR DAMAGE INTERACTIONS IN LAMINATED COMPOSITES USING FINITE FRACTURE MECHANICS	6/14/23 15:20	20

Symposium 12: Phase-Field Models of Fracture
Organizers: Israel Garcia, Fabian Welschinger, & Vladislav Mantic
Location: Dogwood B

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Th1 Thursday, June 15, 10:30-12:30 Session Chairs: Israel Garcia & Reshmi Maria Jose	Sikang Yan	University of Kaiserslautern, Germany	A PHASE FIELD FATIGUE MODEL FOR COMPLEX LOADING SITUATIONS [Keynote]	6/15/23 10:30	40
	Diego Infante-Garcia	Universitat Politècnica de València, Spain	NUMERICAL ASSESSMENT OF PHASE-FIELD APPROACH IN WESTERGAARD'S PROBLEM UNDER MIXED MODE LOADING	6/15/23 11:10	20
	Reshmi Maria Jose	Indian Institute of Technology, Roorkee, India	A PHASE FIELD MODEL FOR DAMAGE NUCLEATION IN GEOPOLYMER COMPOSITES	6/15/23 11:30	20
	Michael Salvini	University of Bristol, United Kingdom of Great Britain and Northern Ireland	COUPLING CRYSTAL PLASTICITY WITH PHASE FIELD FRACTURE FOR CREEP DAMAGE FORMATION ANALYSIS IN AUSTENITIC AND FERRITIC STEELS	6/15/23 11:50	20
	Paras Kumar	Institute of Applied Mechanics, Friedrich-Alexander Universität Erlangen-Nürnberg, Germany	A VERSATILE PHASE-FIELD FRACTURE MODEL FOR POLYMER COMPOSITES: CAPTURING THEIR MULTI-FACETED FRACTURE BEHAVIOR VIA GRADED INTERPHASES	6/15/23 12:10	20
Th2 Thursday, June 15, 14:00-16:00 Session Chairs: Fabian Welschinger & Sikang Yan	Aditya Kumar	Georgia Institute of Technology, Atlanta, Georgia, United States of America	NUCLEATION AND PROPAGATION OF FRACTURE IN ELASTOMERS DURING POKER-CHIP EXPERIMENTS	6/15/23 14:00	20
	Lamia Mersel	Ecole Centrale Nantes, Onera, Lille, France	A FLEXIBLE COMPUTATIONAL FRAMEWORK FOR A HIGH-PERFORMANCE EXTENSION OF A QUASI-STATIC PHASE-FIELD MODELING TO A DYNAMIC REGIME	6/15/23 14:20	20
	Anatoli Mitrou	DEMec, Faculdade de Engenharia, Universidade do Porto, Porto, Portugal	SIMULATION OF OFF-AXIS FRACTURE OF THIN-PLY COMPOSITE LAMINATES USING PHASE FIELD	6/15/23 14:40	20
	Sindhu Bushpalli Shivareddy	FIDAMC, Madrid, Spain	A SIMPLE ABAQUS PHASE FIELD IMPLEMENTATION FOR THE STUDY OF TRANSVERSE CRACKING IN COMPOSITE LAMINATES	6/15/23 15:00	20
	P. C. Sidharth	Indian Institute of Technology Madras, Chennai, Tamil Nadu, India	MODELING FRACTURE IN FUNCTIONALLY GRADED MATERIALS WITH PHASE-FIELD METHOD	6/15/23 15:20	20
F1 Friday, June 16, 10:30-12:30 Session Chairs: Vladislav Mantic & Maxime Levy	Fabian Welschinger	Robert Bosch GmbH, Renningen, Baden-Württemberg, Germany	A PHASE-FIELD MODEL FOR THE MULTISCALE ANALYSIS OF FRACTURE IN SHORT GLASS FIBER REINFORCED POLYMERS [Keynote]	6/16/23 10:30	40
	Janel Chua	Carnegie Mellon University, Pittsburgh, Pennsylvania, United States of America	AN AUGMENTED PHASE-FIELD MODEL WITH VISCOUS STRESSES FOR DEFECT DYNAMICS	6/16/23 11:10	20
	Maxime Levy	Tel Aviv University, Tel Aviv - Yafo, Israel	AN FE-EXPERIMENTAL METHOD FOR DETERMINING QCT-BASED CORTICAL BONE FRACTURE TOUGHNESS AND ULTIMATE STRESS [Keynote]	6/16/23 11:30	40

Symposium 13: Failure Mechanisms in Advanced Materials and Structures
Organizers: Zengtao Chen, Minghao Zhao, Cunfa Gao, and Stathis E. Theotokoglou
Location: Dogwood A

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
M1 Monday, June 12, 10:30-12:30 Session Chair: Zengtao Chen	Huajian Gao	Nanyang Technological University, Singapore	STRONG AND TOUGH FIBROUS HYDROGELS REINFORCED BY MULTISCALE HIERARCHICAL STRUCTURES WITH MULTIMECHANISMS [Keynote]	6/12/23 10:30	40
	Lennart Behlen	University of Kassel, Kassel, Hessen, Germany	MAXWELL STRESS AND ELECTROSTRICTION IN DIELECTRICS AND THEIR IMPLICATIONS FOR FRACTURE MECHANICS	6/12/23 11:10	20
	Panagiotis Danoglidis	The University of Texas at Arlington, United States of America	ENHANCING THE POST-CRACK TENSILE STRAIN CAPACITY OF CEMENT-BASED COMPOSITES USING FIBRILLAR WASTE BYPRODUCTS	6/12/23 11:30	20
	Zihui Xia	University of Alberta, Edmonton AB, Canada	FAILURE MECHANISMS AND STATISTICAL METHOD FOR THE FATIGUE LIFE PREDICTION OF COKE DRUMS	6/12/23 11:50	20
M2 Monday, June 12, 14:00-16:00 Session Chair: Stathis E. Theotokoglou	Krishnaswamy Ravi-Chandar	University of Texas, Austin, United States of America	NUCLEATION AND GROWTH OF CRACKS IN ELASTOMERS [Keynote]	6/12/23 14:00	40
	Mirko Pejatovic	Ghent University, Belgium	BRITTLE FAILURE IN HYBRID STEEL-GLASS BEAM-COLUMN JOINT PROTOTYPE. EXPERIMENTAL INVESTIGATION AND NUMERICAL MODELLING.	6/12/23 14:40	20
	Keqiang Hu	Nanjing University of Aeronautics and Astronautics, , China	A MODE-III CRACK WITH SURFACE EFFECT IN A MAGNETOELECTROELASTIC MEDIUM	6/12/23 15:00	20
	Hrushikesh Sahasrabudde	Indian Institute of Technology Bombay, Mumbai, India	ROLE OF WIRE ASPECT RATIO AND CRACK ASPECT RATIO ON FRACTURE BEHAVIOR OF WIRE SPECIMEN	6/12/23 15:20	20
	Panagiotis Danoglidis	The University of Texas at Arlington, United States of America	MULTISCALE TOUGHENING MECHANISM IN HYBRID FIBER REINFORCED CEMENT-BASED NANOCOMPOSITES	6/12/23 15:40	20
M3 Monday, June 12, 16:30-18:00 Session Chair: Zengtao Chen	Efstathios Theotokoglou	National Technical University of Athens, Athens/Attiki, Greece	THEORETICAL, EXPERIMENTAL AND COMPUTATIONAL STUDY THE OFF-AXIS ELASTIC CONSTANTS, FRACTURE AND STRENGTH OF UNIDIRECTIONAL FIBER COMPOSITE [Keynote]	6/12/23 16:30	30
	Ashish Singh	IIT Delhi, India	USING ANALYTICAL APPROACH FOR CALCULATING LOCALIZED STRESS FIELD NEAR CENTRAL SLIT CRACK IN AMORPHOUS MATERIAL AT ATOMISTIC SCALE	6/12/23 17:00	20
	Sunil Kumar Dutta	Indian Institute of Technology Delhi, New Delhi, India	MECHANICS OF INTERACTION OF GROWING CRACK WITH GRAIN BOUNDARY IN BICRYSTAL SOLIDS	6/12/23 17:20	20
	Andrea Carolina Oña Vera	Ghent University, Gent, Belgium	LONG-TERM PERFORMANCE OF POST-INSTALLED CONCRETE SCREWS	6/12/23 17:40	20
Tu1 Tuesday, June 13, 10:30-12:30 Session Chair: Stathis E. Theotokoglou	Zengtao Chen	University of Alberta, Canada	NON-FOURIER HEAT CONDUCTION AND NONLOCAL THEORY, RECENT PROGRESS AND APPLICATION IN THERMAL FRACTURE ANALYSIS [Keynote]	6/13/23 10:30	40
	Kaitlynn Fitzgerald	Sandia National Labs, Albuquerque, New Mexico, United States of America	USING A HIERARCHY OF POROSITY TO IMPROVE THE FRACTURE TOUGHNESS OF METAMATERIALS	6/13/23 11:10	20
	Kalliopi-Artemi Kalteremidou	Vrije Universiteit Brussel, Brussels, Belgium	THE IMPACT OF MULTIAXIALITY ON THE STATIC AND FATIGUE FRACTURE OF CARBON/EPOXY POLYMER COMPOSITES	6/13/23 11:30	20

Symposium 14: Probabilistic Aspects of Fatigue Crack Growth and Fracture: Frameworks, Tools, and Applications
Organizers: R. Craig McClung, James C. Sobotka, and Kai Kadau
Location: Dogwood B

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
M1 Monday, June 12, 10:30-12:30 Session Chair: Craig McClung	Christopher Nellis	U.S. Nuclear Regulatory Commission, Washington DC, United States of America	APPLICATIONS OF THE EXTREMELY LOW PROBABILITY OF RUPTURE (XLPR) CODE	6/12/23 10:30	20
	Robert Kurth	Engineering Mechanics Corporation, Columbus, Ohio, United States of America	XLPR: A PROBABILISTIC CODE FOR FATIGUE AND PWSCC ANALYSIS OF WELD IN NUCLEAR POWER PLANT	6/12/23 10:50	20
	Christopher Ulmer	U.S. Nuclear Regulatory Commission, Washington, DC, United States of America	FAVPRO: NRC'S 21ST CENTURY REACTOR PRESSURE VESSEL PROBABILISTIC FRACTURE ANALYSIS TOOL	6/12/23 11:10	20
	Harry Millwater	University of Texas at San Antonio, United States of America	ADAPTIVE MULTIPLE IMPORTANCE SAMPLING FOR STRUCTURAL RISK ASSESSMENT [Keynote]	6/12/23 11:30	30
	Mauro Madia	Bundesanstalt für Materialforschung und -prüfung (BAM), Berlin, Germany	FRACTURE MECHANICS-BASED PROBABILISTIC STRUCTURAL INTEGRITY ASSESSMENT FOR AERO-ENGINE TURBINE DISK	6/12/23 12:00	20
M2 Monday, June 12, 14:00-16:00 Session Chair: Kai Kadau	Christian Amann	Siemens Energy GmbH & Co KG, Bottrop, NRW, Germany	PROBABILISTIC FRACTURE MECHANICS FOR HEAVY-DUTY GAS TURBINE ROTOR OPERATIONS IN THE ENERGY SECTOR [Keynote]	6/12/23 14:00	30
	Craig McClung	Southwest Research Institute, San Antonio, Texas, United States of America	A SOFTWARE FRAMEWORK FOR PROBABILISTIC FATIGUE CRACK GROWTH ANALYSIS OF METALLIC COMPONENTS [Keynote]	6/12/23 14:30	30
	Robert Kurth	Engineering Mechanics Corporation, Columbus, Ohio, United States of America	PROLOCA 7.1 A PROBABILISTIC FRAMEWORK FOR FATIGUE ANALYSIS OF ALUMINUM AND WELD STEEL STRUCTURES [Keynote]	6/12/23 15:00	30
	Mauro Madia	Bundesanstalt für Materialforschung und -prüfung (BAM), Germany	PROBABILISTIC STRUCTURAL INTEGRITY ASSESSMENT OF WELDED JOINTS [Keynote]	6/12/23 15:30	30
M3 Monday, June 12, 16:30-18:00 Session Chair: Harry Millwater	Matthew Kirby	Southwest Research Institute, San Antonio, Texas, United States of America	PROBABILISTIC CRITICAL FLAW SIZE ASSESSMENTS IN THE CIRCUMFERENTIAL WELDS OF LAYERED PRESSURE VESSELS [Keynote]	6/12/23 16:30	30
	Tero Mäkinen	Aalto University, Espoo, Finland	INTERMITTENCY IN FATIGUE CRACK GROWTH AND FATIGUE STRIATIONS	6/12/23 17:00	20
	Grant West	Cornell University, Ithaca, New York, United States of America	TOWARDS HIGH THROUGHPUT FATIGUE CHARACTERIZATION	6/12/23 17:20	20
	Alex Arzoumanidis	Psylotech, Inc., Evanston, Illinois, United States of America	A LOADING HISTORY AGNOSTIC FREE ENERGY BASED FRACTURE CRITERION	6/12/23 17:40	20

Symposium 15: Advanced Computational Methods in Fracture
Organizers: P.R. Budarapu, M.K. Pandit, A.K. Pradhan, S. Natarajan, T. Rabczuk
Location: Hickory

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
W1 Wednesday, June 14, 10:30-12:30	Ayhan Ince	Concordia University, Montreal, Quebec, Canada	A PERIDYNAMIC FATIGUE MODEL BASED ON TWO-PARAMETER REMAINING-LIFE FORMULATION	6/14/23 10:30	20
	Swati Gupta	Cornell University, Ithaca, New York, United States of America	FAST INFERENCE OF CRACK TIP POSITION AND STRESS INTENSITY FACTORS FROM DISPLACEMENT DATA	6/14/23 10:50	20
	Shanhu Li	ANSYS, Inc. Canonsburg, Pennsylvania, United States of America	SIMULATING CRACK CLOSURE WITH COHESIVE ZONE ELEMENTS DURING CRACK GROWTH	6/14/23 11:10	20
W2 Wednesday, June 14, 14:00-16:00	Samit Roy	University of Alabama, Tuscaloosa, Alabama, United States of America	APPLICATION OF CONCURRENT ATOMISTIC-CONTINUUM COUPLING TO STUDY FRACTURE IN POLYMER NANOCOMPOSITES	6/14/23 14:00	20
	Mykhailo Dovzhyk	National Academy of Sciences of Ukraine, Kyiv, Ukraine	FRACTURE OF HIGHLY ELASTIC AND COMPOSITE MATERIALS AT COMPRESSION ALONG NEAR-SURFACE CRACK IN CASE OF SMALL DISTANCE BETWEEN FREE SURFACE AND CRACK	6/14/23 14:20	20
	Guoyu Lin	Ansys, Inc., Canonsburg, Pennsylvania, United States of America	RECENT ADVANCEMENTS AND APPLICATIONS IN DEVELOPMENT OF SMART CRACK GROWTH SIMULATION	6/14/23 14:40	20
W3 Wednesday, June 14, 16:30-18:00	David Melching	German Aerospace Center (DLR), Cologne, Germany	ADVANCED CRACK TIP FIELD QUANTIFICATION USING DIGITAL IMAGE CORRELATION, MACHINE LEARNING, AND INTEGRAL EVALUATION [Keynote]	6/14/23 16:30	30
	Patrick G. Mongan	University of Limerick, Limerick, Ireland (Republic of)	AN AUTOMATED PROCESS FOR SOLVING DUCTILE DAMAGE PARAMETER SELECTION USING MACHINE LEARNING AND FINITE ELEMENT ANALYSIS	6/14/23 17:00	20
	Gaurav Singh	Indian Institute of Technology Delhi, New Delhi, India	SINGULAR INTEGRAL EQUATION FOR SOLVING COHESIVE CRACK PROBLEM FOR INITIALLY RIGID TRACTION-SEPARATION RELATION	6/14/23 17:20	20

Symposium 15: Advanced Computational Methods in Fracture
Organizers: P.R. Budarapu, M.K. Pandit, A.K. Pradhan, S. Natarajan, T. Rabczuk
Location: Hickory

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Th1 Thursday, June 15, 10:30-12:30	Hiroshi Okada	Tokyo University of Science, Noda, Japan	REDEFINED J-INTEGRAL AND J-INTEGRAL RANGE DELTA-J AS FINITE STRAIN ELASTIC-PLASTIC CRACK PARAMETERS [Keynote]	6/15/23 10:30	30
	Kevin Schmitz	University of Kassel, Germany	THE VIRTUAL ELEMENT METHOD FOR EFFICIENT CRACK TIP LOADING ANALYSIS AND CRACK GROWTH SIMULATION	6/15/23 11:00	20
	Roman Kushnir	National Academy of Sciences of Ukraine, Lviv, Ukraine	3D FRACTURE MECHANICS ANALYSIS OF THERMOMAGNETOELECTROELASTIC ANISOTROPIC SOLIDS ACCOUNTING FOR CRACK FACE CONTACT WITH FRICTION	6/15/23 11:20	20
	Florian Garnadt	Technical University of Darmstadt, Germany	CYCLIC EFFECTIVE NEAR-FIELD LOADING BASED ON THE DOMAIN INTEGRAL METHOD	6/15/23 11:40	20
	Pattabhi Budarapu	Indian Institute of Technology Bhubaneswar, India	MULTIPHYSICS ANALYSIS OF PHOTOVOLTAIC SOLAR CELLS [Keynote]	6/15/23 12:00	30
Th2 Thursday, June 15, 14:00-16:00	Harry Millwater	University of Texas at San Antonio, United States of America	DEVELOPMENT AND APPLICATION OF THE HYPERCOMPLEX FINITE ELEMENT METHOD FOR LINEAR AND NONLINEAR ENERGY RELEASE RATE CALCULATIONS [Keynote]	6/15/23 14:00	30
	Yitzchak Yifrach	Braude College of Engineering, Karmiel, Israel	FINITE ELEMENT MODELING FOR PREDICTING OPTIMAL HOLE PROFILE IN A FINITE SQUARE PLATE OF HETEROGENEOUS BRITTLE MATERIAL (WC+CO) UNDER UNIAXIAL COMPRESSION OR UNIAXIAL DISPLACEMENT	6/15/23 14:30	20
	Yiran Li	Tianjin University, Tianjin, China	MECHANICAL MODEL OF SLIDING FRICTION AND THE STUDY OF THE ONSET OF SLIDING FRICTION	6/15/23 14:50	20
	Kedar Kirane	Stony Brook University, Stony Brook, New York, United States of America	ROLE OF LOCALIZATION LIMITERS AND LENGTH-SCALES IN MESH OBJECTIVE DYNAMIC FRACTURE MODELING	6/15/23 15:10	20

Symposium 16: Residual Stress in Fatigue and Fracture
Organizers: Thomas J. Spradlin, Michael R. Hill, Casey E. Gales, and Dale L. Ball
Location: Hickory

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
M3 Monday, June 12, 16:30-18:00 Session Chair: Thomas J. Spradlin	Mark James	Howmet Aerospace Inc., Cleveland, Ohio, United States of America	A TEST METHOD TO MEASURE THE EFFECTS OF RESIDUAL STRESS DURING AN FCG TEST	6/12/23 16:30	30
	Michael Hill	University of California, Davis, United States of America	ACCOUNTING FOR RESIDUAL STRESS IN FATIGUE CRACK GROWTH RATE TESTS: VALIDATION OF RESIDUAL STRESS INTENSITY FACTOR MEASUREMENTS	6/12/23 17:00	30
	Casey Gales	John Deere, Dubuque, IA, United States of America	RELAXATION OF RESIDUAL STRESS IN WELDED PLATES DURING LONG LIFE FATIGUE LOADING	6/12/23 17:30	30
Tu1 Tuesday, June 13, 10:30-12:30 Session Chair: Michael R. Hill	Dale Ball	Lockheed Martin Aeronautics Co., Fort Worth, Texas, United States of America	UNCERTAINTY QUANTIFICATION IN RESIDUAL STRESS AFFECTED FATIGUE CRACK GROWTH LIFE	6/13/23 10:30	30
	Robert Pilarczyk	Hill Engineering, LLC, Rancho Cordova, California, United States of America	CHARACTERIZING THE PHYSICS OF TAPER-LOK FASTENER HOLES TO SUPPORT B-1 SUSTAINMENT	6/13/23 11:00	30
	Moad Fatmi	Univeristy of Technology of Troyes, France	RESIDUAL STRESS RELAXATION IN INCONEL718 COLD EXPANDED HOLE UNDER LOADING AT ELEVATED TEMPERATURE	6/13/23 11:30	30
	Motoaki Hayama	Graduate School of Keio University, Yokohama, Kanagawa, Japan	FATIGUE LIMIT PREDICTION OF AISI4140 STEEL WITH COMPRESSIVE RESIDUAL STRESS CONSIDERING THE LOCAL YIELDING OF COMPRESSIVE RESIDUAL STRESS LAYER	6/13/23 12:00	30
Tu2 Tuesday, June 13, 14:00-16:00 Session Chair: Casey E. Gales	Michael Benson	U.S. Nuclear Regulatory Commission, Washington, DC, United States of America	VALIDATION OF WELD RESIDUAL STRESS FINITE ELEMENT PREDICTIONS FOR USE IN NUCLEAR REGULATORY APPLICATIONS	6/13/23 14:00	25
	Simon McKendrey	University of Bristol, United Kingdom of Great Britain and Northern Ireland	FATIGUE CRACK GROWTH IN ELECTRON BEAM WELDMENTS	6/13/23 14:25	25
	Le Wang	National University of Singapore	DETERMINATION OF WELDING RESIDUAL STRESSES IN TUBULAR JOINTS WITH MULTI-PASS WELDS	6/13/23 14:50	25
	Jim Lua	Global Engineering and Materials, Inc., Princeton, New Jersey, United States of America	FATIGUE PERFORMANCE ASSESSMENT OF A QUENCHED ALUMINUM COMPONENT WITH PROCESS INDUCED RESIDUAL AT DIFFERENT DIPPING ANGLES	6/13/23 15:15	25
	Frederick (Bud) Brust	Engineering Mechanics Corporation of Columbus, Ohio, United States of America	STUDIES OF CRACK GROWTH AND FRACTURE DRIVEN BY WELD RESIDUAL STRESS FIELDS	6/13/23 15:40	25

Symposium 17: Damage, Fracture, and Fatigue of Composites
Organizers: Raj Das and Rhys Jones
Location: Chestnut

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
W2 Wednesday, June 14, 14:00-16:00 Session Chair: Sahasini Gururaja	Zheng-Ming Huang	Tongji University, Shanghai, China	INTERFACE CRACK OR DELAMINATION: WHEN & WHERE TO INITIATE? HOW TO PROPAGATE & HOW BIG AREA TO ATTAIN?	6/14/23 14:00	20
	Huifang Liu	University of Oxford, United Kingdom of Great Britain and Northern Ireland	EXPERIMENTAL AND NUMERICAL STUDY ON THE DELAMINATION BEHAVIOUR OF INTERLEAVED COMPOSITES WITH AUTOMATED TAPE LAYING	6/14/23 14:20	20
	Joseph Gunst	Auburn University, Auburn, Alabama, United States of America	EFFECT OF PROCESS-INDUCED DEFECTS ON MODE I BEHAVIOR OF PMCS: RANDOM DEFECTS VS. CONTROLLED DEFECTS	6/14/23 14:40	20
	Federico Accornero	Politecnico di Torino, Italy	SCALE EFFECTS IN THE POST-CRACKING BEHAVIOUR OF CNT-EPOXY COMPOSITES: PREDICTING CRACK JUMPS AND DUCTILE-TO-BRITTLE TRANSITIONS	6/14/23 15:00	20
	Julkarnyne M Habibur Rahman	Auburn University, Auburn, Alabama, United States of America	THERMAL BEHAVIOR DURING FRACTURE OF HYBRID EPOXY/CNT/GNP COMPOSITES	6/14/23 15:20	20
	Akash Deep	Indian Institute of Technology, Delhi, India	DETECTION OF MODE I INTERLAMINAR CRACK IN CNF DOPED GFRP LAMINATES USING ELECTRICAL IMPEDANCE TOMOGRAPHY	6/14/23 15:40	20
W3 Wednesday, June 14, 16:30-18:00 Session Chair: Sahasini Gururaja	Gabriel Riedl	Johannes Kepler University, Linz, Upper Austria, Austria	NOVEL SERR-CONTROLLED ENVIRONMENTAL FATIGUE TEST METHODOLOGY FOR ADHESIVE-BONDED LAMINATES	6/14/23 16:30	20
	Nilesh Vishe	The University of Alabama, Tuscaloosa, United States of America	HEALING OF LAMINATED COMPOSITES AFTER STATIC AND FATIGUE DELAMINATION	6/14/23 16:50	20
	Álvaro Mena-Alonso	University of Burgos, Spain	INFLUENCE OF THE RANDOMNESS OF FIBER DISTRIBUTION ON THE DISPERSION OF FATIGUE RESPONSE IN STEEL FIBER REINFORCED CONCRETE USING MICRO-COMPUTED TOMOGRAPHY	6/14/23 17:10	20
Th2 Thursday, June 15, 14:00-16:00 Session Chair: Johannes Wiener	Nithinkumar Manoharan	Auburn University, Auburn, Alabama, United States of America	FATIGUE CHARACTERIZATION OF ADHESIVELY-BONDED GFRP JOINTS VIA SELF-HEATING	6/15/23 14:00	20
	Luiz Carlos De Almeida	University of Campinas, Campinas, SP, Brazil	FAILURE MECHANISMS OF STEEL FIBERS EMBEDDED IN HSFRRCC	6/15/23 14:20	20
	Bineet Kumar	Indian Institute of Technology Roorkee, India	AN ANALYTICAL APPROACH FOR THE FRACTURE CHARACTERIZATION IN CONCRETE UNDER CYCLIC LOADING CONDITION	6/15/23 14:40	20
	Rohit Madke	Indian Institute of Technology Roorkee, Uttarakhand, India	FRACTURE AND FATIGUE STUDIES ON META-SANDWICH AUXETIC CORE	6/15/23 15:00	20

Symposium 17: Damage, Fracture, and Fatigue of Composites
Organizers: Raj Das and Rhys Jones
Location: Chestnut

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Th3 Thursday, June 15, 16:30-18:00 Session Chair: Raj Das	Johannes Wiener	Montanuniversitaet Leoben, 8700 Leoben, Styria, Austria	ON THE DESIGN OF CRACK-ARRESTING LAYERS IN POLYPROPYLENE BASED MULTILAYER COMPOSITES	6/15/23 16:30	20
	Ignatius Ebo-Quansah	Egypt-Japan University of Science and Technology, Alexandria, Egypt	TAGUCHI BASED – FUZZY METHOD OPTIMIZATION OF PROPOSED ULTRA-HIGH STRENGTH STEEL /UHMWPE HELMET UNDER VARIABLE IMPACTOR CONDITIONS.	6/15/23 16:50	20
	Suhasini Gururaja	Auburn University, Auburn, Alabama, United States of America	PROGRESSIVE DAMAGE IN CMC MINICOMPOSITES WITH THICK INTERPHASES UNDER TENSILE LOADING [Keynote]	6/15/23 17:10	30
	Sushrut Karmarkar	Purdue University, West Lafayette, Indiana, United States of America	NON-DESTRUCTIVE EVALUATION OF DEFECTS IN COMPOSITE BI-MATERIAL STRUCTURES AND ESTIMATION OF FRACTURE FRONT USING DATA DRIVEN TERAHERTZ TIME DOMAIN ANALYSIS	6/15/23 17:40	20
F1 Friday, June 16, 10:30-12:30 Session Chair: Johannes Wiener	Silpa Soman Pazhankave	Arizona State University, Tempe, United States of America	SIZE EFFECTS OF COMPOSITE CEMENT AND FUNCTIONALIZED PLASTIC BEAMS: TOWARDS INCREASED DUCTILITY AND ENERGY ABSORPTION	6/16/23 10:30	20
	Roberta Massabo	University of Genova, Italy	DEBOND FRACTURE AND KINKING IN MULTILAYER SYSTEMS: THEORETICAL SOLUTIONS AND PRACTICAL APPLICATIONS	6/16/23 10:50	20
	Kai Liu	The Univeristy of Oxford, United Kingdom of Great Britain and Northern Ireland	EFFECTS OF TEMPERATURE ON FIBER TENSION FRACTURE TOUGHNESS OF COMPOSITE LAMINATES AT HIGH LOADING RATE	6/16/23 11:10	20

Symposium 18: Mechanical Behavior in Nuclear Materials
Organizers: Dong Liu, Filippo Berto, and Robert O. Ritchie
Location: Walnut

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Th1 Thursday, June 15, 10:30-12:30 Session Chair: Peter Hosemann	Mustafa Subasic	KTH Royal Institute of Technology, Stockholm, Sweden	CORROSION FATIGUE OF HOLLOW SPECIMENS IN SIMULATED LWR WATER ENVIRONMENT	6/15/23 10:30	20
	Shiyu Suzuki	Japan Aerospace Exploration Agency (JAXA), Mitaka-shi, Tokyo, Japan	EFFECT OF TENSION HOLD IN CREEP-FATIGUE CRACK PROPAGATION IN NI-BASE SUPERALLOYS: TRANSITION FROM CRACK RETARDATION TO ACCELERATION	6/15/23 10:50	20
	Sarah Blust	University of Virginia, Charlottesville, United States of America	EVALUATING THE SENSITIVITIES OF AISCC SUSCEPTIBILITY IN STAINLESS-STEEL NUCLEAR WASTE STORAGE CANISTERS FOR DEVELOPMENT OF A LIFETIME PREDICTION MODEL	6/15/23 11:10	20
Th2 Thursday, June 15, 14:00-16:00 Session Chair: Gary Was	Peter Hosemann	University of California Berkeley, United States of America	MATERIALS PROPERTY CHANGES AFTER IRRADIATION EVALUATED USING SMALL SCALE MECHANICAL TESTING. [Keynote]	6/15/23 14:00	40
	Eirini Galliopoulou	University of Bristol, United Kingdom of Great Britain and Northern Ireland	HIGH TEMPERATURE CREEP CAVITATION IMAGING AND ANALYSIS IN 9%CR 1%MO P91 STEELS	6/15/23 14:40	20
	Hugh Dorward	University of Bristol, United Kingdom of Great Britain and Northern Ireland	PREDICTING THE MACROSCOPIC CYCLIC BEHAVIOUR OF POLYCRYSTALLINE STEELS BASED ON MATERIAL MICROSTRUCTURE VIA SURROGATE MODELLING	6/15/23 15:00	20
Th3 Thursday, June 15, 16:30-18:00 Session Chair: Filippo Berto	Dong Liu	University of Bristol, United Kingdom of Great Britain and Northern Ireland	IN SITU X-RAY TOMOGRAPHY IMAGING OF CRACK INITIATION AND PROPAGATION IN NUCLEAR GRAPHITE AT 1000°C [Keynote]	6/15/23 16:30	30
	Cainã Bemfica	Université Paris-Saclay, CEA, Service de Recherches Métallurgiques Appliquées, Gif-sur-Yvette, Île-de-France, France	BRITTLE FRACTURE MECHANISMS OF THREE MODEL LOW ALLOY STEELS CHEMICALLY REPRESENTATIVE OF A MACROSEGREGATED FORGING	6/15/23 17:00	20
	Joshua Pribe	National Institute of Aerospace, Hampton, Virginia, United States of America	TRANSIENT CREEP-FATIGUE CRACK GROWTH IN CREEP-DUCTILE AND CREEP-BRITTLE MATERIALS: APPLICATION TO ALLOY 617 AND ALLOY 718	6/15/23 17:20	20
F1 Friday, June 16, 10:30-12:30 Session Chair: Dong Liu	Mahmoud Mostafavi	University of Bristol, United Kingdom of Great Britain and Northern Ireland	IN-SILICO QUALIFICATION OF MATERIALS [Keynote]	6/16/23 10:30	40
	Yong Gyun Shin	Kyung Hee University, Korea (Republic of)	INTEGRITY EVALUATION OF SPENT NUCLEAR FUEL CLADDING IN USE OF MACHINE LEARNED EMBRITTLED PROPERTIES	6/16/23 11:10	20
	B.N. Rao	Indian Institute of Technology, Madras, Chennai, India	CRITICAL CRACK SIZE OF A PROTOTYPE PIPE BEND UNDER CYCLIC LOADING	6/16/23 11:30	20

Symposium 19: Failure Analysis and Prevention
Organizers: Donato Firrao, Erik Mueller, and Pierre Dupont
Location: Chestnut

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
M1 Monday, June 12, 10:30-12:30 Session Chair: Erik Mueller, NTSB, USA	Donato Firrao	Politecnico di Torino, Italy	FATIGUE FRACTURE ASSESSMENT OF HIGH CARBON STEEL COMPONENTS	6/12/23 10:30	20
	Laurent Ponson	Tortoise, Paris, France	STATISTICAL FRACTOGRAPHY: THE MISSING LINK BETWEEN FRACTURE MECHANICS AND FAILURE ANALYSIS	6/12/23 10:50	20
	Matthew Fox	National Transportation Safety Board, Washington, DC, United States of America	NTSB ACCIDENT INVESTIGATIONS INVOLVING FATIGUE FRACTURES INITIATING FROM SUBSURFACE DEFECTS	6/12/23 11:10	20
	Ronald Parrington	Engineering Systems Inc. (ESi), Plymouth, Minnesota, United States of America	TESTING AND ANALYSIS TO UNDERSTAND AND PREVENT JET FIGHTER MID-FLIGHT ACRYLIC CANOPY FAILURES	6/12/23 11:30	20
M2 Monday, June 12, 14:00-16:00 Session Chair: Donato Firrao, Politecnico di Torino, ITALY	Hadj Meliani Mohammed	LTPM, University of Hassiba ben bouali, Chlef, Algeria	STUDY OF NEW GREEN INHIBITOR FOR PROTECTION AGAINST CORROSION IN PIPE STEEL TRANSPORTATION	6/12/23 14:00	20
	Erik M Mueller	National Transportation Safety Board, Washington, DC, United States of America	INVESTIGATION AND REMEDIATION OF A COMPLEX FAILURE OF A HIGH-STRENGTH STEEL FAN MIDSHAFT FROM A GENX ENGINE	6/12/23 14:20	20
	Pierre Dupont	UMONS - Faculté Polytechnique de MONS (FPMs), DOUR, Belgium	A NEW ORIGINAL SCHEME FOR PREVENTING NOWADAYS MODERN MACHINE DESIGN FAILURES	6/12/23 14:40	20
	Mohammed Naziru Issahaq	Exponent Inc., Atlanta, Georgia, United States of America	MUZZLELOADER FAILURE ANALYSES	6/12/23 15:00	20
	Pierre Dupont	UMONS - Faculté polytechnique de MONS (FPMs), DOUR, Belgium	ON THE GHISLENGHIEN'S DISASTER, BELGIUM, JULY 2004 : A DRAMATIC PIPELINE'S (S) ... CRA ... (TCH) ... CK ?!	6/12/23 15:20	20

Symposium 20: Materials Data in Assessment of Components Operating in Extreme Environments
Organizers: Jonathan Parker and Mike Gagliano
Location: Walnut

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
M2 Monday, June 12, 14:00-16:00 Session Chair: Jonathan Parker	Ian Perrin	Triaxis Power Consulting LLC, Iron Station, United States of America	COMPONENT INTEGRITY IMPLICATIONS FROM CREEP DAMAGE TOLERANCE AND FRACTURE CHARACTERISTICS OF CREEP STRENGTH ENHANCED FERRITIC STEELS	6/12/23 14:00	20
	Ashok Saxena	University of Arkansas, Marietta, United States of America	A PHENOMENOLOGICAL MODEL FOR CREEP CRACK GROWTH BEHAVIOR IN FERRITIC STEELS	6/12/23 14:20	20
	Go Ozeki	Teikyo Univerisity, Tokyo, Japan	MEASUREMENT METHOD OF CYCLE SEQUENTIAL CHARACTERISTICS OF STRESS REDUCTION UNDER STRAIN-CONTROLLED CREEP-FATIGUE CONDITIONS USING CIRCULAR SHARP NOTCHED ROUND BAR SPECIMEN	6/12/23 14:40	20
	Raheeg Ragab	University Of Nottingham, United Kingdom of Great Britain and Northern Ireland	ON THE CYCLIC SOFTENING AND RATCHETING BEHAVIOUR OF A CSEF GAS TURBINE ROTOR STEEL AT 600 C	6/12/23 15:00	20
	Alex Jennion	University of Virginia, Charlottesville, United States of America	CONTRIBUTIONS OF OXIDATION AND CREEP TO HIGH TEMPERATURE FATIGUE CRACK SUSCEPTIBILITY IN WASPALOY	6/12/23 15:20	20
	Richard Neu	Georgia Institute of Technology, Atlanta, Georgia, United States of America	LCF AND TMF OF SINGLE-CRYSTAL AND DIRECTIONALLY-SOLIDIFIED NI-BASE SUPERALLOYS PREDICTED USING A PROBABILISTIC PHYSICS-GUIDED NEURAL NETWORK	6/12/23 15:40	20
M3 Monday, June 12, 16:30-18:00 Session Chair: Mike Gagliano	Emilio Martinez-Paneda	Imperial College London, United Kingdom of Great Britain and Northern Ireland	COMPUTATIONAL PREDICTIONS OF HYDROGEN ASSISTED FRACTURES [Keynote]	6/12/23 16:30	25
	Shane Finneran	DNV, Dublin, Ohio, United States of America	REPURPOSING EXISTING NATURAL GAS PIPELINES FOR HYDROGEN SERVICE	6/12/23 16:55	20
	Ramgopal Thodla	DNV, Dublin, Ohio, United States of America	FATIGUE CRACK GROWTH RATE OF VINTAGE PIPELINE STEELS IN GASEOUS HYDROGEN - EFFECT OF FREQUENCY AND σ_K	6/12/23 17:15	20
	Nils-Erik Sanhen	Hamburg University of Technology, Hamburg, Germany	FATIGUE LIFE PREDICTION OF WELDED JOINTS AT SUB-ZERO TEMPERATURES USING MODIFIED PARIS-ERDOGAN PARAMETERS	6/12/23 17:35	20

Symposium 21: Fracture in Polymer-based Materials: Structure-Property Relationships
Organizers: Francesco Baldi, Alicia Salazar, Luca Andena
Location: Hazelnut

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
M1 Monday, June 12, 10:30-12:30 Session Chair: Francesco Baldi (Univ. Brescia, I)	Hung-Jue Sue	Texas A&M University, College Station, TX, United States of America	ROLE OF INTERFACE ON FRACTURE BEHAVIOR OF POLYMER NANOCOMPOSITES [Keynote]	6/12/23 10:30	40
	Nathan McMullen	Case Western Reserve University, Cleveland, Ohio, United States of America	FRACTURE OF UN-NOTCHED BIAXIALLY COLD ROLLED HIGH DENSITY POLYETHYLENE IN TENSION	6/12/23 11:10	20
	Guillaume De Luca	Sorbonne Université & Tortoise, Paris, France	POLYMERIC MATERIALS TOUGHNESS MEASUREMENT BY STATISTICAL FRACTOGRAPHY	6/12/23 11:30	20
	Zoltan Major	Johannes Kepler University Linz, Austria	FRACTURE AND FATIGUE OF SELECTIVE LASER SINTERED POLYMERIC LATTICE STRUCTURES	6/12/23 11:50	20
	Christoph Waly	Montanuniversitaet Leoben, Leoben, Austria	INVESTIGATION OF THE CRACK DEFLECTION/PENETRATION PROBLEM IN EXTRUSION-BASED ADDITIVELY MANUFACTURED POLYMERIC MATERIALS	6/12/23 12:10	20
M2 Monday, June 12, 14:00-16:00 Session Chair: Zoltan Major (Univ. Linz, AT)	Lucien Lairinandrasana	Centre for Material Sciences - Mines Paris - PSL University, Evry Cedex, France	THERMAL AND VOID VOLUME FRACTION PROFILES IN 3D FOR A DENT SPECIMEN OF NEAT AND GLASS OF SYNTACTIC POLYPROPYLENE MATERIALS	6/12/23 14:00	20
	Sumit Khatri	Texas A&M University, College Station, Texas, United States of America	FEM MODELING ON SCRATCH BEHAVIOR OF MICRO-PATTERNED POLYMER SURFACE	6/12/23 14:20	20
	Vincent Fournier	ENSAM - I2M, Bordeaux, France	FULL PMMA KINETIC LAW OF FRACTURE: FROM QUASI-STATIC TO DYNAMIC REGIME	6/12/23 14:40	20
	Md Shafiqul Islam	Blekinge Institute of Technology, Karlskrona, Sweden	MEASUREMENT AND FE-MODELING OF THE EFFECTS OF STRESS TRIAXIALITY ON THE NECK INITIATION AND FAILURE OF HIGH-DENSITY POLYETHYLENE	6/12/23 15:00	20
	Maxime Wetta	Arts et Metiers Institute of Technology, Université de Bordeaux, CNRS, INRAE, INP, I2M, HESAM Université, Talence, France	DISK-SHAPED COMPACT TENSION & COMPACT TENSION TESTS ON QUASI-BRITTLE THICK CELLULAR STRUCTURAL ADHESIVE: EXPERIMENTAL AND NUMERICAL ANALYSES	6/12/23 15:20	20
	Cristian Ovalle	Mines Paris, PSL University, Centre for Material Sciences (MAT), UMR7633 CNRS, 91003 Evry, France	DUCTILE FAILURE OF A PLASTICIZED POLYVINYLCHLORIDE DURING AIR BAG DEPLOYMENT	6/12/23 15:40	20

Symposium 21: Fracture in Polymer-based Materials: Structure-Property Relationships
Organizers: Francesco Baldi, Alicia Salazar, Luca Andena
Location: Hazelnut

Session	Presenting Author	Presenter Affiliation	Title	Talk Date and Time	Length (minutes)
Tu1 Tuesday, June 13, 10:30-12:30 Session Chair: Lucien Laiarinandrasana (Mines Paris, F)	Tobias Gehling	Polymer Competence Center Leoben, Austria	THE IMPACT OF CURING TIME AND MOLD TEMPERATURE ON THE FATIGUE BEHAVIOR OF NITRILE BUTADIENE RUBBER	6/13/23 10:30	20
	Paul Freudenthaler	Johannes Kepler University, Linz, Austria	ENVIRONMENTAL STRESS CRACKING RESISTANCE (ESCR) OF RECYCLED PP (RPP) FROM AND FOR YOGURT CUPS	6/13/23 10:50	20
	Mahavir Singh	Purdue University, West Lafayette, United States of America	STRUCTURAL STUDY OF AP-HTPB COMPOSITE UNDER IMPACT LOADING	6/13/23 11:10	20
	Alicia Salazar	Universidad Rey Juan Carlos, Móstoles, Madrid, Spain	INFLUENCE OF AGEING ON THE STRUCTURAL INTEGRITY OF CARBOXYL-TERMINATED POLYBUTADIENE SOLID ROCKET PROPELLANT	6/13/23 11:30	20
	Wei Li	Beijing Institute of Technology, Beijing, China	IN-SITU EXPERIMENTAL INVESTIGATION OF FATIGUE CRACK PROPAGATION MECHANISMS IN POLYMER ELECTROLYTE MEMBRANE OF FUEL CELL UNDER OVERLOADING EFFECT	6/13/23 11:50	20
Tu2 Tuesday, June 13, 14:00-16:00 Session Chair: Hung-Jue Sue (Texas A&M, US)	Paul J. Freudenthaler	Johannes Kepler University Linz, Linz, Austria	INFLUENCE OF TEMPERATURE AND TESTING MEDIA ON FATIGUE CRACK GROWTH PERFORMANCE OF POLYETHYLENE TESTED VIA CRACKED ROUND BAR SPECIMEN [Keynote]	6/13/23 14:00	40
	Hengxi Chen	Texas A&M University, College Station, TX, United States of America	REACTIVE TELECHELIC POLYETHERIMIDE TOUGHENED TETRAFUNCTIONAL EPOXY	6/13/23 14:40	20
	Francesco Baldi	University of Brescia, Italy	FRACTURE CHARACTERIZATION OF DUCTILE POLYMERS: RECENT APPLICATIONS OF THE LOAD SEPARATION CRITERION	6/13/23 15:00	20
	John Bassani	University of Pennsylvania, Philadelphia, Pennsylvania, United States of America	RUPTURE OF HYDROGELS	6/13/23 15:20	20

Poster Session: Tuesday, June 13, 6-7PM
Posters will remain on view through 7PM on Wednesday, June 14
Location: Grand Ballroom D

Poster Number	Presenting Author	Presenter Affiliation	Title
1	Kevin Jacob	IIT Bombay, Mumbai, India	FRACTURE BEHAVIOUR OF HPT PROCESSED MARAGING STEEL 250 [Poster]
2	Nilesh Vishe	The University of Alabama, Tuscaloosa, United States of America	IN-SITU HEALING OF STATIC AND FATIGUE CRACK IN THERMOSET FIBER-REINFORCED COMPOSITES I [Poster]
3	Thirupathi Maloth	Johns Hopkins University, Baltimore, United States of America	COUPLED CRYSTAL PLASTICITY PHASE-FIELD MODEL FOR DUCTILE FRACTURE IN POLYCRYSTALLINE MICROSTRUCTURES
4	Shenghu Ding	Ningxia University, Yinchuan, China	STUDY ON THERMOMAGNETIC COUPLING FRACTURE OF HIGH TEMPERATURE SUPERCONDUCTOR MULTILAYER STRUCTURES [Poster]
5	Vigneshwaran Radhakrishnan	Texas A&M University, College Station, Texas, United States of America	THREE-DIMENSIONAL SIMULATIONS OF DUCTILE FRACTURE UNDER ARBITRARY LOADINGS [Poster]
6	Michael Zimnoch	UNC Charlotte, Concord, North Carolina, United States of America	EFFECTS OF SERVICE AGE ON THERMAL-MECHANICAL FATIGUE OF A 2.25CR-1MO STEAM HEADER [Poster]
7	Karl Michael Kraemer	Technical University Darmstadt, Darmstadt, Germany	CRACK GROWTH UNDER THERMO-MECHANICAL FATIGUE IN NICKEL CAST ALLOYS [Poster]
8	Sahil Wajid	Texas A&M University, College Station, Texas, United States of America	A HYBRID MODEL OF DUCTILE FAILURE ACCOUNTING FOR STRAIN HARDENING [Poster]
9	Mohamed Akram Mechter	Polytechnique Montreal, Québec, Canada	FLOWFORMING TO IMPROVE THE FATIGUE LIFE OF IMPLANTS? [Poster]
10	Mahavir Singh	Purdue University, West Lafayette, Indiana, United States of America	FULL FIELD MEASUREMENT OF SHOCK COMPRESSION DEFORMATION ACROSS THE CRYSTAL BINDER INTERFACE USING TIME RESOLVED RAMAN SPECTROSCOPY [Poster]
11	Benjamin Elbrecht	Clemson University, Clemson, South Carolina, United States of America	GRAIN BOUNDARY SLIDING AND INTRAGRANULAR SLIP MEASUREMENT IN-SITU DURING CREEP [Poster]
12	Aditya Jhunjunwala	University of California Davis, United States of America	SIMULATING FRACTURE AND POST-FRACTURE RESPONSE OF WELDED COLUMN SPLICES [Poster]
13	Joshua Herrington	Texas A&M University, College Station, TX, United States of America	AN INVESTIGATION OF LODE EFFECTS ON DUCTILE FRACTURE [Poster]
14	Pharindra Pathak	Auburn University, Auburn, Alabama, United States of America	RAPID FATIGUE CHARACTERIZATION OF ADDITIVELY MANUFACTURED POLYMER COMPOSITES USING INFRARED THERMOGRAPHY. [Poster]
16	Abigail Eaton	University of Arkansas, Fayetteville, United States of America	FRACTURE PROPERTIES OF MULTIDIMENSIONAL CARBON-BASED MATERIALS [Poster]
17	Lihe Qian	Yanshan University, Qinhuangdao, Hebei province, China	UNUSUAL STRESS SERRATIONS AND PLC BANDS IN HIGH MANGANESE AUSTENITIC FE-MN-C TWIP STEEL [Poster]

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19	Shengwang Hao	Yanshan University, Qinhuangdao, Hebei Province, China	COMPETITION BETWEEN NECKING AND PRE-CUT PROPAGATION IN FRACTURE OF HIGH-DENSITY POLYETHYLENE REVEALED BY TIME COURSES OF STRAINS [Poster]
20	Shengwang Hao	Yanshan University, Qinhuangdao, Hebei Province, China	TRANS-SCALE PROPERTIES OF PRECURSORY ACCELERATING DEFORMATION IN CATASTROPHIC FAILURE OF UNIAXIALLY COMPRESSED SANDSTONES [Poster]
21	Avinaya Tripathi	Arizona State University, Tempe, United States of America	INFLUENCE OF PRINT PARAMETERS ON FRACTURE RESPONSE OF PLAIN AND FIBER-REINFORCED 3D-PRINTED BEAMS [Poster]
22	Filipe Da Rocha Chaves	ENS Paris-Saclay, Paris, France	AN INTEGRATED APPROACH TO DIGITAL IMAGE CORRELATION APPLIED TO A NOVEL THREE ACTUATORS FRETTING FATIGUE RIG [Poster]
23	David Cook	University of California Berkeley, United States of America	FRACTURE OF MULTI-PRINCIPAL ELEMENT ALLOYS [Poster]
24	Elnaz Haddadi	University of North Carolina at Charlotte, United States of America	FRACTURE PROPERTIES OF TETRAGRAPHENE UNDER MIXED MODE LOADING [Poster]