8th edition
of the International conference on fatigue design
PARTNER COUNTRY: JAPAN

20 & 21 November 2019
Senlis France

fatiguedesign.org

Program
The 8th Fatigue Design conference held in 2019 aims to present the most innovative approaches and scientific progress in design methodologies, tools, and equipment's life extension, focusing on industrial applications.

For this edition, a special focus is made on the relation between additive manufacturing and fatigue.

To facilitate exchanges among participants, in addition to the two days of lectures, there will be:

• a poster exhibition,
• a technological showcase by service providers and technology suppliers.

For the third time, the organizing committee has decided to dedicate the conference to the scientific community from a specific country. After USA in 2015 and Italy in 2017, in respect to Japanese advance research works in the area of fatigue and fracture mechanics in the last years, it has been decided to consider Japan as the “partner country” for this conference.

**International Scientific committee**

| M. Afzali (France) | L. Dunai (Hungary) |
| J.A. Araújo (Brasil) | C. Engler-Pinto (USA) |
| M. Bacher-Hoechst (Germany) | M.L. Facchinetti* (France) |
| Z. Barsoum (Sweden) | M. Farajan (Germany) |
| J. Baumgartner (Germany) | A. Fatemi (USA) |
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| L. Coelho (Portugal) | A. Ince (Canada) |
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| G. Menghetti (Italy) | Y. Nadot* (France) |
| M. Nguyen* (France) | A. Nussbaumer (Switzerland) |
| D. Osage (USA) | T. Palín-Luc* (France) |
| M. Quaresimin (Italy) | L. Rémy* (France) |
| M.P. Repetto (Italy) | F. Rezaï-Aria* (France) |
| N. Saintier* (France) | M. Risbet-Voitot (France) |
| N. Shamsaei (USA) | A. Spagnoli (France) |
| A. Szmytka* (France) | G. Thoquenne* (France) |
| S. Vantadori (Italy) | F. Walbridge (Canada) |

* SF2M Fatigue commission

**From the partner country, Japan**

H. Akebono (Hiroshima University)
S. Asada (Mitsubishi Heavy Industries, Ltd.)
M. Endo (Fukuoka University)
M. Kinefuchi (Kobe Steel, Ltd.)
J. Komotori (Keio University)
T. Makino (Nippon Steel & Sumimoto Metal Corp.)
Y. Murakami (Kyushu University)
M. Nakane (Hitachi-GE Nuclear Energy, Ltd.)
T. Ogawa (Gakushuin University)
H. Oguma (National Institute for Materials Science)

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**Fatigue Design 2019**
Wednesday, November 20th

8:30 - 9:00 Opening statement Room 6

9:00 - 10:30 Plenary Session Room 6

122 - Defect analysis for additively manufactured materials in fatigue from the viewpoint of quality control and statistics of extremes
Y. Murakami - Kyushu University, Japan

84 - The peak stress method combined with 3D finite element models to assess the fatigue strength of complex welded structures
G. Meneghetti, A. Campagnolo - Department of Industrial Engineering - University of Padova, Italy

10:30 - 11:15 ☕ Coffee - Technical showcase - Poster Exhibition

11:15 - 12:45

Room 6

SO6-1 Fatigue of assemblies

115 - Evaluation of HFMI as a life extension technique for welded bridge details
M. Edgren1,2, Z. Barsoum1,3, M. Al-Eman1 - KTH Royal Institute of Technology, Stockholm, Sweden. 2DEKRA Industries AB, Stockholm, Sweden. 3Chalmers University of Technology, Gothenburg, Sweden

109 - Fatigue reinforcement during repainting for two motorway bridges
J. Berthelot1, A. Manaf1 - Cerema, Champs sur Marne, France. 1University Chalmers, Gothenburg, Sweden

54 - Enhancements of a stress-based approach for fatigue life estimation of multi-material connections joined by self-piercing rivets and adhesive
J. Presse1, B. Künkel1, T. Michler1 - Opel Automobile GmbH, Russelsheim am Main, Germany

Room 7

Room 8

Room 11

SO5-1 Experimental and numerical design and validation methods

88 - Influence of mean stress on inclusion initiated fracture under axial and torsional VHCF loading of spring steel
U. Karr1, B. Schönbauer1, M. Fitzka1, Y. Sanda2, E. Tamura1, S. Murakami1 - BOKU Vienna, Institute of Physics and Materials Science, Austria. 1Kobe Steel LTD, Materials Research Laboratory, Kobe, Japan

41 - Anisotropic fatigue crack propagation behavior of an open-die forged high strength AA7010-T7652 aluminum alloy
T. Strohmann, E. Breitbarth, G. Requena - German Aerospace Center, Institute of Materials Research, Köln, Germany

36 - Discussion on crack growth behavior in large-scale fatigue tests of carbon and low-alloy steel plates based on fracture surface observation
M. Takanashi1, H. Ueda2, T. Sakai, T. Ogawa2 - IHI Corporation, Yokohama, Japan. 2Toshiba Energy Systems & Solutions Corporation, Yokohama, Japan. 1The Kansai Electric Power Co., Inc., Akita-gun, Japan
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<tr>
<td><strong>S01-1 Additive Manufacturing</strong></td>
<td><strong>S02-1 Fatigue under severe environmental conditions &amp; Complex loading</strong></td>
<td><strong>S03-1 Composite &amp; Elastomer</strong></td>
<td><strong>S08-1 Thermal and Thermo-mechanical fatigue</strong></td>
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<td><strong>2</strong> - Relationship between defect size and fatigue limit in Ti6Al4V with artificial defects</td>
<td><strong>42</strong> - Micro-scale frictional behavior of a bearing steel (JIS SUJ2) in cyclic sliding motion</td>
<td><strong>107</strong> - Fatigue dimensioning of short-fibre reinforced thermoplastics at Hutchinson: from material characterization to prediction on parts</td>
<td><strong>104</strong> - Concrete example of a multiphysical approach to a fatigue problem applied to thermal failure</td>
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<td>Y. Uematsu1, T. Kakiuchi1, M. Nakajima2 - 1Gifu University, Japan. 2National Institute of Technology, Toyota College, Japan</td>
<td>Y. Tanaka1, H. Matsunaga1, M. Endo1, S. Maryama2 - 1Kyushu University, Fukuoka, Japan. 2Institute of Materials Science and Technology, Fukuoka University, Japan.</td>
<td>K. Azazou1, V. Fabre1 - 1Hutchinson, Châteaudun, France. 2Hutchinson CRI, Chaléte-sur-Loing, France</td>
<td>Y. Goeh, E. Cupertino, T. Aouaz, J. Saindrenan - Cetim, France</td>
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<td><strong>117</strong> - Fast fatigue characterization by infrared thermography for additive manufacturing</td>
<td><strong>30</strong> - Tensile and fatigue properties of 17-4 PH martensitic stainless steels in presence of hydrogen</td>
<td><strong>50</strong> - Static and dynamic behavior of PU foams with multilayer coatings</td>
<td><strong>12</strong> - High temperature fatigue properties of Oxide-Dispersion-Strengthened Platinum-10% rhodium alloy</td>
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<tr>
<td>D. Pagliara1, Y. Balandraud1, B. Verquin1, F. Lejeune1 - 1Université Clermont Auvergne, CNRS, SIGMA Clermont, Institut Pascual, Clermont-Ferrand, France. 2Cetim, France</td>
<td>J.G. Sezgin1, J. Yamabe1,2 - 1AIST-Kyushu University Hydrogen Materials Laboratory (HydroMate), National Institute of Advanced Industrial Science and Technology (AIST), Fukuoka, Japan. 2Department of Mechanical Engineering, Fukuoka University, Japan.</td>
<td>R. Sesana1, F. Curà1, F. Scarpa2, X.C. Zhang2, H.X. Peng3 - 1DIMEAS Politecnico di Torino, Italy. 2Bristol Composites Institute (ACCIS), University of Bristol, United Kingdom. 3Institute for Composites Science Innovation (InCSI), School of Materials Science and Engineering, Zhejiang University, Hangzhou, China</td>
<td>A. Niwa1, Y. Akita1, K. Enomoto1, R. Aoyama2, H. Akebono2, A. Sugita2 - 1AGC Inc., Yokohama, Japan. 2Hiroshima University, Hiroshima-Hiroshima, Japan</td>
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<td><strong>39</strong> - Effect of surface roughness on fatigue strength of Ti6Al4V alloy manufactured by additive manufacturing</td>
<td><strong>63</strong> - Effect of high-pressure H2 gas on fatigue properties of metallic materials by means of the internal high-pressure H2 gas method</td>
<td><strong>28</strong> - Damage operator based thermo-mechanical fatigue prediction of a steam turbine shaft</td>
<td><strong>26</strong> - Damage operator based thermo-mechanical fatigue prediction of a steam turbine shaft</td>
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<tr>
<td>M. Nakata1, H. Masuo1, Y. Tanaka1, Y. Murakami1,2 - 1Kobe Material Testing Laboratory Co. Ltd., Kako-gun, Japan. 2Metal Technology Co.Ltd., Ebina, Japan. 3Kyushu University, Fukuoka, Japan.</td>
<td>A. Ueno, G. Benjamin - Ritsumeikan Univ., Kusatsu, Japan</td>
<td>M. Nestle1, J. Jurenka1, M. Lutovinov1, J. Papuga1, M. Růžička1, R. Procházka2, M. Rund2, P. Měšťánek3 - 1Czech Technical University in Prague, Czech Republic. 2COMTES FHT a.s., Dobřany, Czech Republic. 3Doosan Škoda Power s.r.o., Plzeň, Czech Republic</td>
<td>M. Nestle1, J. Jurenka1, M. Lutovinov1, J. Papuga1, M. Růžička1, R. Procházka2, M. Rund2, P. Měšťánek3 - 1Czech Technical University in Prague, Czech Republic. 2COMTES FHT a.s., Dobřany, Czech Republic. 3Doosan Škoda Power s.r.o., Plzeň, Czech Republic</td>
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<td><strong>5</strong> - Influence on the fatigue behavior of additively manufactured aluminum structures</td>
<td><strong>9</strong> - Fatigue testing of GFRP materials for the application in automotive leaf springs</td>
<td><strong>96</strong> - Fatigue life prediction of injection moulded short glass fiber reinforced plastics</td>
<td><strong>70</strong> - Effect of temperature condition on short crack propagation in a single crystal Ni-base superalloy under thermo-mechanical fatigue</td>
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<td>R. Waevers1, M. Scrinia1, H. Kaufmann1, T. Metz1 - Fraunhofer Institute for Structural Durability and System Reliability LBF, Darmstadt, Germany</td>
<td>C. Hopmann, P. Becker - Institute of plastics processing at RWTH Aachen university, Germany</td>
<td>M. Kanters1, L. Drouven1, P. Savoyat1 - DSM Materials Science Center, Geleen, Netherlands. 2e-Xstream engineering, Brussels, Belgium</td>
<td>Y. Yamazaki1, M. Miura1 - Chiba University, Japan</td>
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**Wednesday, November 20th**

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<td>12:45 - 14:00</td>
<td><strong>Lunch</strong></td>
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<td>14:00 - 16:00</td>
<td><strong>Coffee - Technological showcase - Poster Exhibition</strong></td>
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<tr>
<td>16:00 - 17:15</td>
<td><strong>Coffee - Technological showcase - Poster Exhibition</strong></td>
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The organizers may change this program if necessary.
### Room 6

**S04-2**  Damage tolerance and fatigue life  
**11 - Discussion of fracture surface using beach marks on fatigue test data with large scale piping**  
M. Bodai1, Y. Nomura1, S. Asada2, K. Hayashi1  
1Mitsubishi Heavy Industries, Takasago, Japan. 2Mitsubishi Heavy Industries, Kobe, Japan.  13 The Kansas Electric Power Co, Osaka, Japan  

**13 - Fatigue analysis of cast iron components considering the influence of casting skin**  
K. Berndt1, J. Hesseler1, C. Bleicher2  
1Technische Universität Darmstadt, Germany. 2Fraunhofer Institute LBF, Darmstadt, Germany

### Room 7

**S06-2**  Fatigue of assemblies  
**81 - Fatigue design of weld part in non-combustible magnesium alloy based on fracture Mechanics**  
Y. Miyashita1, T. Nishimizu1, K. Kokutani1, Y. Otsuka1  
1Nagaoka University of Technology, Japan. 2Graduate Student, Nagaoka University of Technology, Japan  

**68 - Weld bead removal retrofitting against fatigue cracking in steel girder web penetration**  
M. Sakano1, C. Sakamoto2, H. Konishi1, T. Fuji1  
1Kansai University, Osaka, Japan. 2Japan Consultant Association, Osaka, Japan.  3Japan Bridge Association, Osaka, Japan. 4Ministry of Land, Infrastructure and Transport, Himeji, Japan

### Room 8

**S05-2**  Experimental and numerical design and validation methods  
**15 - Fatigue design of safety relevant steel components considering local damage evolution**  
M. Hell1, R. Wagener2  
1Technische Universität Darmstadt, Research Group of System Reliability, Adaptive Structures and Machine Acoustics SAM, Germany. 2Fraunhofer Institute for Structural Durability and System Reliability LBF, Darmstadt, Germany

**20 - Correlation between rotating bending fatigue limit and static strength of Mg-Al-Zn alloys**  
K. Masaki  
National Institute of Technology, Okinawa College, Nago, Japan

### Room 11

**S10-1**  Contact fatigue  
**111 - An experimental and numerical multi-scale approach to predict the fretting-fatigue life of overhead conductors**  
J. Said1,2,3, S. Fouvry1, G. Cailletaud2, F. Hafid3, C. Yang1  
1Ecole Centrale de Lyon, LTDS, Ecully, France. 2Mines ParisTech, CDM, Evry, France. 3RTE, Paris, France

**29 - Effect of wheel size and tread braking on subsurface crack initiation of heavy haul car wheel**  
T. Kato1, T. Fujimura1, S. Hiramatsu2, Y. Yamamoto2, S. Dedmon3, S. Miyazaki1, J. Pilch3  
1Nippon Steel & Sumitomo Metal Corporation, Amagasaki, Japan. 2Nippon Steel & Sumitomo Metal Corporation, Osaka, Japan. 3Standard Steel, LLC, Burnham, USA

### Social event - Gala Evening at Senlis

Visit of Art & Archeology Museum and Notre Dame Cathedral  
Gala Dinner at Former Saint-Pierre Church

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<td><strong>S09-1 Taking into account manufacturing process in fatigue analysis</strong></td>
<td><strong>S05-3 Experimental and numerical design and validation methods</strong></td>
<td><strong>S10-2 Contact fatigue and shape memory material</strong></td>
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<td>75 - High cycle fatigue strength evaluation of welded joints in handling equipment</td>
<td>76 - On the impact of mechanical and metallurgical characteristics on pinion bending fatigue performance</td>
<td>40 - Effect of defects and hydrogen on the fatigue limit of Ni-based superalloy 718</td>
<td>64 - Characteristics of shear-mode fatigue crack growth behaviors in roll steels</td>
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<td>H. Heyraud1, C. Robert1, C. Mareau1, F. Morel1, D. Bellett1, O. Dore1, N. Belhomme1 - Manitou, Ancenis, France.</td>
<td>O. Cuevas Melo1, H. Orkhis1, M. Risbet1, J. Marteau1, S. Tna1, J. Favergeon1, F. Lefebvre1, M. Ocrute1, H. Rognon1 - GIMA, Beausset, France.</td>
<td>K. Sanny1, S. Okazaki2, O. Takakuwa3,4, Y. Ogawa3,5, K. Okita6, Y. Funakoshi1, Jo Yamabe8, S. Matsuoka7, H. Matsunaga7,8,9</td>
<td>K. Yanase1, A. Noda1, N. Oda1, M. Endo1 - Fukuoka University, Japan.</td>
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<tr>
<td>60 - Design criterion for fatigue strengthening of riveted bridge girders</td>
<td>69 - Fatigue properties and cracking mechanisms of a 7075 aluminum alloy under axial and torsional loadings</td>
<td>40 - Effect of defects and hydrogen on the fatigue limit of Ni-based superalloy 718</td>
<td>95 - Experimental study of the fatigue performance of overhead pure aluminium cables</td>
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<td>H. Heydarnouri1,2, E. Ghaffari1, A. Nussbaumer1 - Swiss Federal Laboratories for Materials Science and Technology (Empa), Dübendorf, Switzerland. Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland.</td>
<td>Y. Li1, Z. Sun1, H. Xue1, D. Retraint - ICD, P2MN, LASMIS, Université de Technologie de Troyes (UTT), CNRS, Troyes, France.</td>
<td>52 - Comparison of several methods for the notch effect quantification on specimens from 2124-T851 aluminum alloy</td>
<td>R. Kalombo Badibanga, G. Reinke, T. Barbosa de Miranda, J.L. de Almeida Ferreira, C. Roberto Moreira da Silva, J.A. Araújo - University of Brasilia, Brazil</td>
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<td>78 - Improvement of the fatigue strength of welds for lightweighted chassis application made of Advanced High Strength Steels</td>
<td>89 - Fatigue behavior of gear teeth made of case hardened steel: from competing mechanisms to lifetime variability</td>
<td>31 - Low cycle fatigue of welded very and ultra-high strength steels</td>
<td>43 - Recent advances in spline couplings reliability</td>
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<td>M. Duchet1, J. Haouas1, E. Gibeau1, F. Pechenot1, C. Honecker1, R. Munier1, W. Weis1 - Arcelest-Mittal Global R&amp;D, Mazières-Lès-Metz, France.</td>
<td>V. Anguel1, F. Morel1, E. Pessard1, D. Bellett1, S. Thibault1, S. Gourdin1 - Lampa, Angers, France.</td>
<td></td>
<td>C. Francesca1, S. De Ugarte Sevilla Patrik1, M. Andrea1 - Dipartimento di Ingegneria Meccanica e Aerospaziale, Politecnico di Torino, Italy. Siemens Gamesa, Zamudio, Vizcaya, Spain</td>
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<td><strong>8:30 - 10:00</strong></td>
<td><strong>10:00 - 10:45</strong></td>
<td><strong>10:00 - 10:45</strong></td>
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<td><strong>S06-4 Fatigue of assemblies</strong>&lt;br&gt;82 - Use of the peak stress method to assess the fatigue life of large welded steel structures&lt;br&gt;T. Vanlemmens¹, G. Elbel², G. Meneghetti² - ¹Liebherr-France SAS, Colmar, France. ²University of Padova, Italy&lt;br&gt;87 - Definition of nominal stress-based FAT classes of complex welded steel structures using the Peak Stress Method&lt;br&gt;M. Zanetti¹,², V. Babini¹, G. Meneghetti² - ¹Antonio Zamperla Spa, Altavilla Vicentina, Italy. ²Department of Industrial Engineering, University of Padova, Venezia, Italy&lt;br&gt;91 - Programme for maintenance and evolution of Eurocodes - Drafting of the future EN 1993-1-9 on fatigue of Steel structures&lt;br&gt;M. Lukic - CTICM, Saint-Aubin, France. CHEC, Arcueil, France</td>
<td><strong>S02-2 Fatigue under severe environmental conditions &amp; Complex loading</strong>&lt;br&gt;69 - Effect of hydrogen on fatigue Limit of SCM435 low-alloy steel&lt;br&gt;M. Kubota¹, M. Fukuda¹, R. Komoda² - ¹Kyushu University, Fukuoka, Japan. ²Fukuoka University, Japan&lt;br&gt;100 - Multiaxial fatigue of steels with small defects&lt;br&gt;L. Carneiro Araujo¹, P. Vinicius Sousa Machado¹, M. Vinicius Soares Pereira¹, J.A. Araújo¹ - ¹University of Brasilia, Department of Mechanical Engineering, Brazil. ²Catholic University of Rio de Janeiro, Department of Chemical and Materials Engineering, Brazil&lt;br&gt;10 - Fatigue assessment of metallic structures under variable amplitude loading&lt;br&gt;A. Manai, M. Al-Emrani - Chalmers university of technology, Gothenburg, Sweden</td>
<td><strong>S04-3 Damage tolerance and fatigue life</strong>&lt;br&gt;77 - Outline of the recent consolidated revision of EN13445-3, clause 18 and related annexes: detailed assessment of fatigue life&lt;br&gt;J. Rudolph¹, G. Baylac², R. Trieglaff³, R. Gawlick³, M. Krämer³, Y. Simonet⁴, M. Trisy⁴ - ¹Framatome GmbH, Erlangen, Germany. ²AFNOR, Paris, France. ³TÜV NORD Ensys GmbH &amp; Co. KG, Hamburg, Germany. ⁴Linde AG, München, Germany. ⁵TÜV SÜD Industrie Service GmbH, München, Germany. ⁶Cetim, France. ⁷Framatome SAS, Paris, France&lt;br&gt;92 - Life extension approach focusing on industrial and railway applications&lt;br&gt;A. Coulon, N. Vincent - Vibratec, Ecully, France&lt;br&gt;59 - Influence of surface irregularities on the low-cycle fatigue strength of an austenitic stainless steel&lt;br&gt;P. Cussac¹, C. Gardin¹, V. Pelosin¹, G. Hénaff¹, L. de Baglion², S. Courtin², O. Ancelet² - ¹Institut Pprime, Chasseneuil-du-Poitou, France. ²Framatome, Courbevoie, France. ³EDF, Saclay, France</td>
<td><strong>S05-4 Experimental and numerical design and validation methods</strong>&lt;br&gt;66 - Elastic-plastic strain analysis at mooring chains pit site&lt;br&gt;E.P. Zarandi¹, P. Haagensen, B. Skallerud - Norwegian University of Science and Technology, Trondheim, Norway&lt;br&gt;108 - Study of fatigue failure of a tough pitch copper wire brazed to beryllium copper strip&lt;br&gt;H.Y. Ahmad¹, M.J. Jweeg² - ¹Safran Electrical &amp; Power, Pitstone, UK. ²Al-Farahdi University, Baghdad, Iraq&lt;br&gt;72 - Numerical simulation of cyclic plasticity in mechanical components under low cycle fatigue loading: accelerated material models&lt;br&gt;J. Sgric Novak¹, F. De Bona¹, D. Benasciutti¹, L. Moro¹ - ¹University of Udine, Politecnic Department of Engineering and Architecture (DPA), Italy. ²University of Ferrara, Department of Engineering, Italy</td>
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Thursday, November 21st

13:30 - 15:30

Room 6

S01-2 Additive Manufacturing

53 - Machining influence on the fatigue resistance of Inconel 718 fabricated by Selective Laser Melting (SLM)
S. Periasamy1, A. Duchosal1, S. Vaudevaud1, H. Chibane1, A. Morandee2, R. Leroy2 - Polytech Tours, France. Université EuroMéditerranée, Ecole-Campus UECE, Marseille, France. 1INSA, Strasbourg, France. 2Sandvik Coromant, Fondettes, France

56 - Fatigue assessment of additively manufactured metallic structures using local approaches based on finite-element simulations
K. Schnabel, J. Baumgartner, B. Müller - Fraunhofer Institute for Structural Durability and System Reliability LBF, Darmstadt, Germany

57 - Fatigue improvement by shot peening and laser peening on additive manufacturing Ti-6Al-4V and 316L
Y. Loury-Malherbe1, S. Jenkins2, D. Davies2 - Radiation Effects Engineering Group, Shaker Heights, OH, USA

90 - Influence of porosity and post-treatment on fatigue life of SLM 316L
A. Damiens, H. Bonnefoy, I. Titeux-Peth - Université de Reims Champagne-Ardenne, France

Room 7

S11-1 Vibration Fatigue

21 - Random vibration fatigue of welded structures - Applications in the automotive industry
G. de Moraes Teixeira1, J. Carvalho da Silva Filho1, M. Roberts2 - Dassault Systemes Systems UK Limited, Sheffield, United Kingdom. 1Volkswagen Trucks and Buses, Revente, Brazil

7 - A new modeling framework for fatigue damage of structural components under random-on-random spectrum
Z. Li1 - Purdue University, West Lafayette, USA

93 - Adapted Locati method used into accelerated fatigue test for random vibrations
Y. Wang, R. Serra - INSA Centre Val de Loire, Blois, France

97 - Updating the master S-N curve to account for run-out data: Application to piping vibrations
E. Gassama, D. Spring, A. Stenta, M. Bifano, A. Feller - The Equity Engineering Group, Shaker Heights, OH, USA

Room 8

S09-2 Taking into account manufacturing process in fatigue analysis

120 - Influence of the type of thermochemical treatment on the mechanical properties
A. Galler1, M. Courteaux1, Michel1 - Alcometal France Holding CREAS, Hagondange, France. 1PSA Group, Voujeaucourt, France. 1R&T-M2P, Metz, France

22 - The effect of machined surface layer on low cycle fatigue lives of austenitic stainless steel
S. Hasunuma, T. Ogawa - Aoyama Gakuin University, Kanagawa, Japan

37 - Discussion of effect of disk grinding surface finish on fatigue strength of the nuclear component material
M. Nakane1, Y. Wang2, H. Hatoh2, A. Hirano2, K. Hayashi2 - 1Hitachi-GE Nuclear Energy, Ltd., Hitachi-shi, Japan. 2Hitachi, Ltd., Research & Development Group, Hitachi-shi, Japan. 3The Kansai Electric Power Co., Inc., Fukui-shi, Japan

47 - Fatigue resistance of light alloy sheets subjected to an environmentally friendly chemical milling process: metallurgical and chemical aspects
R. Sesana1, P. Mattei1, S. Spriano2, R. Maiorano1 - 1Dimeas Politecnico di Torino, Italy. 2Disat Politecnico di Torino, Italy. 3RicTech, Bruno, Torino, Italy

Room 11

S04-4 Damage tolerance and fatigue life

86 - Defect tolerance of high-strength steels in the HCF and VHCF regime
B. Schönbecker1, K. Yanase1, T. Frondeus3, J. Kuopola1, J. Komi1, M. Endo1, H. Mayer2 - 1BOKU Vienna, IPMS, Austria. 2Hitachi-GE Nuclear Energy, Ltd., Hitachi-shi, Japan. 3Centre for Advanced Steels Research, University of Oulu, Finland. 4Global Boiler Works Oy, Oulu, Finland. 5R&D and Engineering, Wartsila, Oulu, Finland

6 - Prediction of S-N curves at various stress ratios for structural materials
H. Xung Kim - Mechanical Engineering, School of Engineering, University of Newcastle, Callaghan, Australia

116 - Fatigue assessment of CFRP structures for automotive applications
S. Illias2, S. Wanner1, Z. Barsoum1, P. Wernhage1 - 1KTH Royal Institute of Technology, Stockholm, Sweden. 2Scania CV AB, Södertälje, Sweden

182 - Tensile fatigue properties estimation of a woven carbon fiber thermoplastic matrix composite material by self-heating monitoring
L. Gornet1, L. Muller1, J.M. Roche1, A. Humaran2, C. Peyrac3 - 1INSA Centre Val de Loire, Blois, France. 2Zodiac Aerospace, Plaisir, France. 3The Kansai Electric Power Co., Inc., Fukui-shi, Japan

15:30 - 16:00 Coffee - Technological showcase - Poster Exhibition

16:00 - 17:30 Plenary Session

73 - Fatigue design of additive layer manufacturing materials from computed tomography image
Y. Nakagawa1, C. Nadot-Martín2, L. Ridos1 - 1Institut Pprime Ensma, Poitiers, France. 2Zodiac Aerospace, Plaisir, France

123 - Crack growth arrester using gourd-shaped-insert-plate
Y. Yamashita1, T. Murakami1, Y. Akizuki2 - 1Hitachi-GE Nuclear Energy, Ltd., Hitachi-shi, Japan. 2Hitachi, Ltd., Research & Development Group, Hitachi-shi, Japan

17:45 End of the conference
Senlis (France), the Royal City

The conference will be held in Senlis, located some forty kilometres from Paris in the Oise département (French County, 60 – France). The city was built on a headland overlooking a natural intersection of the Chantilly, Ermenonville and Halatte forests.

Explore the wonders of the ancient city, the delightful little streets and the remains of the royal castle, where Hugues Capet was named king in 987, and which became a principal residence of many Kings of France.

You can also visit Notre-Dame cathedral, a testimony to four centuries of Gothic art or the Saint-Frambourg Chapel built in 1170.

For more information contact the Tourist office at Place du Parvis Notre-Dame 60302 Senlis Cedex - BP 80024, France Tel. +33(0) 34 53 64 60 - contact@senlis-tourisme.fr

Ermenonville

With its two historical landmarks, the castle and the Jean-Jacques Rousseau park, or the Mer de Sable theme park for the young and the young-at-heart.

Chantilly

The “horse city” as it is known is located 10 minutes from Senlis and will charm you with its magnificent castle and gardens, the “Grandes Ecuries” stables and race courses which host the famed “Prix du Jockey Club” and “Prix de Diane” races during the month of June every year. The Duke of Aumale’s spirit still reigns over the former seat of the Princes of Condé.

Pierrefonds

The well-known Chateau de Pierrefonds castle is an enormous and imposing medieval fortress situated at the edge of the Compiègne forest. Cross the drawbridge into the large courtyard, climb the steps and journey through the rooms of the castle…

Compiègne

In this imperial city, French history enthusiasts will get the opportunity to travel centuries back in time, from Joan of Arc (“j’irai voir mes amis de Compiègne” – I will go see my good friends in Compiègne) to the Empire, including the signature of the Armistice at Rethondes on 11 November 1918.

Other sites in the surrounding areas …

Useful informations

Schedules - Shuttles

**Tuesday, November 19th**

19.30 Shuttle from Roissy Charles de Gaulle ➞ to hotels
  ➞ Saint-Witz ➞ Novotel, Golden Tulip, Campanile ➞ Senlis ➞ Campanile, Ibis, Escapade Best Western

**Thursday, November 21st**

7.30 Shuttle from Novotel Saint-Witz ➞ to Hotel’s Saint-Witz, hotel’s Senlis and final stop to Cetim
7.35 ➞ Golden Tulip Saint-Witz ➞ Campanile Saint-Witz
7.45 ➞ Campanile Saint-Witz
8.00 ➞ Escapade Best Western Senlis
8.10 ➞ Campanile & Ibis Senlis
8.20 Final stop to Cetim
18.00 Shuttle from Cetim ➞ to Roissy Charles de Gaulle

**Wednesday, November 20th**

7.05 Shuttle from Roissy Charles de Gaulle ➞ to Hotel’s Saint-Witz, hotel’s Senlis and final stop to Cetim
7.20 ➞ Novotel Saint-Witz
7.30 ➞ Golden Tulip Saint-Witz
7.40 ➞ Campanile Saint-Witz
7.55 ➞ Escapade Best Western Senlis
8.05 ➞ Campanile & Ibis Senlis
8.15 Final stop to Cetim
18.30 Shuttle from Cetim ➞ to Gala Evening
23.00 Shuttle from Gala Evening ➞ to hotel’s Saint-Witz, hotel’s Senlis, and Cetim

**Booking with the advantage code only by email or by phone**

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<th>Hotel</th>
<th>City</th>
<th>Distance from Cetim</th>
<th>Phone / Mail</th>
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<tr>
<td>Escapade****</td>
<td>Senlis</td>
<td>1,3 kms</td>
<td>+33 (0) 31 75 00 75 00 <a href="mailto:contact@hotel-escapadesenlis.com">contact@hotel-escapadesenlis.com</a></td>
<td>122 TK</td>
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<td>1,2 kms</td>
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<td>18 kms</td>
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<td>115-125 TK</td>
<td>Espace Cetim</td>
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<tr>
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<td>18 kms</td>
<td>+33 (0) 1 34 68 65 65 <a href="mailto:h0459-sb@accor.com">h0459-sb@accor.com</a></td>
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<td>90 TK</td>
<td>Cetim</td>
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Book your room as soon as possible !

Please present you 5 minutes before the announced time. The bus may be a few minutes late depending on the traffic.

Hotel booking in Paris is totally not advised because of the intense road traffic between Paris and Senlis.

For more information contact the Tourist office at Place du Parvis Notre-Dame 60302 Senlis Cedex - BP 80024, France Tel. +33(0) 34 53 64 60 - contact@senlis-tourisme.fr

Download plan of shuttles meeting point at Roissy Charles de Gaulle on Airport: fatiguedesign.org/access

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Fatigue Design 2019
Location
Cetim - 52 avenue Félix-Louat
60300 Senlis - France

Access
25 km drive from the Paris Charles-de-Gaulle airport, direct access through the A1 highway, exit 8

Contact
fatiguedesign@cetim.fr
+33 (0)9 70 82 16 80

Usefull information & Registration
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