

PROGRAM SCHEDULE

Sunday 23rd

18:00
20:30 **Welcome Reception and Registration**

The program of ICMFF12 is based on :

- 4 plenary sessions
- 4 keynote lectures
- 17 topics organised in 4 parallel sessions
- 1 poster session

The list of topics and sessions is given below with the abbreviations used in the program.

The number below the session's name is the paper ID.

- Additive manufacturing (Add_Manuf)
 - Application (Application)
 - Composite materials (Composite)
 - Contact and fretting fatigue (Cont_fretting)
 - High temperature (High temp)
 - LCF or cyclic behaviour (LCF_Cy_Beh)
 - Life assessment (Life_assess)
 - Microstructure simulation (Microstructure)
 - Mixed-mode (Mixed-mode)
 - Non-proportional loading (Non_Prop)
 - Notch (Notch)
 - Recent development in experimental techniques (Rec_Dev_Exp)
 - Special session in memoria of Prof. Ewald Macha (E-Macha_S)
 - Strength criteria (Criteria)
 - Variable amplitude loading (VAL)
 - Very high cycle fatigue (VHCF)
 - Welding (Welding)
- and the poster session.

The rooms are indicated in the following pages.

Monday 24th

08:00	Registration (8:00 – 17:00)			
09:00	Opening ceremony			
09:20	Plenary 1 / F. DUNNE 24			
10:00	Plenary 2 / M. VORMWALD 147			
10:40	Coffee Break			
11:15	Micro-structure 13	Notch 89	Criteria 42	VHCF 164
11:35	Micro-structure 58	Notch 79	Criteria 158	VHCF 141
11:55	Micro-structure 23	Notch 53	Criteria 161	VHCF 56
12:15	Micro-structure 162	Notch 76	Criteria 8	VHCF 59
12:35	Lunch			
14:05	Keynote 1 / D. NOWELL 170		Keynote 2/ V. DOQUET 74	
14:40	VAL 14	Welding 9	Criteria 113	Mixed_Mode 171
15:00	VAL 178	Welding 55	Criteria 123	Mixed_Mode 179
15:20	VAL 182	Welding 11	Criteria 140	Mixed_Mode 26
15:40	VAL 29	Welding 151	Criteria 21	Mixed_Mode 90
16:00	Coffee Break			
16:35	VAL 87	Welding 40	Criteria 131	Mixed_Mode 63
16:55	VAL 70	Welding 69	Criteria 165	Mixed_Mode 35
17:15	VAL 85	Welding 114		Mixed_Mode 107
17:35	Hotel Break (free time)			
18:45	Walking Bordeaux Visit (or free time)			
20:15	COCKTAIL Wine & Cheese			
22:15				

Tuesday 25th

08:00	Registration (8:00 – 17:00)			
08:45	Plenary 3 / M. ENDO 213			
09:30	Rec_Dev_Exp 207	LCF_Cy_Beh 177	Composite 201	Mixed_Mode 145
09:50	Rec_Dev_Exp 134	LCF_Cy_Beh 45	Composite 196	Mixed_Mode 211
10:10	Rec_Dev_Exp 77	LCF_Cy_Beh 47	Composite 84	Mixed_Mode 91
10:30	Rec_Dev_Exp 117	LCF_Cy_Beh 50	Composite 51	
10:50	Coffee Break			
11:20	Keynote 3 / A. ARAUJO 208		Keynote 4 / I. RAOULT 200	
11:55	Life assess 98	LCF_Cy_Beh 83	E-Macha_S 71	Mixed_Mode 181
12:15	Life assess 154	LCF_Cy_Beh 38	E-Macha_S 28	Mixed_Mode 92
12:35	Life assess 110	LCF_Cy_Beh 82	E-Macha_S 49	Mixed_Mode 108
12:55	Life assess 39		E-Macha_S 46	
13:15	Lunch			
14:30	Posters			
15:40	Life assess 44	LCF_Cy_Beh 31	E-Macha_S 68	Cont_fretting 153
16:00	Life assess 203	LCF_Cy_Beh 33	E-Macha_S 88	Cont_fretting 129
16:20	Life assess 109	LCF_Cy_Beh 52	E-Macha_S 210	Cont_fretting 197
16:40	Coffee Break			
17:15	Life assess 169	LCF_Cy_Beh 61	Add_Manuf 215	Cont_fretting 41
17:35	Life assess 187	LCF_Cy_Beh 43	Add_Manuf 20	Cont_fretting 57
17:55	Life assess 30		Add_Manuf 111	Cont_fretting 86
18:15	Hotel Break (free time)			
19:00	Bus to the Conference Dinner			
	Conference Dinner			
22:30	Bus to the hotels			

Wednesday 26th

08:30	Registration (8:30 – 10:20)			
09:00		High_temp 64	Add_Manuf 34	Non_Prop 166
09:20		High_temp 185	Add_Manuf 122	Non_Prop 116
09:40	Application 105	High_temp 186	Add_Manuf 144	Non_Prop 135
10:00	Application 174	High_temp 192	Add_Manuf 168	Non_Prop 96
10:20	Coffee Break			
10:55	Application 75	High_temp 212	Add_Manuf 184	Non_Prop 176
11:15	Application 155	High_temp 118	Add_Manuf 133	Non_Prop 188
11:35	Application 32	High_temp 180	Add_Manuf 136	Non_Prop 81
12:00	Plenary 4 / A. FATEMI 119			
12:40	Closing Ceremony			
13:05	Lunch			
13:50	Break (free time)			
14:30	Bus departure to Arcachon			
	Option : Arcachon Tour			
19:30	Bus arrival in Bordeaux			

DETAILED PROGRAM

Monday 24th - Detailed program

08:00 Registration (08:00 - 17:00)

09:00 Opening Ceremony / Room: Duguit

09:20 Plenary Session / Chairperson: Ali FATEMI - Room: Duguit

09:20 24 **Multiaxial and nonproportional microstructurally-sensitive fatigue crack nucleation and growth** / Fionn Dunne

10:00 147 **Observations and modelling of non-proportional mixed mode cyclic loading** / Michael Vormwald

10:40 Coffee break

Microstructure simulation / Chairperson: Fionn DUNNE - Room: 1J

11:15 13 **Microstructure-Sensitive Computational Multiaxial Fatigue** / Krzysztof Stopka, Gary Whelan, David McDowell

11:35 58 **Micromechanical Modelling of Fatigue Crack Initiation in Martensitic High Strength Steels**
Benjamin Schaefer, Petra Sonnweber-Ribic, Hamad ul Hassan, Alexander Hartmaier

11:55 23 **Computational and experimental study of crack initiation in statistical volume elements**
Ebiakpo Kakandar, Alejandro Barrios Santos, Olivier Pierron, Gustavo M. Castelluccio

12:15 162 **Influence of hard/soft inclusions inside a metallic matrix under multiaxial loading conditions** / Riccardo Fincato, Seiichiro Tsutsumi, Tatsuo Sakai

Notch / Chairperson: Morris SONSINO - Room: Ellul

11:15 89 **The elasto-plastic Point Method to estimate fatigue lifetime of notched metallic materials under variable amplitude multiaxial fatigue loading** / Namiq Zuhair Faruq, Luca Susmel

11:35 79 **Generalization of the theory of critical distance to estimate lifetime of notched components in the medium-cycle fatigue regime** / Rafael Borges, José Araújo, Cosme Silva, Jéssica Dias, Jorge Ferreira

11:55 53 **Characterising the Fatigue behaviour of Nodular Cast Iron using Micromechanical Simulations** / Mehul Lukhi, Meinhard Kuna, GERALF HÜTTER

12:15 76 **The contrast of simplicity and accuracy in modeling multiaxial notch fatigue** / Christian Riess, Martin Obermayr, Michael Vormwald

Strength criteria / Chairperson: Marco A. MEGGIOLAROAU - Room: Duguit

11:15 42 **Evaluation of fatigue strength criteria for thick-walled nodular cast iron components from EN-GJS-400 under multiaxial load / Markus Fa , Klaus Störzel, Jörg Baumgartner**

11:35 158 **The assessment of the tensile or bending with torsion loading interaction using the selected hypotheses and the experiment / Vladimír Chmelko, Pavol Novotny**

11:55 161 **A virtual strain energy density based critical plane criterion to multiaxial fatigue life prediction / Jing Li, Yuan-ying Qiu**

12:15 8 **An efficient procedure to speed up critical plane search in multiaxial fatigue: Application to the Carpinteri-Spagnoli spectral criterion / Denis Benasciutti, Julian Marcell Enzweiler Marques**

Very High Cycle Fatigue / Chairperson: Yves VERREMAN - Room: 1K

11:15 164 **Crack growth and microstructural changes in AISI 52100: white etching cracks (WEC) and fine granular area (FGA) / Stefan Averbeck, Daniel Spriestersbach, Eberhard Kerscher**

11:35 141 **Fretting Fatigue Behaviour of Alloy Steel in the Very High Cycle Region / Yoshinobu Shimamura, Reo Kasahara, Hitoshi Ishii, Keiichiro Tohgo, Tomoyuki Fujii, Toru Yagasaki, Soichiro Sumida**

11:55 56 **Ultrasonic fatigue testing under multiaxial loading on a railway steel / Pedro Costa, Henrique Soares, Luis Reis, Manuel Freitas**

12:15 59 **Ultrasonic fatigue experiments with biaxial cruciform specimens / Pedro R. da Costa, Diogo Montalvão, Manuel Freitas, Luís Reis**

12:35 Lunch

14:05 Keynotes

14:05 170 **Approaches to fatigue life prediction under multiaxial loading / David NOWELL**
Chairperson : Sabrina VANTADORI - Room : Dugit

14:05 74 **Mixed-mode fatigue crack growth in rails / Véronique DOQUET**
Chairperson : Valery SHLYANNIKOV - Room : Ellul

Variable Amplitude Loading / Chairperson: Fabien LEFBVRE - Room: 1J

14:40 14 **Influence of Materials Ductility on Fatigue Life under Multiaxial Proportional and Non-Proportional Normal and Shear Stresses / Cetin Morris Sonsino**

15:00 178 **A fast algorithm to racetrack filter multiaxial histories preserving load shape / Marco Antonio Meggiolaro, Jaime Castro, Hao Wu**

15:20 182 **Multiaxial cycle counting method for non-proportional multiaxial variable loading signals based on modified maximal shear stress / Matus Margetin, Dominik Biro**

15:40 29 **A universal, damage-criterion-independent cycle counting method for multiaxial and variable amplitude fatigue / Koenraad Janssens**

Welding / Chairperson: LUCA SUSMEL - Room: 1K

- 14:40 9 **The peak stress method applied to the fatigue assessment of tube-tube steel joints with weld ends under multiaxial loadings** / Giovanni Meneghetti, Alberto Campagnolo, Michael Vormwald, Ehsan Shams
-
- 15:00 55 **Fatigue lifetime modelling of FSW welded joints under multi-axial loadings** / Xavier Truant, Georges Cailletaud, Florent Fournier Dit Charbert, Serge Kruch, Didier Pacou
-
- 15:20 11 **Multiaxial fatigue assessment of welded steel details according to the peak stress method based on tetra elements** / Alberto Campagnolo, Giovanni Meneghetti, Vittorio Babini, Matteo Riboli, Andrea Spagnoli
-
- 15:40 151 **A notch stress method for fatigue life prediction of spot-welded joints** / Changjian Wei, Hong-Tae Kang

Strength criteria / Chairperson: Masao SAKANE - Room: Duguit

- 14:40 113 **The effect of mean axial and torsional stresses on the fatigue strength of 34CrNiMo6 high strength steel** / Luis Pallarés-Santasmartas, Joseba Albizuri, Nelson Leguinaigoicoa, Nicolas Saintier, Jonathan Merzeau
-
- 15:00 123 **The use of a modified critical plane model to assess multiaxial fatigue of steels with non-metallic inclusions** / Pedro Vinícius Sousa Machado, Lucas Carneiro Araújo, Marcos Venicius Soares Pereira, José Alexander Araújo
-
- 15:20 140 **Determination of critical plane and assessment of fatigue durability for multiaxial cyclic loading and arbitrary shift of phases** / Ilia Nikitin, Nikolay Burago, Alexander Nikitin, Boris Stratula
-
- 15:40 21 **Study of interaction between normal and shear stresses and its effect on multiaxial fatigue behavior** / Shahriar Sharifimehr, Ali Fatemi

Mixed-mode / Chairperson: Michael VORMWALD - Room: Ellul

- 14:40 171 **Life-time prediction for aviation GTE compressor disk based on mixed-mode and multi-axial fracture resistance parameters** / Valery Shlyannikov, Ivan Ishtiryakov, Rustam Yarullin
-
- 15:00 179 **A 3D elastoplastic analysis of mixed-mode KI/KII around the crack front** / Luiz Fernando Marques, Jaime Castro, Luiz Fernando Martha, Marco Antonio Meggiolaro
-
- 15:20 26 **Mixed mode I/II/III fracture assessment of PMMA using a new test fixture** / Seyed Mohammad Javad Razavi, Haakon Lie Hokstad, Filippo Berto
-
- 15:40 90 **Mixed mode crack growth in aluminium alloy** / Mathieu Fressinet, Jon Mardaras, Ousmane Keita

16:00 **Coffee break**

Variable Amplitude Loading / Chairperson: Ida RAOULT - Room: 1J

- 16:35 87 **Establishment of damage estimation rule for brittle fracture after cyclic plastic prestrain in steel** Hiroaki Kosuge, Tomoya Kawabata, Taira Okita, Hideaki Murayama, Shunsuke Takagi
-
- 16:55 70 **Fatigue strength of S355JC steel under harmonic and random bending-torsion loading by a tri-axis shaker: Preliminary experimental results /** Davide Zanellati, Denis Benasciutti, Roberto Tovo
-
- 17:15 85 **Crack growth path of 30CrMnSiA steel under variable multiaxial loading /** Tianqi Liu, Xinhong Shi, Jianyu Zhang, Binjun Fei

Welding / Chairperson: Giovanni MENEGHETTI - Room: 1K

- 16:35 40 **Reproducing pop-in and assessment of load mode (bending vs. tension) effects /** Sohei Kanna, Yoichi Yamashita, Tomoya Kawabata
-
- 16:55 69 **Evaluation of residual stresses in a welded tube-to-plate joint /** Andrea Chiocca, Francesco Frendo, Leonardo Bertini
-
- 17:15 114 **Multiaxial fatigue assessment of tubular welds: HAZ Microstructure and residual stresses /** Kimiya hemmesi, Majid Farajian, Ali Fatemi

Strength criteria / Chairperson: Jaime CASTRO - Room: Duguit

- 16:35 131 **A continuum based macroscopic unified low- and high cycle fatigue model /** Tero Frondelius, Sami Holopainen, Reijo Kouhia, Niels Saabye Ottosen, Matti Ristinmaa, Joonas Vaara
-
- 16:55 165 **Mean shear stress effect built into the multiaxial fatigue strength estimation method of an integral type /** Jan Papuga, Lukás Suchy, Milan Ruzicka

Mixed-mode / Chairperson: Masahiro ENDO - Room: Ellul

- 16:35 63 **Mixed-mode crack tip fields in a polycrystalline aluminum alloy /** Marcel Wicke, Angelika Brueckner-Foitt
-
- 16:55 35 **Fatigue crack growth behaviors of perfluorosulfonic-acid membrane under biaxial loading /** Shouwen Shi, Qiang Lin, Gang Chen, Xu Chen
-
- 17:15 107 **Residual strength evaluation under mixed mode loading /** Slobodanka Boljanovic, Stevan Maksimovic, Andrea Carpinteri

17:35 **Hotel break (free time)**

18:45 **Walking Bordeaux visit (or free time)**

20:15
22:15 **Cocktail (Wine & Cheese)**

Tuesday 25th - Detailed program

08:00 **Registration** (08:00 - 17:00)

08:45 **Plenary Session** / Chairperson: *Thierry PALIN-LUC* - Room: *Duguit*

08:45 213 **Near-threshold growth behaviour of small shear-mode fatigue cracks in bearing steels** / *Masahiro Endo*

Recent Development in Experimental Techniques / Chairperson: *Franck MOREL* - Room: *1K*

09:30 207 **High temperature multiaxial testing and field monitoring** / *Alain Koster, Mariem Trabelsi, Ahmed Chaeib, Jérôme Crepin, Vincent Maurel*

09:50 134 **Development of Multiaxial Creep Testing Machine for Miniature Specimen** / *Noritake Hiyoshi, Takamoto ITOH, Masao SAKANE, Takafumi TSURUI, Masaaki TSURUI*

10:10 77 **Development of Fatigue Testing System for in-situ Observation of Stainless Steel 316 by HS-AFM & SEM** / *Amir Farokh Payam, Oliver Payton, Mahmoud Mostafavi, Loren Picco, Stacy Moore, Tomas Martin, Xander Warren, David Knowles*

10:30 117 **Evaluation of J-integral and crack plastic zone using X-Ray Tomography and Digital Volume Correlation (DVC)** / *Simon Tonge, Ahmet Cinar, Chris Simpson, Christina Reinhard, Thomas Connelly, James Marrow, Mahmoud Mostafavi*

Low Cycle Fatigue or Cyclic Behaviour / Chairperson: *Noritake HIYOSHI* - Room: *Duguit*

09:30 177 **Low-cycle fatigue behaviour of an aero-engine disk alloy under non-proportional loading: Experiments and modelling** / *Joao Vitor Sahadi Cavalheiro, David Nowell*

09:50 45 **Cyclic Deformation and Low-Cycle Fatigue for 316LN Stainless Steel under Non-proportional Loading** / *Yajing Li, Bin Ren, Xu Chen*

10:10 47 **New research findings on nonproportional low cycle fatigue** / *Anghel Cernescu, Rhys Pullin*

10:30 50 **Axial-torsional fatigue and cyclic deformation of 304L stainless steel at room temperature** / *Cainã Bemfica, Edgar Mamiya, Fábio Castro*

Composite Materials / Chairperson: Carole NADOT-MARTIN - Room: 1J

- 09:30 201 **Multiaxial fatigue characterization of real size hybrid glass/carbon reinforced epoxy composite component considering ageing influence**
Jonathan Raujol, Bertrand Lascoup, Julio-Cesar De Luca
-
- 09:50 196 **Fatigue life estimation of a short fiber reinforced thermoplastic: optimization of an energetic criterion and corresponding volume integration for multiaxial applications** / *Caroline Goutal, Sylvie Castagnet, Carole Nadot-Martin, Gilles Robert, Pierre Charrier*
- 10:10 84 **Multiaxial Fatigue Behavior of Neat and Short Glass Fiber Polymeric Composites; Experimental Study and Modeling Including Notch and Mean Stress Effects** / *Mohammad Reza Amjadi, Ali Fatemi*
-
- 10:30 51 **Blind Prediction of FRP repairs for multiaxial fatigue cracks on Hydraulic Steel Structures** / *Guillermo Riveros, Christine Lozano*

Mixed-mode / Chairperson: Véronique DOQUET - Room: Ellul

- 09:30 145 **Investigation of mixed mode fatigue crack propagation in SEN-specimen under in-phase and out-of-phase conditions due to tension-compression and torsional loading** / *Paul Koester, Christopher Benz, Manuela Sander*
-
- 09:50 211 **Influence of a 3D realistic crack path in the driving forces for fatigue crack growth under mode I+II loading** / *Vincent Maurel, Vincent Chiaruttini, Manon Abecassis, Mariem Trabelsi, Alain Koster*
-
- 10:10 91 **Effect of triaxial stress distribution upon roughness of brittle fracture surface** / *Noritaka Nakamura, Tomoya Kawabata, Yasuhito Takashima, Yuki Nishizono, Fuminori Yanagimoto*

10:50 Coffee break

11:20 Keynotes

- 11:20 208 **Multiaxial high cycle fretting fatigue** / *Alex Araujo*
Chairperson: Andrea CARPINTERI - Room : Ellul
-
- 11:20 200 **Fatigue equivalent load approach for fatigue design** / *Ida Raoult*
Chairperson: Mac Lan NGUYEN - Room : Dugit

Life Assessment / Chairperson: Denis BENASCIUTTI - Room: 1J

- 11:55 98 **Influence of internal imperfections on the fatigue resistance of cast steel - testing methodologies** / *Sven Nagel, Christof Rauber, Peter Knödel, Thomas Ummenhofer, Ines Veile*
-
- 12:15 154 **A railway wheel evaluation under multiaxial loading conditions** / *Henrique Soares, Vitor Anes, Manuel Freitas, Luis Reis*
-
- 12:35 110 **Multiaxial fatigue behavior of 2618 aluminum alloy** / *Benaissa MALEK, Catherine Mabru, Michel Chaussumier*
-
- 12:55 39 **Fatigue life estimation under multiaxial loading state based on strain energy** / *Mostefa Bendouba, Abdelkader Djebli, Abdelkrim Aid*

Low Cycle Fatigue or Cyclic Behaviour / Chairperson: Vincent MAUREL - Room: Duguit

- 11:55 83 **On the phase angle role in the shear stress response of ZK60 Mg alloys under multiaxial fatigue** / Seyed Mohamad Hasan Karparvarfard, Seyed Behzad Behravesh, Hamid Jahed
-
- 12:15 38 **A cloud-based fatigue analysis tool with interactive Neuber's master curve** / Daniel Kujawski
- 12:35 82 **On the cyclic behaviour of the 2017A aluminium alloy** / Abdelghani May, Abdelghani Mokdad

Special Session in Memoria of Prof. Ewald Macha /

Chairperson: Jan PAPUGA - Room: 1K

- 11:55 71 **The generalized criterion of multiaxial random fatigue based on conception proposed by prof. Macha** / Tadeusz Lagoda, Marta Kurek, Karolina Lagoda
-
- 12:15 28 **Short cracks observation on surfaces of specimens made of three materials, subjected to synchronous and asynchronous multiaxial loadings** / Lukasz Pejkowski, Jan Seyda, Dariusz Skibicki
-
- 12:35 49 **Crack shielding in non-planar and frictional discontinuities under mixed-mode loading** / Andrea Spagnoli, Andrea Carpinteri, Michele Terzano
-
- 12:55 46 **Mean stress effects on Low-Cycle Fatigue behaviour of Inconel 718 alloy** / Sabrina Vantadori, Andrea Carpinteri, Camilla Ronchei

Mixed-mode / Chairperson: Alain KÖSTER - Room: Ellul

- 11:55 181 **Experimental development of mixed mode crack growth on cruciform specimen** / Vincent Bonnard, Didier Pacou, Vincent Chiaruttini, Mael Zaid, Pierre Depouhon
-
- 12:15 92 **Cruciform specimens for the determination of crack growth behaviour in the biaxial stress field: a proposal for the calculation of K** / Carl Heinrich Wolf, Sebastian Henkel, Andreas Burgold, Meinhard Kuna, Horst Biermann
-
- 12:35 108 **An dissipated energy based analysis of fatigue crack propagation law** / Aleksei Vshivkov, Anastasiia Iziyomova, Rustam Yarullin, Valery Shlyannikov, Oleg Plekhov

13:15 **Lunch**

14:30 Posters

- 65 **Spatiotemporal aspects of jerky flow in an Al-4.5Mg alloy using digital image correlation method** / Lynda Ziani, Hakim Ait-Amokhtar, Nouara Chibane
-
- 78 **Influence of tool wear on surface integrity of fatigue specimens** / Maksim Kalienko, Anatoly Volkov, Alexey Gugel, Marina Zudova, Mikhail Leder
-
- 93 **Damage accumulation in a lead-core bearing devicea lead-core bearing device** / Todor Zhelyazov, Rajesh Rupakhety, Simon Olafsson
-
- 95 **Thermomechanical fatigue modelling of stainless steels** / Pierre-Emmanuel Leger, Pierre-Olivier Santacreu, Benoit Prault, Isabelle Evenepoel
-
- 102 **Interfacial stresses in damaged reinforced concrete beams strengthened by externally bonded prestressed CFRP composite plate** / Hassaine Daouadji Tahar, rabahi abderezak, Abbes Boussad, benferhat rabia, abbes fazily
-
- 104 **Effect of creep and shrinkage of interfacial stress in FRP-RC beams** / rabahi abderezak, Hassaine Daouadji Tahar, Benferhat Rabia, Abbes Boussad, Abbes Fazily
-
- 106 **Utilization of Vectors in Quantitative Fractography and Their Relation to Crack Separation Modes** / Stepan Major, Vladimír Kocour
-
- 139 **Edge fatigue crack growth under high frequency loading** / Ilia Nikitin, Nikolay Burago, Alexander Nikitin, Boris Stratula
-
- 142 **Fretting fatigue failure of modular hip prosthesis: case of patient stumbling** / Messellek Ali Cherif, Ould Ouali Mohand, Amrouche Abdelwaheb
-
- 143 **Investigation of macroscopic and microscopic behaviour of heat treated and non-treated TA6V under certain solicitations** / Rym Harbaoui, Imen Harbaoui, Amna Znaidi
-
- 157 **The analysis of the loading proportionality of the trailer chassis** / Vladimir Chmelko, Miloslav Kepka, Martin Garan, Erwin Schäfer
-
- 172 **Lock-in thermography for fatigue damage monitoring of thermoplastic composite materials** / Laura Muller, Jean-Michel Roche, Antoine Hurmane, Oriane Fedrigo, Catherine Peyrac, Laurent Gornet
-
- 173 **Fretting crack propagation behaviour of a SiC-reinforced aluminium alloy: effects of the microstructure** / Jean Balmon, Siegfried Fouvry, Patrick Villechaise, Jean-Yves Buffière, Josselin Paturaud
-
- 189 **Ductile fracture characterization of an IF steel tensile test by numerical simulation** / Latifa Arafaoui, Amel Samet, Amna Znaidi

Life Assessment / Chairperson: Luis REIS - Room: Duguit

- 15:40 44 **A new dissipation-based model for multiaxial fatigue life prediction** / Ensheng Feng, Xiaogang Wang, Chao Jiang
-
- 16:00 203 **A damage model based on the critical plane to estimate fatigue life under multi-axial random loading** / Daiyang Gao, Weixing Yao
-
- 16:20 109 **Multiaxial fatigue life estimate by a continuum damage model in two-scales** / Lucival Malcher, Lucas Mangas Araújo

Low Cycle Fatigue or Cyclic Behaviour

Chairperson: Daniel KUJAWSKI - Room: 1K

- 15:40 31 **Influence of multiaxial cyclic plastic loading on grain boundary misorientation profile in austenitic stainless steel** / Rima Dey, Soumitra tarafder, S Sivaprasad
-
- 16:00 33 **Multiaxial fatigue of rolled magnesium alloy** / Yanyao Jiang, Yuqian Wang, Duke Culbertson, Luiz Carneiro
-
- 16:20 52 **Regularizational approach for modelling ductile damage** / Kai Langenfeld, Jörn Mosler

Special Session in Memoria of Prof. Ewald Macha /

Chairperson: Tadeusz LAGODA - Room: Ellul

- 15:40 68 **Including the normal to shear stresses ratio in fatigue life estimation for cyclic loadings** / Marta Kurek
-
- 16:00 88 **Fatigue behavior of selected materials under multiaxial asynchronous loadings** / Lukasz Pejkowski, Dariusz Skibicki
-
- 16:20 210 **General Procedure for Formulation of Multiaxial Fatigue Failure Criteria in Frequency Domain** / Adam Nieslony, Michal Böhm, Robert Owsinski

Contact and Fretting Fatigue/ Chairperson: David NOWELL - Room: 1J

- 15:40 153 **An experimental and numerical approach to predict fretting fatigue endurance of overhead conductors** / Julien Said, Simon Garcin, Siegfried Fouvry, Christine Yang, Fikri Hafid
-
- 16:00 129 **Effect of test configuration on fretting fatigue life** / Luis Bohórquez, Jesús Vázquez, Carlos Navarro, Jaime Domínguez
-
- 16:20 197 **Plain fretting and fretting-fatigue crack paths prediction: comparison between hoop stress range and alternative SIF strategies** / Julien Ferniot, Siegfried Fouvry, Bruno Berthel

16:40 **Coffee break**

Life Assessment / Chairperson: Adam NIESLONY - Room: Duguit

- 17:15 169 **Enhancing reliability in traditional multiaxial design methodology using the Generalized Local Model (GLM)** / Alfonso Fernández-Canteli, Sergio Blasón, Miguel Muniz-Calvente, Enrique Castillo
- 17:35 187 **Fatigue life properties of stainless steel in wide ranged biaxial stress state using a hollow cylinder specimen** / Shunsuke Saito, Itoh Takamoto, Ogawa Fumio
-
- 17:55 30 **Damage mechanics-finite element method for vibrational fatigue life prediction of engineering structures with damping** / Zhang Miao, Bao Shi, Gong Zhe, Liu Xingying
-

Low Cycle Fatigue or Cyclic Behaviour / Chairperson: Andrea SPAGNOLI - Room: 1K

- 17:15 61 **Configurational forces in cyclic metal plasticity** / Aris Tsakmakis, Michael Vormwald
-
- 17:35 43 **Multiaxial Inverse Stress Analysis for Indentation Creep** / Masao Sakane, Akihiko Hirano, Naomi Hamada, Yukari Hoya, Takahiro Oka, Masataka Furukawa, Takamoto Itoh
-

Additive Manufacturing / Chairperson: Yves NADOT - Room: Ellul

- 17:15 215 **Computational simulation of fracture behaviour in auxetic cellular structure by multiaxial loading** / Branko Necemer, Janez Kramberger, Nejc Novak, Srečko Glodez
-
- 17:35 20 **Fatigue of thin periodic triangular lattice plates** / Yifan Li, Anton Shterenlikht, Martyn Pavier
-
- 17:55 111 **Fracture behaviours of three-dimensional lattices** / Huaiyuan Gu
-

Contact and Fretting Fatigue / Chairperson: Siegfried FOUVRY - Room: 1J

- 17:15 41 **Investigation of the asperity point load mechanism for thermal elastohydrodynamic conditions** / Carl-Magnus Everitt, Bo Alfredsson
-
- 17:35 57 **Determination of optimal residual stress profiles for improved rolling contact fatigue resistance** / Hamidreza Mahdavi, Konstantinos Poullos, Christian Frithiof Niordson
-
- 17:55 86 **Fatigue strength evaluation for individual strands of overhead conductors using a biaxial fretting fatigue test bench** / Amine Omrani, Sébastien Langlois, Pierre Van Dyke, Sasan Sattarpanah Karganroudi, Sébastien Lalonde
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18:15 **Hotel break (free time)**

19:00 **Meeting at bus and transportation to the Conference Dinner**

Conference Dinner

22:30 **Bus to the hotels**

Wednesday 26th - Detailed program

08:30 **Registration** (08:30 - 10:20)

Applications / Chairperson: Manuel DE FREITAS - Room: 1K

- 09:40 105 **Fracture of in-service mechanical components with porosity cluster detected and characterised by ultrasonic NDT** / Julien Vasseur, Dmytro Vasiukov, Salim Chaki, Benoît Dupont, Isabel Huther, Michel Marzin, Fabien Lefebvre, Nicolas Leymarie
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- 10:00 174 **Bolt fatigue parametric study of a bolted assembly** / Aliou Badara Camara, Fabienne Pennec, Sébastien Durif, Jean-Louis Robert, Abdelhamid Bouchair
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High Temperature / Chairperson: LUC REMY - Room: 1J

- 09:00 64 **High temperature uniaxial ratcheting and bi-axial low cycle fatigue behaviour of railway wheel steel** / Dimitrios Nikas, Johan Ahlström
-
- 09:20 185 **Evaluation of Multiaxial Creep-fatigue Strength for High Chromium Steel under Non-proportional Loading** / Yuuki Kasamuta, Fumio Ogawa, Takamoto Itoh, Hiroyasu Tanigawa
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- 09:40 186 **Creep Damage Evaluation using Uniaxial Miniature Specimens for Multiaxially Damaged Components** / Rui Kosaka, Fumio Ogawa, Takamoto Itoh, Masao Sakane
-
- 10:00 192 **2.25Cr-1Mo Steel under Multiaxial Loading with Creep and Plasticitye** / Bassem Felemban, Firat Irmak, Ali Gordon
-

Additive Manufacturing / Chairperson: Arnaud LONGUET - Room: Duguit

- 09:00 34 **Cyclic response of a structure repaired using Laser Cladding: localization of plastic strain due to microstructure gradient** / Camille Guevenoux, Eric Charkaluk, Andrei Constantinescu, Alexandre Charles
-
- 09:20 122 **An experimental and numerical study of the multiaxial fatigue behaviour of titanium lattice structures produced by SLM** / Khalil Refai, Charles Brugger, Marco Montemurro, Nicolas Saintier
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- 09:40 144 **Effect of roughness and microstructure on high cycle fatigue crack initiation of additive manufactured austenitic stainless steel 316L** / Xiaoyu Liang, Camille Robert, Anis Hor, Franck Morel
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- 10:00 168 **Surface roughness effect of SLM and EBM Ti-6Al-4V on multiaxial high cycle fatigue** / Bastien Vayssette, Nicolas Saintier, Charles Brugger, Mohamed El May

Non proportional loading / Chairperson: Yongming LIU - Room: Ellul

09:00 166 **Out-of-phase loading in the high-cycle fatigue region** / Jan Papuga, Martin Nesládek, Maxim Lutovinov

09:20 116 **Multiaxial Fatigue Behaviour of Steel S355J2H Including Non-proportionality Effect** / Robert Boehm, Kimiya Hemmesi, Majid Farajian

09:40 135 **Fatigue behavior of NiTiNol medical devices under multi-axial non-proportional loads** / Francesca Berti, Andrea Spagnoli, Lorenza Petrini

10:00 96 **Effect of phase Angle on the cyclic behavior and fatigue life of AISI 410** / Muhammed Adinoyi, Necar Merah, Jafar Albinmousa

10:20 Coffee break

Applications / Chairperson: Eberhard KERSCHER - Room: 1K

10:55 75 **Multiaxial fatigue criteria applied to motor crankshaft in thermoelectric power plants** / André Feiferes, Tiago Castro, Marcos Venicius Pereira, Fathi Aref Darwish

11:15 155 **Multiaxial fatigue analysis of mooring chains under out-of-plane bending** / Fábio Castro, Edgar Mamiya, Eduardo Nunes Filho, Guilherme Ferreira, Raniere Neves, Felipe Canut, Lucival Malcher

11:35 32 **Drillstring Failure: Analytical and Experimental Approach** / Edris M. Hassan, Jamil Abdo, Jan Kwak, Abdullah AlShabibi

High Temperature / Chairperson: Takamoto ITOH - Room: 1J

10:55 212 **Thermal Gradient Mechanical Multiaxial Fatigue Assessment of a Nickel-Based Superalloy** / Huang Yuan, Jingyu Sun

11:15 118 **Multiaxial Cyclic Behaviour and Fatigue Modelling of Forged AZ80 Mg Alloy** / Andrew Gryguc, Behzad Behraves, Sugrib Shaha, Hamid Jahed, Mary Wells, Bruce Williams, Xuming Su

11:35 180 **Application of the self-heating method at high temperature on aeronautical alloys: procedures and interpretation of the self-heating curves for the rapid determination of high cycle fatigue properties** / Vincent Roué, Cédric Doudard, Sylvain Calloch, Adriana Mattiello, Quentin Pujol D'Andrebo

Additive Manufacturing / Chairperson: Stephan COURTIN - Room: Duguit

10:55 184 **Multiaxial fatigue strength under non-proportional loading of additively manufactured notched components of Ti-6Al-4V / Stefano Bressan, Javad Razavi, Fumio Ogawa, Takamoto Itoh, Filippo Berto**

11:15 133 **Fatigue life of an AlSi10Mg alloy manufactured via Additive Layer Manufacturing by using data from Computed Tomography / Yves Nadot, Carole Nadot-Martin, Wen Hao Kan, Sarah Boufadene, Matthew Foley, Julie Cairney, Gwenaëlle Proust, Lionel Ridosz**

11:35 136 **Defect sensitivity in additively manufactured aluminium alloys: contribution of CAD artificial defects / Matthieu Bonneric, Charles Brugger, Nicolas Saintier**

Non proportional loading / Chairperson: Alfonso FERNANDEZ-CANTELI - Room: Ellul

10:55 176 **Taking into account the non-proportional loading effect on high cycle fatigue life predictions obtained by invariant-based approaches / Lorenzo Bercelli, Cédric Doudard, Sylvain Moyne**

11:15 188 **Evaluation of non-proportional multiaxial fatigue strength of lead-free solder with elements addition / Keiwa Makino, Fumio Ogawa, Takamoto Itoh**

11:35 81 **Multiaxial high-cycle fatigue modelling for random loading / Haoyang Wei, Yongming Liu**

12:00 Plenary Session / Chairperson: Darrell SOCIE - Room: Duguit

12:00 119 **Multiaxial fatigue of additively manufactured metals / Ali Fatemi**

12:40 Closing Ceremony / Room: Duguit

13:05 Lunch

13:50 Hotel break (free time)

14:30 Option : Arcachon Tour (Departure 14:30, Arrival 19:30)