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

fatigue design 2019

Program

fatiguedesign.org

20 & 21 November 2019
Senlis France
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.
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. Menechetti, 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**

**S06-1 Fatigue of assemblies**

115 - Evaluation of HFMI as a life extension technique for welded bridge details
M. Edgren, Z. Barsoum, M. Al-Emrani - KTH Royal Institute of Technology, Stockholm, Sweden, DEKRA Industries AB, Stockholm, Sweden, Chalmers University of Technology, Gothenburg, Sweden

109 - Fatigue reinforcement during repainting for two motorway bridges
J. Berthelot, A. Manai - Ceteris, Senlis, France

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

**Room 7**

**S05-1 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. Karr, B. Schönbauer, M. Fitzka, Y. Sandasjii, E. Tamura - BOKU Vienna, Institute of Physics and Materials Science, Austria, Kobe Steel LTD, Materials Research Laboratory, Kobe, Japan

1 - Fatigue strength assessment for components and subsystems of a lightweight, space saving city car with electric drive
T. Voigt, K. Lipps, T. Meh€ - Fraunhofer Institute LBF, Darmstadt, Germany

102 - Fatigue testing of large-scale steel structures in resonance with directional loading control
J. Van Wittenberghe - OCAS NV, Zelestate, Belgium

**Room 8**

**S04-1 Damage tolerance and fatigue life**

24 - Improved fatigue life of the newly developed Fe-15Mn-10Cr-8Ni-4Si seismic damping alloy
F. Yoshinaka, T. Sawaguchi, N. Ilya, S. Takamori, N. Nagashima - National Institute for Materials Science, Tsukuba, 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
**S01-1 Additive Manufacturing**

**Relationship between defect size and fatigue limit in Ti-6Al-4V with artificial defects**
Y. Uematsu1, T. Kakiuchi1, M. Nakajima2 1Gifu University, Japan. 2National Institute of Technology, Toyota College, Japan

**Fast fatigue characterization by infrared thermography for additive manufacturing**
C. Douellou1, X. Balandraud1, E. Duc1, B. Verquin2, F. Lefebvre1 1Université Clermont Auvergne, CNRS, Sigma Clermont, Institut Pascal, Clermont-Ferrand, France. 2Cetim, France

**Effect of surface roughness on fatigue strength of Ti-6Al-4V alloy manufactured by additive manufacturing**
M. Nakatani1, H. Masuo2, Y. Tanaka1, Y. Murakami1,3 1Kobe Material Testing Laboratory Co. Ltd., Kako-gun, Japan. 2Metal Technology Co.Ltd., Ebina, Japan. 3Kyushu University, Fukuoka, Japan

**Influence on the fatigue behavior of additively manufactured aluminum structures**
P. Waagen1, M. Scunn1, H. Kaufmann2, T. Metz3 - Fraunhofer Institute for Structural Durability and System Reliability LBF, Darmstadt, Germany

**Fatigue Design 2019**

**12:45 - 14:00 Lunch**

**14:00 - 16:00**

**Room 6**

**S01-1 Additive Manufacturing**

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Y. Uematsu1, T. Kakiuchi1, M. Nakajima2 1Gifu University, Japan. 2National Institute of Technology, Toyota College, Japan

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M. Nakatani1, H. Masuo2, Y. Tanaka1, Y. Murakami1,3 1Kobe Material Testing Laboratory Co. Ltd., Kako-gun, Japan. 2Metal Technology Co.Ltd., Ebina, Japan. 3Kyushu University, Fukuoka, Japan

**S02-1 Fatigue under severe environmental conditions & Complex loading**

**42 - Micro-scale frictional behavior of a bearing steel (JIS SUJ2) in cyclic sliding motion**
Y. Tanaka1, H. Matsunaga1, M. Endo2, S. Maryama2 1Kyushu University, Fukuoka, Japan. 2Institute of Materials Science and Technology, Fukuoka University, Japan

**30 - Tensile and fatigue properties of 17-4 PH martensitic stainless steels in presence of hydrogen**
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

**63 - Effect of high-pressure H2 gas on fatigue properties of metallic materials by means of the internal high-pressure H2 gas method**
A. Ueno, G. Benjamin - Ritsumeikan Univ., Kusatsu, Japan

**46 - Preventing stress corrosion cracking of spent nuclear fuel dry storage canisters**
O. Hoppenz1, L. Hackel1, J. Rankin2, M. Walter2 1Metal Improvement Company, Bayonne, France. 2Metal Improvement Company, Livernmore, USA

**Room 7**

**S03-1 Composite & Elastomer**

**107 - Fatigue dimensioning of short-fibre reinforced thermoplastics at Hutchinson: from material characterization to prediction on parts**
K. Azapou1, V. Fabre1 1Hutchinson, Châteaudun, France.

**50 - Static and dynamic behavior of PU foams with multilayer coatings**
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

**9 - Fatigue testing of GFRP materials for the application in automotive leaf springs**
C. Hopmann, F. Becker - Institute of plastics processing at RWTH Aachen university, Germany

**96 – Fatigue life prediction of injection moulded short glass fiber reinforced plastics**
M. Kantes1, L. Douven1, P. Savoyat1 1DSM Materials Science Center, Geleen, Netherlands. 2e-Xstream engineering, Brussels, Belgium

**Room 8**

**S08-1 Thermal and Thermo-mechanical fatigue**

**104 - Concrete example of a multiphysical approach to a fatigue problem applied to thermal failure**
Y. Goeh, E. Crapeau, T. Aïouaz, J. Saindrenan 1Cetim, France

**12 - High temperature fatigue properties of Oxide-Dispersion-Strengthened Platinum-10% rhodium alloy**
A. Niwa1, Y. Akita1, K. Enomoto1, R. Aoyama1, H. Akebono2, A. Sugita3 1AGC Inc., Yokohama, Japan. 2Hiroshima University, Higashi-Hiroshima, Japan

**28 - Damage operator based thermo-mechanical fatigue prediction of a steam turbine shaft**
M. Nesladek1, J. Jurek1, M. Lutovinov1, J. Papuga1, M. Růžička2, R. Procházka3, M. Rund2, P. Měšťánek2 1Czech Technical University in Prague, Czech Republic. 2COMTES FHT a.s., Dobráň, Czech Republic. 3Doosan Škoda Power s.r.o., Plzeň, Czech Republic

**70 - Effect of temperature condition on short crack propagation in a single crystal Ni-base superalloy under thermo-mechanical fatigue**
Y. Yamazaki1, M. Miura 1Chiba University, Japan

**Room 11**

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Y. Yamazaki1, M. Miura 1Chiba University, Japan
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, D. Takagoshi1, S. Asada2, K. Hayashi3 - 1Mitsubishi Heavy Industries, Takasago, Japan. 2Mitsubishi Heavy Industries, Kobe, Japan. 3The Kansai Electric Power Co, Osaka, Japan

13 - Fatigue analysis of cast iron components considering the influence of casting skin
K. Bergner1, J. Hesseler2, C. Bleicher2 - 1Technische Universität Darmstadt, Germany. 2Fraunhofer Institute LBF, Darmstadt, Germany

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. Sakaguchi, C. Sakamoto, H. Konishi, T. Fuji1 - 1Kansai University, Osaka, Japan. 2Japan Consultant Association, Osaka, Japan. 3Japan Bridge Association, Osaka, Japan. 4Ministry of Land, Infrastructure and Transport, Himeji, Japan

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

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. Yang4 - 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. Hiramatsu1, Y. Yamamoto1, S. Dedmon4, S. Miyazaki4, J. Pilch2 - 1Nippon Steel & Sumitomo Metal Corporation, Amagasaki, Japan. 2Nippon Steel & Sumitomo Metal Corporation, Osaka, Japan. 3Standard Steel, LLC, Burnham, USA

19:00 - 23:00  Social event - Gala Evening at Senlis

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

The organizers may change this program if necessary.
Room 6

S06-3 Fatigue of assemblies
75 - High cycle fatigue strength evaluation of welded joints in handling equipment
H. Heyraud1, C. Robert1, C. Marea2, F. Morel2, D. Bellett1, O. Dore3, N. Belhomme1 - 1Manitou, Ancenis, France. 2Lampa, Ensain, Angers, France

60 - Design criterion for fatigue strengthening of riveted bridge girders
H. Heydaminouri1, E. Ghafoori1, A. Nussbaumer1 - 1Swiss Federal Laboratories for Materials Science and Technology (Empa), Dübendorf, Switzerland. 2Swiss Federal Institute of Technology Lausanne (EPFL), Switzerland

78 - Improvement of the fatigue strength of welds for lightweighted chassis application made of Advanced High Strength Steels
M. Duchet1, J. Haouas1, E. Gibea2, F. Pocheot1, C. Honecker1, R. Munier1, B. Weber1 - 1ArcelorMittal Global R&D, Maizières-Lès-Metz, France. 2ArcelorMittal Global R&D, Montataire, France

Room 7

S09-1 Taking into account manufacturing process in fatigue analysis
76 - On the impact of mechanical and metallurgical characteristics on pinion bending fatigue performance
O. Cuevas Mello1, H. Orkhis1, M. Risbet1, J. Marteau1, S. Tha1, J. Favergeon1, F. Lefebvre1, M. Octrue1, H. Rognon1 - 1GIMA, Beaussan, France. 23 Sorbonne Universités, Université de technologie de Compiègne, CNRS, UMR 7337 Roberval, Centre de recherche Royalieu, Compiègne, France. 3Cetim, France

89 - Fatigue properties and cracking mechanisms of a 7075 aluminum alloy under axial and torsional loadings
Y. Li1, Z. Sun1, H. Xue1, D. Retrant1 - 1ICD, P2MN, LASMIS, Université de Technologie de Troyes (UTT), CNRS, Troyes, France. 2Key Laboratory of Contemporary Design and Integrated Manufacturing Technology of Ministry of Education, Northwestern Polytechnical University, Xi’an, China

99 - Fatigue behavior of gear teeth made of case hardened steel: from competing mechanisms to lifetime variability
V. Angoul1, F. Morel1, E. Pessard1, D. Bellett1, S. Thibault1, S. Gourdin1 - 1Lampa, Angers, France. 2Safran, Saclay, France

Room 8

S05-3 Experimental and numerical design and validation methods
40 - Effect of defects and hydrogen on the fatigue limit of Ni-based superalloy 718
K. Sanny1, S. Okazaki2,3, O. Takakuwa4,5, Y. Ogawa1,6, K. Okita7, Y. Funakoshi1, J. Yamabe1, S. Matsuoka7, H. Matsunaga8,10 - 1Kyushu University, Fukuoka, Japan. 2Japan Society for the Promotion of Science, Fukuoka, Japan. 3JAXA, Tsukuba, Japan. 4Fukuoka University, Japan. 5Kobe Materials Testing Laboratory Co., Ltd., Hyogo, Japan

52 - Comparison of several methods for the notch effect quantification on specimens from 2124-T851 aluminum alloy
J. Papuga1, M. Lutovinov1, O. Hanžl2, A. Karkulín2 - 1Faculty of Mechanical Engineering, Czech Technical University in Prague, Czech Republic

31 - Low cycle fatigue of welded very and ultra-high strength steels
J. Hrabowski1, T. Ummenhofer2 - 1KoRoH GmbH – CCTH Center of Competence for Tubes and Hollow Sections, Karlruhe, Germany. 2KIT Steel & Lightweight Structures, Research Center for Steel, Timber and Massonry, Karlruhe, Germany

Room 11

S10-2 Contact fatigue and shape memory material
64 - Characteristics of shear-mode fatigue crack growth behaviors in roll steels
K. Yanase1, A. Noda1, N. Oda2, M. Endo3 - 1Fukuoka University, Japan. 2Hitachi Metals Wakamatsu, Ltd., Kitakyushu, Japan

95 - Experimental study of the fatigue performance of overhead pure aluminium cables
R. Kalombo Badibanga, G. Reinke, T. Barbosa de Miranda, J.L. de Almeida Ferreira, C. Roberto Moreira da Silva, J.A. Araujo - University of Brasilia, Brazil

43 - Recent advances in spline couplings reliability
C. Francesca1, S. De Ugarte Sevilla Patrik1, M. Andrea2 - 1Dipartimento di Ingegneria Meccanica e Aerospaziale, Politecnico di Torino, Italy. 2Siemens Gamesa, Zamudio, Vizcaya, Spain
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<td>82</td>
<td>Use of the peak stress method to assess the fatigue life of large welded steel structures</td>
</tr>
<tr>
<td>T. Vanlemmens1, G. Elbel1, G. Meneghetti2 - 1Liebherr-France SAS, Colmar, France. 2University of Padova, Italy</td>
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<td>87</td>
<td>Definition of nominal stress-based FAT classes of complex welded steel structures using the Peak Stress Method</td>
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<tr>
<td>M. Zanetti1,2, V. Babini1, G. Meneghetti2 - 1Antonio Zamperla Spa, Altavilla Vicentina, Italy. 2Department of Industrial Engineering, University of Padova, Venice, Italy</td>
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<tr>
<td>91</td>
<td>Programme for maintenance and evolution of Eurocodes - Drafting of the future EN 1993-1-9 on fatigue of Steel structures</td>
</tr>
<tr>
<td>M. Lukic - CTICM, Saint-Aubin, France. CIEC, Arcueil, France</td>
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<th>Room 7</th>
<th>S02-2 Fatigue under severe environmental conditions &amp; Complex loading</th>
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<td>69</td>
<td>Effect of hydrogen on fatigue Limit of SCM435 low-alloy steel</td>
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<tr>
<td>M. Kubota1, M. Fukuda1, R. Komoda2 - 1Kyushu University, Fukuoka, Japan. 2Fukuoka University, Japan</td>
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<td>100</td>
<td>Multiaxial fatigue of steels with small defects</td>
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<td>L. Carneiro Araujo1, P. Vrničius Sousa Machado1, M. Vrničius Soares Pereira1, J.A. Araújo2 - 1University of Brasilia, Department of Mechanical Engineering, Brazil. 2Catholic University of Rio de Janeiro, Department of Chemical and Materials Engineering, Brazil</td>
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<td>10</td>
<td>Fatigue assessment of metallic structures under variable amplitude loading</td>
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<tr>
<td>A. Manai, M. Al-Emrani - Chalmers university of technology, Gothenburg, Sweden</td>
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<th>S05-4 Experimental and numerical design and validation methods</th>
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<td>66</td>
<td>Elastic-plastic strain analysis at mooring chains pit site</td>
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<tr>
<td>E.P. Zarandi1, P. Haagensen, B. Skallerud - 1Norwegian University of Science and Technology, Trondheim, Norway</td>
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<td>108</td>
<td>Study of fatigue failure of a tough pitch copper wire brazed to beryllium copper strip</td>
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<td>H.Y. Ahmad1, M.J. Jweeg2 - 1Safran Electrical &amp; Power, Pitstone, UK. 2Al-Farahidi University, Baghdad, Iraq</td>
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<td>72</td>
<td>Numerical simulation of cyclic plasticity in mechanical components under low cycle fatigue loading: accelerated material models</td>
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<tr>
<td>J. Šrnc Novak1, F. De Bona1, D. Benasciutti1, L. Moro2 - 1University of Udine, Politecnico Department of Engineering and Architecture (DP2A), Italy. 2University of Ferrara, Department of Engineering, Italy</td>
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<th>S04-3 Damage tolerance and fatigue life</th>
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<td>77</td>
<td>Outline of the recent consolidated revision of EN13445-3, clause 18 and related annexes: detailed assessment of fatigue life</td>
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<td>J. Rudolph1, G. Baylac2, R. Triebl3, R. Gawlick4, M. Kramar5, Y. Simonet6, M. Triay7 - 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</td>
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<td>92</td>
<td>Life extension approach focusing on industrial and railway applications</td>
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<tr>
<td>A. Coulon, N. Vincent - Vibratec, Ecully, France</td>
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<td>59</td>
<td>Influence of surface irregularities on the low-cycle fatigue strength of an austenitic stainless steel</td>
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<td>P. Cussac1, C. Gordin2, V. Pelosin3, G. Hénaff1, L. De Baglion2, S. Courtin1, O. Ancelet2 - 1Institut Pprime, Chasseneuil-du-Poitou, France. 2Framatome, Courbevoie, France. 3EDF, Saclay, France</td>
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The organizers may change this program if necessary.
**Thursday, November 21th**

### 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. Periante, A. Duchosal, S. Vaudreuil, H. Chibane, A. Morandeau, R. Leroy - Polytech Tours, France. Université Européenne de Bretagne, France. INSA Strasbourg, France. Sandvik Coromant, Fondettes, France.

**56 - Characteristics of shear-mode fatigue crack growth behaviors in rolled materials**

K. Schnabel, I. 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**


**7 - A new modeling framework for fatigue damage of structural components under random-on-random spectrum**

Z. Li, Z. Ince - Purdue University, West Lafayette, USA. Concordia University, Montreal, Canada.

**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**

J. Baumgarten, B. Möller - Fraunhofer Institute for Structural Durability and System Reliability LBF, Darmstadt, Germany.

### Room 7

**S11-1 Vibration Fatigue**

**21 - Random vibration fatigue of welded structures - Applications in the automotive industry**

G. de Moraes Teixeira, J. Carvalho da Silva Filho, M. Roberts - Dassault Systèmes UK Limited, Sheffield, United Kingdom. Volkswagen Trucks and Buses, Revende, Brazil.

**7 - A new modeling framework for fatigue damage of structural components under random-on-random spectrum**

Z. Li, Z. Ince - Purdue University, West Lafayette, USA. Concordia University, Montreal, Canada.

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J. Baumgarten, B. Möller - Fraunhofer Institute for Structural Durability and System Reliability LBF, Darmstadt, Germany.

### 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. Galleret, M. Courteaux, Michel - Alcometal France Holding CREAS, Hagondange, France. PSA Group, Voisinscourt, France. IRS-M2P, Metz, France.

**22 - The effect of machined surface layer on low cycle fatigue lives of austenitic stainless steel**

S. Hasunuma, T. Oyama - Aoyama Gakuin University, Kanagawa, Japan.

**37 - Discussion of effect of disk grinding surface finish on fatigue strength of the nuclear component material**


**47 - Fatigue resistance of light alloy sheets subjected to an environmentally friendly chemical milling process: metallurgical and chemical aspects**


### Room 11

**S04-4 Damage tolerance and fatigue life**

**86 - Defect tolerance of high-strength steels in the HCF and VHCF regime**


**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**


**49 - Fatigue characterization of embedded layers in CFR Composites**

C. Schneider, G. Pinter - Montanuniversitat Leoben - Chair of Material Science and Testing of Polymers, Austria.

### Room 11

**Coffee - Technological showcase - Poster Exhibition**

**15:30 - 16:00**

**16:00 - 17:30**

**17:45**

**End of the conference**
**Poster Session**

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<th>Number</th>
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<td>4</td>
<td>Guidelines for high-strength steel bolted connections from the perspective of fretting fatigue</td>
<td>Q. Yamaz1, C. Jiménez-Peña2, D. Debny2 - ArcelorMittal Global RD &amp; GT - OCAS N.V., Zelzele, Belgium. 3KU Leuven, Gent, Belgium.</td>
</tr>
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<td>8</td>
<td>Practical notes for assessing the fatigue life of bodyworks of buses and trolleybuses</td>
<td>M. Kepka1, M. Kepka junior2, P. Konopik1 - FHT a.s., Pilsen, Czech Republic. 3Pilsen, Czech Republic.</td>
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<td>Fatigue assessment of metallic structures under variable amplitude loading</td>
<td>A. Manani1, M. Al-Emrani - Chalmers university of technology, Gothenburg, Sweden.</td>
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<td>19</td>
<td>Fatigue simulation of welds using the total-life method</td>
<td>A. Halfpenny2, A. Chabodi2, K. Munson3, J. Mentley4, P. Roberts1 - HBM Prenscia, Rotherham, United Kingdom, HBM Prenscia, Rossy-en-France, HBM Prenscia, Southfield, USA.</td>
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<td>P. Amara1,2, S. Garcia1, S. Fournier1 - 1Ecole Centrale de Lyon, Lyon, France. 2University of Lille, CNRS, INRA, ENSCI, LMAP, UMR 8207 - Unité Matériaux et Transformations, Lille, France. 3Laboratoire KERMA, SA, Zwergem, Belgium.</td>
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<td>J. Costa1, Christophe Mesplont1, J. Bouquerel1, J.B. Vogt1 - 1Université de Lille, CNRS, INRA, ENSCI, LMAP, UMR 8207 - Unité Matériaux et Transformations, Lille, France. 2University of Nantes, France.</td>
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<td>P. Casari1, F. Alila2 - Université de Lille, CNRS, INRA, ENSCI, LMAP, UMR 8207 - Unité Matériaux et Transformations, Lille, France. 2University of Nantes, France.</td>
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<td>S. Gillet1,2, P. Aimedieu1, J. Jeanneau1, F. Canevet1, N. Bedri1, S. Joannot2, L. Lasriandrasa2 - 1Estaca Campus Ouest, Laval, France. 2Institute of Materials, CNRS UMR7633, Ercy, France. 3Laboratoire Navier, Ecole des Ponts ParisTech, Marne-la-Vallée, France.</td>
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<td>V. Lafle1, P. Merino1, J. Marteau1, S. Bounou2, M. Ribe2, A. Saulot1 - 1Mechanical Engineering Laboratory, UTC, Compiegne, France. 2Rheology Laboratory, UTC, Compiegne, France. 3Laboratoire Rabobal FHE UTC-CNRS 2013 – Alliance Sorbonne Université – Université de Technologie de Compiegn, France.</td>
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<td>H. Lajali1, S. Gaied2, M. Ribe2, J. Favergeon - Université de Technologie de Compiegn, Laboratoire de Recherche en Mécanique Roberval. 1Laboratoire de Recherche en Mécanique Roberval. 2Laboratoire Rabobal FHE UTC-CNRS 2013 – Alliance Sorbonne Université – Université de Technologie de Compiegn, France.</td>
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The organizers may change this program if necessary.
Senlis and its Surroundings

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.

Other sites in the surrounding areas . . .

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.

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.

Pierrefonds

The well-known Chateau de Pierrefonds castle is an enormous and imposing medieval fortress situated at the edge of the Compiegne 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 Compiégne) to the Empire, including the signature of the Armistice at Rethondes on 11 November 1918.

For more information contact the Tourist office at
Place du Parvis Notre-Dame
60302 Senlis Cedex - BP 80024, France
Tel +33 (0) 344 530 640 - contact@senlis-tourisme.fr

Book your room as soon as possible!

Booking with the advantage code only by email or by phone

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<th>Preferential Rates</th>
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<tr>
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<td>90€TTC</td>
<td>Cetim</td>
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<tr>
<td>Ibis Budget**</td>
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<td>115-125€TTC</td>
<td>Espace Cetim</td>
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<td>18 kms</td>
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<td>+33 (0) 34 31 33 10 <a href="mailto:switz@campanile.fr">switz@campanile.fr</a></td>
<td>90€TTC</td>
<td>Cetim</td>
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Hotel booking in Paris is totally not advised because of the intense road traffic between Paris and Senlis.

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

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

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
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

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

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