

EUROSUPERALLOYS 2018

Poster Final Programme



The Mathematical Institute, University of Oxford – the Venue

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Poster Programme (Session I & II) EuroSuperalloys 2018

Poster Session I – Tuesday, 11 September 2019, 17:00 – 18.30

Location	
1-A02	<p><i>On the crystal orientation dependency of the creep response at 850°C of CMSX-4 single crystal superalloy</i></p> <p>A. Mattiello¹, J. Cormier², P. Villechaise², A. Joulain², R. Desmorat¹, J. Jaravel³</p> <ol style="list-style-type: none"> 1. LMT-Cachan (ENS Cachan, UMR CNRS, Université Paris Saclay), Cachan, France 2. Institut P', UPR CNRS 3346, ISAE-ENSMA, France 3. Safran Helicopter Engines, Bordes, France
1-A03	<p><i>In-situ characterization at elevated temperatures of a new Ni-based superalloy VDM-780 Premium</i></p> <p>C. Solís¹, J. Munke¹, M. Bergner², A. Kriele³, M. Hofmann¹, Martin J. Mühlbauer^{1,4,5}, B. Gehrman⁶, J. Rösler⁵, R. Gilles¹</p> <ol style="list-style-type: none"> 1. Heinz Maier-Leibnitz Zentrum (MLZ), TU München, Germany 2. Institute for Applied Materials (IAM), Karlsruhe Institute of Technology (KIT), Germany 3. Helmholtz Zentrum Geesthacht, Germany. 4. Helmholtz-Institute Ulm for Electrochemical Energy Storage (HIU), Germany 5. Institut für Werkstoffe, Technische Universität Braunschweig, Germany 6. VDM Metals International GmbH, Germany
1-A04	<p><i>Size effect of notched specimens comprised of a directionally solidified Ni-base superalloy on EBSD analysis of creep damage</i></p> <p>D. Kobayashi, T. Takeuchi and T. Ikeda</p> <p>CHUBU Electric Power Co. Inc., 20-1, Kitasekiyama, Ohdaka-cho, Midori-ku, Nagoya, JAPAN</p>
1-A05	<p><i>Influence of Ta on the intermediate temperature creep behavior of a single crystal superalloy</i></p> <p>G. Xie^{1,3}, B. Yin^{1,2}, Y.Z. Lu¹, X.G. Liu¹, W. Zheng¹, L.H. Lou¹, J. Zhang^{1,3}</p> <ol style="list-style-type: none"> 1. Superalloys Division, Institute of Metal Research, Chinese Academy of Sciences, Shenyang 110016, China 2. School of Materials Science and Engineering, University of Science and Technology of China, Hefei 230026, China 3. Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences, Shenyang 110016, China
1-A06	<p><i>Optimization of the solution heat treatment of second and third generation Ni-based single crystal superalloys</i></p> <p>J. Rame¹ and J. Cormier²</p> <ol style="list-style-type: none"> 1. SAFRAN Tech, Rue des Jeunes Bois, 78772 Magny les Hameaux, France. 2. Institut Pprime, UPR CNRS 3346, Physics and Mechanics of Materials Department, ISAE-ENSMA, BP 40109, 86961, Futuroscope-Chasseneuil Cedex, France.
1-A07	<p><i>Creeps rupture properties and microstructural evolution of nickel-based superalloy USC141/DMV141 for A-USC boiler tubes</i></p>

	<p>T. Uehara¹, N. Sato¹, P. Schraven², M. Spiegel³</p> <ol style="list-style-type: none"> 1. Metallurgical Research Laboratory, Hitachi Metals, Ltd., Yasugi-shi, Shimane 692-8601, Japan 2. Salzgitter Mannesmann Stainless Tubes GmbH, Wiesenstrasse, 45473 Muelheim an der Ruhr, Germany 3. Salzgitter Mannesmann Forschung GmbH, Ehinger Strasse, 47259 Duisburg, Germany
1-A08	<p><i>Tensile properties at intermediate temperature of Ni-based single crystal superalloys after microstructure degradation</i></p> <p>L. Despres^{1,2,3}, J. Cormier¹, S. Costil², R. Cariou³</p> <ol style="list-style-type: none"> 1. Institut Pprime – Département de Physique et Mécanique des Matériaux, UPR CNRS 3346, ISAE ENSMA, Téléport 2, 1, avenue Clément ADER BP 40109 86961 Chasseneuil – Futuroscope, France 2. ICB-LERMPS, UMR 6303, CNRS, Univ. Bourgogne Franche-Comté, UTBM, F-90010, France 3. SAFRAN TECH, plateforme Aubes de Turbine avancées, 171 boulevard de Valmy, 92700 Colombes, France
1-A09	<p><i>Modelling solidification properties of Ni-based superalloys with consideration of back-diffusion</i></p> <p>R. P. Miranda¹, Z. Guo¹, N. Saunders², and J.-Ph. Schillé¹</p> <ol style="list-style-type: none"> 1. Sente Software Ltd., Surrey Technology Centre, Guildford GU2 7YG, United Kingdom 2. Thermotech Ltd., Surrey Technology Centre, Guildford GU2 7YG, United Kingdom
1-A10	<p><i>Microstructure evolutions of Ni-based alloy 718 under high strain rate forging conditions</i></p> <p>N. Kanno and A. Sato</p> <p>IHI Corporation, Materials Dept. Research Laboratory, 1 Shin-nakahara-cho, Isogo-ku, Yokohama, Japan</p>
1-A11	<p><i>Lifetime of thermal barrier coatings with advanced bond coats on single crystal superalloys</i></p> <p>C. Vorkötter, M. Tandler, R. Vaßen</p> <p>Institute of Energy and Climate Research - 1, Forschungszentrum Jülich GmbH, Wilhelm-Johnen-Straße 52425 Jülich, Germany</p>
1-A12	<p><i>Microstructural stability of high generation single-crystal Ni-base superalloy TMS-238 during long term exposure at high temperature</i></p> <p>R. Sowa^{1,2}, T. Goehler³, A. Budziak², M. Parlinska-Wojtan²</p> <ol style="list-style-type: none"> 1. MTU Aero Engines Polska, Rzeszow, Poland 2. Institute of Nuclear Physics Polish Academy of Sciences, Krakow, Poland 3. MTU Aero Engines AG, Munich, Germany
1-A13	<p><i>2D and 3D analysis of ATI 718Plus superalloy after heat treatment with gradient of temperature</i></p> <p>S. Lech¹, A. Kruk¹, G. Cempura¹, A. M. Wusatowska-Sarnek² and A. Czyrska-Filemonowicz¹</p> <ol style="list-style-type: none"> 1. AGH University of Science and Technology, Faculty of Metals Engineering and Industrial Computer Science, International Centre of Electron Microscopy for Materials Science, Al. A. Mickiewicza 30, 30-059 Kraków, Poland 2. Pratt & Whitney, East Hartford, 400 Main Street, M/S 114-40, US
1-A14	<p><i>Ring rolling process modeling with new kinematic and metallurgical models for aeronautic Ni-based parts</i></p> <p>E. Marchal¹, O. Garcia Beltran², J. Schwartz¹</p> <ol style="list-style-type: none"> 1. SAFRAN Aircraft Engines, Department of Materials and Process, 171 Bd Valmy, Colombes, 92700, France 3. Safran Tech, Rue des Jeunes Bois, Magny-Les-Hameaux, 78772, France
1-A15	<p><i>Composition and temperature stability of hardening phases for future nickel-base superalloys</i></p>

	<p>L. Finet, V.A. Esin, L. Nazé, V. Maurel MINES ParisTech, PSL Research University, Centre des Matériaux (CNRS UMR 7633), Evry, France</p>
1-A16	<p><i>Comparative study of creep properties of Rhenium containing Nickel-base superalloys for single-crystal turbine blade applications</i></p> <p>V. Huleux^{1,2}, L. Nazé², V.A. Esin², V. Jaquet¹, A. Köster², J. Rame¹, V. Maurel²</p> <ol style="list-style-type: none"> 1. Safran Tech, Magny-les-Hameaux, France 2. MINES ParisTech, PSL Research University, Centre des Matériaux (CNRS UMR 7633), Evry, France
1-A17	<p><i>Impact of forging direction on the recrystallization behaviour of AD730 nickel base superalloy at subsolvus temperatures</i></p> <p>M. Perez¹, C. Dumont², O. Nodin², S. Nouveau²</p> <ol style="list-style-type: none"> 1. Advanced Forming Research Centre, University of Strathclyde, 85 Inchinnan Drive, Inchinnan, Renfrew (UK), PA4 9LJ. 2. Aubert & Duval, Site des Ancizes, BP1, 63770 les Ancizes Cedex, France
1-A18	<p><i>On the stress dependence of the elevated creep behaviour of a Ni-based single crystal superalloy containing 4wt.% Re</i></p> <p>Q. Yue, L. Liu, W. Yang, T. Huang, J. Zhang, H. Fu</p> <p>State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi'an 710072, P.R. China</p>
1-A19	<p><i>Thermal twinning in nickel based superalloys - a review</i></p> <p>J. Fausty, M. Bernacki and N. Bozzolo</p> <p>MINES ParisTech, CEMEF - Centre de Mise en Forme des Matériaux, CNRS UMR 7635, BP 207, 1 rue Claude Daunesse, 06904, Sophia Antipolis cedex, France</p>
1-B01	<p><i>Modification of growth deviation of nickel-based single crystal superalloy by applied electric current</i></p> <p>X. Feng, Y. Li, Y. Yang</p> <p>Institute of Metal Research, Chinese Academy of Sciences, Shenyang 110016, China</p>
1-B02	<p><i>The orientation evolution of dendrite arms in the platform of a single crystal Ni-based superalloy</i></p> <p>D. Sun, L. Liu, T. Huang, W. Yang, J. Zhang, H. Fu</p> <p>State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi'an, China</p>
1-B03	<p><i>MGI-oriented interdiffusion databanks of γ and γ' phases in NiAl-based ternary alloys</i></p> <p>L. Zhang¹, J. Chen², W. Chen³ and N. Ta¹</p> <ol style="list-style-type: none"> 1. State Key Laboratory of Powder Metallurgy, Central South University, Changsha, Hunan 410083, P.R. China 2. Testing Center, Yangzhou University, Yangzhou 225009, P.R. China 3. Institute of Advanced Wear & Corrosion Resistant and Functional Materials, Jinan University, Guangzhou, Guangdong 510632, P.R. China
1-B04	<p><i>Study of microstructural stability of the third-generation single crystal superalloy</i></p> <p>B. Wang, J. Zhang, T. Huang, L. Liu</p> <p>State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi'an 710072, China</p>
1-C04	<p><i>Advanced solution heat treatments for nickel-based single crystal superalloys</i></p> <p>Y. Zhang, L. Liu, T. Huang, W. Yang, J. Zhang, H. Fu</p>

	State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi'an, China
1-C05	<i>Influence of ceramic cores on freckle formation in a Ni-based single crystal superalloy</i> F. Wang, D. Ma, A. B-Polaczek Foundry Institute, RWTH Aachen University, Intzestrasse 5, 52072 Aachen, Germany
1-C06	<i>Grain refinement by combination of modified directional solidification, trace additions and melt superheat and its effect on mechanical behavior in IN718C superalloy</i> Z. Jie, J. Zhang, T. Huang, L. Liu, H. Fu State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi'an 710072, P. R. China
1-C07	<i>Experimental assessment of post-dynamic recrystallization kinetics of Inconel 718 deformed in the δ subsolvus domain</i> A. Nicolay ^{1,2} , J.M. Franchet ² , R.E. Loge ³ , J. Cormier ⁴ , N. Bozzolo ¹ 1. MINES ParisTech, PSL Research University, CEMEF Centre de mise en forme des matériaux, Sophia-Antipolis, France 2. Safran SA, SafranTech Materials & Process Department, Magny-Les-Hameaux Cedex, France 3. Thermomechanical Metallurgy Laboratory - PX Group Chair, Ecole Polytechnique de Lausanne (EPFL), Neuchatel, Switzerland 4. Institut Pprime Université de Poitiers ENSMA, Physics and Mechanics of Materials Department, Chasseneuil, France
1-C08	<i>Systematic phase-field study on microstructure formation during brazing of M247 with a Si-based AMS4782 filler</i> B. Böttger ¹ , T. Göhler ² , L. Dankl ² , B. Daniels ² 1. Access, Aachen, Germany 2. MTU Aero Engines AG, Materials Turbine (TEWT), München, Germany
1-C09	<i>Creep behavior of internal oxidized and non-internal oxidized NiZrY-alloys</i> J. Hastreiter, R. Völkl, U. Glatzel Metals and Alloys, University Bayreuth, Ludwig-Thoma-Str. 36b, 95447 Bayreuth, Deutschland
1-C10	<i>Experimental study of close-packed phases in nickel-based superalloys using diffusion multiples</i> R. Popp ¹ , F. Scherm ¹ , A. Redermeier ² , E. P-Karadeniz ² , T. Göhler ³ , U. Glatzel ¹ 1. Metals and Alloys, University Bayreuth, Ludwig-Thoma-Str. 36b, 95447 Bayreuth, Germany 2. Institute of Materials Science and –Technology, TU Wien, Getreidemarkt 9, 1060 Vienna, Austria 3. MTU Aero Engines AG, Dachauer Str. 665, 80995 Munich, Germany
1-D01	<i>Design of γ/γ' microstructures in Cobalt-based superalloys by powder metallurgy technology</i> R. Casas ^{1,2} , F. Gálvez ² , M. Campos ¹ , D.C. Dunand ³ , D.N. Seidman ³ 1. Materials Science and Engineering Department of Universidad Carlos III de Madrid, Av. Universidad 30, 28911 Leganés, Madrid, Spain 2. Departamento de Ciencia de Materiales, Universidad Politécnica de Madrid (UPM) Calle del Profesor Aranguren s/n, 28040 Madrid, Spain 3. Northwestern University, Department of Materials Science and Engineering, 2220 Campus Drive, Evanston, IL 60208-3108 USA
1-D02	<i>Influence of the grain size on the intergranular damaging process of a Ni-based superalloy</i> J. Milanese ^{1,2} , E. Andrieu ¹ , J. Alexis ³ , D. Bardel ² 1. CIRIMAT, Université de Toulouse, CNRS/INPT/UPS, 4 allée Emile Monso, BP 44362, 31030 Toulouse

	<p>cedex 4, France</p> <ol style="list-style-type: none"> AREVA NP, 10 rue Juliette Récamier, 69456 Lyon Cedex 06, France LGP, Université de Toulouse, INP/ENIT, 47 avenue d'Azereix, BP 1629, 65016 Tarbes, France
1-D04	<p><i>Microstructure and mechanical properties of novel Re-rich Ni-based superalloy SDGS-15 for the advanced engine turbine disks</i></p> <p>Sh.Kh. Mukhtarov¹, A.V. Logunov², Yu.N. Shmotin², A.M. Mikhailov³, R.A. Gaisin¹ and V.M. Imayev¹</p> <ol style="list-style-type: none"> Institute for metals superplasticity problems of RAS, 39 Stepan Khalturin, Ufa, Russia NPO Saturn, 163 Lenin Ave, Rybinsk, Russia STC "Technologies of special metallurgy" Ltd, MISiS, Institutskiy proezd 2 181, p. Mosrentgen, Moscow, Russia
1-D05	<p><i>An approach for predicting the remaining creep life of a directionally-solidified superalloy DZ125 based on microstructural degradation</i></p> <p>C. Fu, Y. D. Chen, W. W. Zheng, Q. Feng</p> <p>State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, Beijing 100083, China</p>
1-D06	<p><i>Residual stress and cold work of a Ni-based superalloy following shot peening and deep cold rolling process</i></p> <p>K. S. Chin^{1,2}, D. T. Ardi², C. Shearwood¹</p> <ol style="list-style-type: none"> Nanyang Technological University, Singapore, Advanced Remanufacturing and Technology Centre, Singapore
1-D07	<p><i>From a new real time in situ XRD technique to a constitutive law for γ channels in a single crystal superalloy</i></p> <p>R. Trehorel¹, T. Schenk¹, G. Ribarik^{1,2}, J. Cormier³, A. Jacques¹, and P. Bastie⁴</p> <ol style="list-style-type: none"> Institut Jean Lamour, labex DAMAS, 2 allée André Guinier, Campus Artem, 54000 Nancy, France Eötvös Loránd University (ELTE), Dept. of Materials Physics, Budapest, Hungary Institut P', ENSMA, 11 Boulevard Marie et Pierre Curie, BP 30179, F86962 FUTUROSCOPE CHASSENEUIL Cedex, France Institut Laue Langevin, 71 avenue des Martyrs, 38000 Grenoble, France
1-D08	<p><i>Effect of directional solidification processes on the microstructure and stress rupture property of a hot corrosion resistance single crystal superalloy</i></p> <p>J. Chen¹, C. Xiao¹, X. Hui², Q. Li¹ and X. Tang¹</p> <ol style="list-style-type: none"> Science and Technology on Advanced High Temperature Structural Materials Laboratory, Beijing Institute of Aeronautical Materials, Beijing 100095, China State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, Beijing, 100083, China
1-D09	<p><i>Oxidation resistance improvement of Ni-base single crystal melting in CaO crucible</i></p> <p>T. Sugiyama^{1,2}, S. Utada², T. Yokokawa², T. Kobayashi², K. Kawagishi², S. Suzuki¹, H. Harada²</p> <ol style="list-style-type: none"> Waseda University, Department of Applied Mechanics and Aerospace Engineering, 3-4-1 Okubo, Shinjuku-ku, Tokyo 169 -8555, Japan National Institute for Materials Science, 1 -2-1 Sengen, Tsukuba, Ibaraki 305-0047, Japan

Poster Session II – Wednesday, 12 September 2019, 17:00 – 18.30

Location	
2-A02	<p><i>Microstructural evolution of epitaxial growth in MM247LC using the Direct Metal Laser Deposition process</i></p> <p>P. Srinivas¹, D. Banerjee¹, B. Dutta², D. Srinivasan³, J. Pal³, A. Choudhury¹, D. Ananthanarayanan³</p> <ol style="list-style-type: none"> 1. Department of Materials Engineering, Indian Institute of Science, Bangalore, India 2. DM3D Technologies, Michigan 3. GE India Industrial Pvt. Ltd., Bangalore, India
2-A03	<p><i>Effect of Phosphorus on creep properties of Alloy 706 after stabilization heat treatment</i></p> <p>Y. Sumi, H. Takabayashi</p> <p>Research and Development Laboratory, Daido Steel Co., Ltd., 2-30 Daido-cho, Minami-ku, Nagoya, Japan</p>
2-A04	<p><i>A re-used seed to prohibit the formation of stray grains of melt-back zone in Ni-based single crystal superalloys</i></p> <p>W. Yang, S. Hu, Y. Li, T. Huang, J. Zhang, L. Liu</p> <p>State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi'an 710072, China</p>
2-A05	<p><i>The influence of long-term thermal exposure on microstructure and stress rupture properties of the Ni-base superalloy M4706</i></p> <p>P. Zhang^{1,2,3}, Y. Yuan¹, J.B. Yan¹, J.C. Wang², X.L. Song³, G.X. Yang⁴</p> <ol style="list-style-type: none"> 1. Xi'an Thermal Power Research Institute Co., Ltd., 136 Xingqing Road, Xi'an, 710032, China 2. State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi'an 710072, China 3. State Key Laboratory for Mechanical Behavior of Materials, Xi'an Jiaotong University, 28 Xianning West Road, Xi'an, 710049, China 4. State Key Laboratory for Long-life High Temperature Materials, Dongfang Turbine Co., Ltd., 666 Jinshajing West Road, Deyang 618000, China
2-A06	<p><i>Influence of Powder Surface Contamination in the Ni-Based Superalloy Alloy718 Fabricated by Selective Laser Melting and Hot Isostatic Pressing</i></p> <p>K. Takehi, Y.-Ling Kuo</p> <p>Department of Mechanical and Engineering, Graduate School of Science and Engineering, Tokyo Metropolitan University, 1-1 Minami-Osawa, Hachioji, Tokyo 192-0397, Japan</p>
2-A07	<p><i>Recrystallization behavior of Ni-based superalloys in sub-solvus forging processes</i></p> <p>T. Nishimoto¹, T. Okajima¹, S. Ueta¹, K. Yamashita², and N. Honjo³</p> <ol style="list-style-type: none"> 1. Daido Steel Co., Ltd. Corporate R&D Center, 2-30 Daido-cho, Minami-ku, Nagoya, Aichi, Japan 2. Daido Steel Co., Ltd. Shibukawa Plant, 500 Ishihara, Shibukawa, Gunma, Japan 3. Daido Steel Co., Ltd. Forging Product Div., 6-35, Konan 1-chome, Minato-ku, Tokyo, Japan
2-A08	<p><i>Effect of thermomechanical treatment on the rate of crack growth in Alloy 780</i></p> <p>M. Bergner¹, J. Rösler¹, B. Gehrman², M. Hafez², D. Hünert³, M. Schlesinger⁴, M. Bellmer⁴</p> <ol style="list-style-type: none"> 1. Technische Universität Braunschweig – Institut für Werkstoffe, D-38106 Braunschweig 2. VDM Metals International GmbH, D-58762 Altena 3. Rolls-Royce Deutschland, D-15827 Blankenfelde-Mahlow 4. Fraunhofer-Institute for Mechanics of Materials IWM, D-79108 Freiburg

2-A09	<p><i>Interactions between stress relaxation, creep and change of lattice parameter during ageing of Inconel 718</i></p> <p>R. Zhang¹, Z. Bi², H. Qin², J. Zhang², S. Kabra³, T.L. Lee³, H. Dong¹</p> <ol style="list-style-type: none"> 1. Department of Engineering, University of Leicester, UK 2. High temperature materials research division, Central Iron and Steel Research Institute, China 3. ENGIN-X ISIS, UK
2-A10	<p><i>Repair with directional solidification of Ni-based single crystal superalloys using Vacuum Plasma Spray</i></p> <p>T. Kalfhaus¹, M. Schneider², T.W. Clyne³, G. Eggler², R. Vaßen¹</p> <ol style="list-style-type: none"> 1. Institute of Energy and Climate Research 1, Forschungszentrum Jülich, Wilhelm-Johnen-Straße, 52428 Jülich, Germany 2. Institute for Materials, Faculty of Mechanical Engineering, Ruhr-Universität Bochum, Universitätsstr. 150, 44790 Bochum, Germany 3. Department of Materials Science and Metallurgy, University of Cambridge, 27 Charles Babbage Road Cambridge CB3 0FS, UK
2-A11	<p><i>Effect of γ'' and δ phase on low cycle fatigue of IN718 superalloy at the elevated temperatures</i></p> <p>J. Xu^{1,2,3}, Z. Huang^{1,2,3}, L. Jiang^{1,2,3}</p> <ol style="list-style-type: none"> 1. State Key Laboratory of Powder Metallurgy, Central South University, Changsha 410083, China 2. Powder Metallurgy Research Institute, Central South University, Changsha 410083, China 3. High Temperature Materials Research Institute, Central South University, Changsha 410083, China
2-A12	<p><i>A high-throughput methodology search for the optimum cooling rate in an advanced polycrystalline nickel base superalloy</i></p> <p>H. Wu^{1,2}, J. Li³, F. Liu^{1,2}, L. Huang^{1,2}, X. Zeng³, Q. Fang³, Z. Huang^{1,2}, L. Jiang^{1,2}</p> <ol style="list-style-type: none"> 1. State Key Laboratory for Powder Metallurgy, Central South University, Changsha, Hunan province 410083, China 2. Powder Metallurgy Research Institute, Central South University, Changsha, Hunan province 410083, China 3. State Key Laboratory of Advanced Design and Manufacturing for Vehicle Body, Hunan University, Changsha, Hunan province 410082, China
2-A13	<p><i>In-situ Neutron diffraction for lattice parameter evolution and creep behavior during creep aging in Inconel 718</i></p> <p>H.L. Qin¹, Z.N. Bi¹, R.Y. Zhang², T.L. Lee³, J.H. Du¹, J. Zhang¹</p> <ol style="list-style-type: none"> 1. Central Iron and Steel Research Institute, China 2. University of Leicester, UK 3. ENGIN-X ISIS, UK
2-A14	<p><i>Residual stress evolution and its effects on distortion of Inconel 718 disk</i></p> <p>Z.N. Bi¹, H.L. Qin¹, R.Y. Zhang², S.Y. Zhang³, T.L. Lee³, J.H. Du¹, H.B. Dong², J. Zhang¹</p> <ol style="list-style-type: none"> 1. Central Iron and Steel Research Institute, China 2. University of Leicester, UK 3. ENGIN-X ISIS, UK
2-A15	<p><i>Factors affecting the Oxide formation on a Ni-based superalloy: The effect of surface finish, grain size and cold work</i></p> <p>T. D. Reynolds¹, M. P. Taylor¹, D. J. Child², M. C. Hardy², H. E. Evans¹</p> <ol style="list-style-type: none"> 1. School of Metallurgy and Materials, University of Birmingham, Birmingham, UK 2. Rolls-Royce plc, PO Box 31, Derby, DE24 8BJ, UK
2-A16	<p><i>Alloy design for promoting γ' solvus temperature and high temperature microstructural</i></p>

	<p><i>stability of multi-component Co-base superalloys using CALPHAD method</i></p> <p>W.D. Li, L.F. Li, Q. Feng</p> <p>State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, Beijing, 100083, China</p>
2-A17	<p><i>Overheating effect on non-isothermal creep behavior of a cast superalloy K465</i></p> <p>X.T. Guo, W.R. An, W.W. Zheng, Y.R. Zheng, Q. Feng</p> <p>Department of State Key Laboratory for Advanced Metals and Materials, University of Science and Technology Beijing, Beijing 100083, China</p>
2-A18	<p><i>Growth and structure of thin-walled areas in single-crystalline cored turbine blades</i></p> <p>A. H-Kuczkowska, J. Krawczyk, W. Bogdanowicz, A. Tondos</p> <p>Institute of Materials Science, University of Silesia in Katowice, 1a 75 Pułku Piechoty Str. 41-500 Chorzów, Poland</p>
2-A19	<p><i>Computational design of Ni superalloys focusing on the post-rafting stage</i></p> <p>H. Yu¹, W. Xu^{1,2}, and S. van der Zwaag¹</p> <ol style="list-style-type: none"> 1. Novel Aerospace Materials group, Faculty of Aerospace Engineering, Delft University of Technology, 2629HS Delft, The Netherlands 2. State Key Laboratory of Rolling and Automation, Northeastern University, 110819 Shenyang, China
2-B01	<p><i>Atomistic modeling of segregation of alloying elements to twin boundaries in Ni₃Al, Co₃(Al/W) and (Ni/Co)₃Al</i></p> <p>A.P.A. Subramanyam, R. Drautz, T. Hammerschmidt</p> <ol style="list-style-type: none"> 1. ICAMS, Ruhr-Universität Bochum, Bochum, Germany
2-B02	<p><i>Thermodynamic and kinetic simulation of interdiffusion processes for NiCoCrAlY coatings on Ni based superalloys for gas turbine components and verification through experimental testing campaign</i></p> <p>A. Costa¹, B. Gallo¹, A. Bonadei¹, E. Vacchieri¹, G. Roncallo^{1,2}, G. Cacciamani²</p> <ol style="list-style-type: none"> 1. Ansaldo Energia S.p.A., Via N. Lorenzi 8, 16152, Genoa, Italy 2. Dipartimento di Chimica e Chimica Industriale, University of Genoa, Via Dodecaneso 31, 16146, Genoa, Italy
2-B03	<p><i>Fatigue strength of Inconel 718 superalloy by rotary bending and ultrasonic fatigue and theoretical analysis after UNSM technique</i></p> <p>R. Karimbaev¹, Sh. Mukhtarov², F. Utyashev², A. Amanov¹, T. Amanov³, Y.S. Pyun¹</p> <ol style="list-style-type: none"> 1. Department of Mechanical Engineering, Sun Moon University, Asan 31460, Korea 2. Institute for Metals Superplasticity Problems, Russian Academy of Sciences, Ufa 450001, Russia 3. Institute of Mechanics and Seismic Stability of Structures, Academy of Sciences of the Republic of Uzbekistan, Tashkent 100125, Uzbekistan
2-C04	<p><i>Accelerating design of novel nickel based superalloys concerning composition design and hot-compression optimization</i></p> <p>L. Tan, F. Liu, L. Zhang, G. He, L. Jiang</p> <p>State Key Laboratory of Powder Metallurgy, Central South University, Changsha, China</p>
2-C05	<p><i>Diffusion properties of Re in Ni-base superalloys – A combined cluster expansion and Monte Carlo approach</i></p> <p>M. Grabowski, J. Rogal, R. Drautz</p> <p>ICAMS, Ruhr-Universität Bochum, 44780 Bochum, Germany</p>

2-C06	<p><i>Application of high-throughput approaches on γ' Phase Stability research in Co-based superalloy: Diffusion-multiple and Laser powder deposition</i></p> <p>Z. Wang¹, L. Zhu¹, Z. Huang¹, H. Yang², F. Liu¹, L. Jiang¹</p> <ol style="list-style-type: none"> 1. State Key Laboratory of Powder Metallurgy, Central South University, Changsha, Hunan 410083, PR China 2. State Key Laboratory of Solidification Processing, Northwestern Polytechnical University, Xi'an 710072, PR China
2-C07	<p><i>Localised deformation and raft rotation during high temperature creep of Ni-based single crystal super alloys</i></p> <p>B. Viguier¹, M.F. Ijaz¹, D. Poquillon¹, A. Proietti², C. Josse²</p> <ol style="list-style-type: none"> 1. CIRIMAT/ INP-UPS-CNRS, University of Toulouse, France 2. UMS Castaing/ INP-UPS-CNRS, University of Toulouse, France
2-C08	<p><i>Composition change and long-time annealing of the nickel-based superalloy Waspaloy</i></p> <p>K. Firlus¹, S. Kinzel^{1,2}, J. Gabel³, U. Glatzel¹</p> <ol style="list-style-type: none"> 1. University Bayreuth, Metals and Alloys, Germany 2. now at: H-O-T Härte und Oberflächentechnik, Buttenheim, Germany 3. MTU Aero Engines AG, Munich, Germany
2-C09	<p><i>High-resolution diffraction technique for visualization of misorientations in single crystal superalloys</i></p> <p>R. Albrecht¹, M. Zubko¹, K. Gancarczyk², J. Sieniawski²</p> <ol style="list-style-type: none"> 1. Institute of Materials Science, Silesian Interdisciplinary Centre for Education and Research, University of Silesia, 75 Pułku Piechoty 1A, Chorzów, 41-500, Poland 2. Department of Materials Science, Rzeszów University of Technology, W. Pola 2, Rzeszów, 35-959, Poland
2-C10	<p><i>Industrial Design of a Novel Ni-Co High Temperature Alloy</i></p> <p>S.A.J. Forsik, A.O. Polar Rosas, T. Wang, G.A. Colombo, N. Zhou, S.J. Kernio, M.E. Epler</p> <p>Research & Development, Carpenter Technology Corporation, Reading, PA, USA</p>
2-D01	<p><i>On the origin of anomalously large grains that develop during sub-solvus heat treatment in a polycrystalline γ-γ' Nickel-based superalloy</i></p> <p>M.A. Charpagne^{1,2}, S. Jacomet², A. Polonsky¹, J. Thébault³, J.M. Franchet⁴, N. Bozzolo², T.M. Pollock¹</p> <ol style="list-style-type: none"> 1. Materials Department, University of California at Santa Barbara, Santa Barbara, CA 93101, USA 2. MINES ParisTech, PSL - Research University, CEMEF - Centre de mise en forme des matériaux, CNRS UMR 7635, CS 10207 rue Claude Daunesse 06904 Sophia Antipolis Cedex, France 3. Safran Aircraft Engines, 171 boulevard de Valmy - BP 31 92702 Colombes Cedex 4. Safran SA, SafranTech – Materials & Process Division, rue des Jeunes Bois – Châteaufort – CS 80112 78772, Magny-Les-Hameaux Cedex, France
2-D02	<p><i>Improved 3rd generation single crystal superalloy CMSX-4[®] Plus (SLS), development and characterization</i></p> <p>J.B. Wahl, K. Harris</p> <p>Cannon-Muskegon Corporation</p>
2-D04	<p><i>Growth of porosity in single-crystal nickel-base superalloys during homogenisation heat treatment</i></p> <p>I.Lopez-Galilea¹, B. Rutttert¹, A.I. Epishin², G. Nolze³, W. Theisen¹</p> <ol style="list-style-type: none"> 1. Institut für Werkstoffe, Ruhr-Universität Bochum, 44801 Bochum, Germany 2. Technical University of Berlin, Berlin, Germany

	3. Federal Institute for Materials Research and Testing, Berlin (BAM), Germany
2-D05	<p><i>Heat treatment effect on gamma prime precipitate morphology in Rene 65</i></p> <p>C.M. Katsari¹, D. Guye¹, H. Che¹, A. Wessman², S. Yue¹</p> <p>1. Materials Engineering Dept., McGill University, Wong Building, 3610 University, Montreal, Quebec H3A 0C5 2. GE Aviation, Structural Materials Development, One Neumann Way, Cincinnati, OH 45215-1988, USA</p>
2-D06	<p><i>A quasi-continuum phase field damage model to predict topological inversion in single crystal superalloys</i></p> <p>H. Rajendran, J.-B. le Graverend</p> <p>Department of Aerospace Engineering, Texas A&M University, College Station, TX 77840, USA</p>
2-D07	<p><i>Assessment of a thermodynamic and kinetic tool for brazing simulation applied to Ni base superalloys for gas turbine blades and vanes</i></p> <p>G. Roncallo^{1,2}, A. Costa¹, P. Guarnone¹, E. Vacchieri¹, G. Cacciamani²</p> <p>1. Ansaldo Energia S.p.A., Via N. Lorenzi 8, 16152, Genoa, Italy 2. Dipartimento di Chimica e Chimica Industriale, University of Genoa, Via Dodecaneso 31, 16146, Genoa, Italy</p>
2-D08	<p><i>Phase stability and microstructure formation of Ni2Cr (oP6) phase in Ni-Cr-Mo ternary system at elevated temperatures</i></p> <p>R. Nagashima¹, H. Nakashima², R. Yamagata², M. Takeyama²</p> <p>1. Graduate student, Tokyo Institute of Technology 2. Dept. Materials Science and Eng., School of Materials and Chemical Technology, Tokyo Institute of Technology</p>
2-D09	<p><i>Using guided machine learning to accelerate and improve routine metallographic analyses of high performance alloys</i></p> <p>R.P. Barnett</p> <p>Carl Zeiss Microscopy Ltd., Cambridge, UK</p>

Notes:

1. Total number of posters: 73
2. To locate poster location from the ID number:
e.g. **1-A02** means to be presented in **Session 1** (Tue, 11 Sept), located in **Section A** (see below), no.02

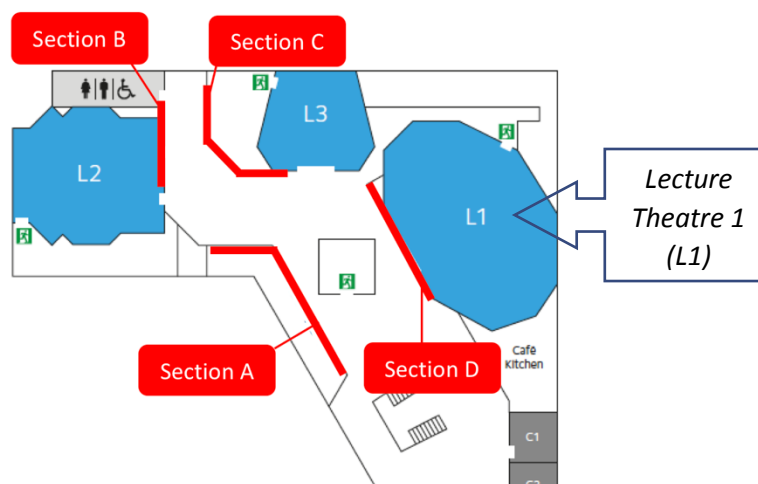


Figure 1 Area of poster sessions: Section A, B, C, D – outside of the Lecture Theatre 1 (L1), the Mathematical institute, University of Oxford

Conference secretariat

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