



**14th International Conference on Creep
and Fracture of Engineering Materials and Structures
(Creep2017)**

June 19-21, 2017; Saint Petersburg, Russia

The Conference is organized by
Polytech - Peter the Great Saint Petersburg Polytechnic University
and

Ural Federal University named after the First President of Russia B.N. Yeltsin (Yekaterinburg)

Final Circular

Conference Organization

Chairmen:

Peter Panfilov (Yekaterinburg, Russia) and Georgii Kodzhaspirov (Saint Petersburg, Russia)

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Conference Secretariat

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Dear Participants,

According to the Russian Federation Regulations, You have to register by the place of the residence during the first day of your arrival.

Conference Program

Keynote speakers:

R. Sandström (*Sweden*) Persistent creep of copper at low temperatures;

G.M. Pharr (*USA*) Measurement of Power Law Creep Parameters by Nanoindentation;

L. Kloc (*Czech Republic*) Low-stress Creep of Creep Resistant Steels;

M.E. Kassner (*USA*) Fundamentals of Creep in Aluminum Over a Wide Temperature Range;

K. Maruyama (*Japan*) On Physical Basis of Larson-Miller Constant of 20;

R. Kaibyshev (*Russia*) Role of strain-induced particle coarsening in creep strength breakdown;

I. Sevostianov (*USA*) Fraction-exponential operators in micromechanical modeling of creep processes in heterogeneous solids

June 19, 2017

Registration 8-30 – 9-30

June 19 Plenary Session: 9-30 – 10-30

Chairs: P. Panfilov and G. Kodzhaspirov

1	<u>P. Panfilov, G. Kodzhaspirov</u> Creep2017 co-chairmen	Welcome
2	<u>A. Rudskoi, V. Sergeev</u> The Rector of Peter the Great Saint-Petersburg Polytechnic University (Polytech), the Vice-Rector for Research, Saint Petersburg	Welcome
3	<u>G. Eggeler</u> , M. Whittaker	MEMORY TO PROFESSOR BRIAN WILSHIRE
4	<u>G.M. Pharr</u> , R.S. Ginder, W.D. Nix, Department of Materials Science and Engineering, Texas A&M University, College Station, TX, USA	Measurement of Power Law Creep Parameters by Nanoindentation (Invited*)
Coffee Break 10-45 – 11-00		
June 19 Morning Session, Section 1: 11-00 –13-30		June 19 Morning Session, Section 2: 11-00 –13-30
CREEP MECHANISMS I <i>Chairs: R. Sandström and G. Eggeler</i>		EXPERIMENTAL SETUPS FOR CREEP TYPE TESTS I <i>Chairs: Woo-Gon Kim and J. Koukal</i>
1	<u>M.E. Kassner</u> and K.K. Smith, University of Southern California, Los Angeles, USA	1 <u>R. Kaneko</u>, D. Itoh, K.I. Kobayashi Department of Mechanical Engineering, Chiba University, 263-8522 Japan Evaluation of Integrity and Estimation of Residual Creep Life for Aged Boiler Tubes Using Miniature Creep and Small Punch Creep Tests \

2	K.K. Smith and <u>M.E. Kassner</u> , University of Southern California, Los Angeles, USA	Low Temperature Creep in Metals	2	<u>J. Zhao</u> , T. Cao, C. Cheng, H. Li School of Materials Science and Engineering, Dalian University of Technology, Dalian, China	Zc method to predict creep deformation and rupture life based on short-term creep tests results
3	<u>S. Spigarelli</u> , R. Sandström, DIISM, Università Politecnica delle Marche, Ancona, Italy	Basic model for creep of fcc metals: implementation for description of pure Aluminum and Al-Mg single phase alloys	3	<u>S. Wen</u> , Z. Yue School of Mechanics and Civil & Architecture, Northwestern Polytechnical University, Xi'an, PR China	Investigation and Application of the Methods to Obtaining the Creep Properties of Thin Film/substrate System by Using Three Points Bending Test
4	<u>V. Gray</u> , M. Whittaker, S. Williams Institute of Structural Materials, Swansea University, Crymlyn Burrows, Swansea, SA1 8EN, UK	An investigation of creep under non-constant stress and temperature conditions in Waspaloy	4	<u>J. Zhang</u> , X. Wang School of Mechanics, Civil. & Architecture, Northwestern Polytechnical University, Xi'an, PR China	Study on Distribution of the Tensile Creep Stress and Strain of Smooth and Notched bars
5	F. Sui, Rolf Sandström Materials Science and Engineering, Royal Institute of Technology, KTH, Stockholm, Sweden	Modelling tertiary creep of copper	5	<u>W. Yan</u> , Z. Yue, School of Mechanics and Civil & Architecture, Northwestern Polytechnical University, Xi'an, PR China	Time-dependent Stress Evolution and Growth of the Void in Single Crystal During Uniaxial Tensile Creep
6	<u>E. Sato</u> , K. Higane, H. Masuda, K. Kitazono, Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency, Sagamihara, Japan	Four Regions in Low- Temperature Creep of Ultrafine- Grained Aluminum	6	T. Yamashita, Y. Nagae Japan Atomic Energy Agency, Ibaraki, Japan	Strain distribution measurements across dissimilar welded joints of Gr.91 under creep tests
Lunch 13-30 – 14-30					
June 19 Afternoon Session, Section 3: 14-30 –16-30			June 19 Afternoon Session, Section 4: 14-30 –16-30		

CREEP OF METALS AND ALLOYS I			STEELS I		
Chairs: M. Kassner and S. Komazaki			Chairs: F. Abe and F. Pettinari-Sturmel		
1	<u>R. Sandström</u> Materials Science and Engineering, Royal Institute of Technology, KTH, Stockholm, Sweden	Fundamental modelling of creep in austenitic stainless steels and copper (Invited)	1	<u>L. Kloc</u> , P. Dymáček, N. Luptáková Institute of Physics of Materials AS CR, Brno, Czech Republic	Low-stress Creep of Creep Resistant Steels (Invited)
2	W. Blum, J. Dvorák, P. Král, <u>P. Eisenlohr</u> , V. Sklenička Institut für Werkstoffwissenschaften, University of Erlangen-Nürnberg, Martensstr. 5, D-91058 Erlangen, Germany	Correct Interpretation of Creep Rates: A Case Study of Cu	2	C. Parrens, J.-L. Dupain, B. Malard, <u>D. Poquillon</u> CIRIMAT ENSIACET, 4 Allée Emile Monso, BP44362, 31030 Toulouse, France	Aging effect on creep properties of type 310 austenitic stainless steel during isothermal and non-isothermal creep tests at 870°C. Experiments and modelling.
3	<u>E. Gariboldi</u> , K. Naumenko, O. Ozhoga-Maslovskaja, E. Zappa ¹ Politecnico di Milano, Dipartimento di Meccanica, Milano, Italy	Modelled and DIC-measured strains in notched specimen from Al-Cu-Mg-Si alloy with anisotropic creep behavior	3	<u>H. Masuda</u> , H. Tobe, E. Sato, Y. Sugino, S. Ukai Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency, Sagamihara, Japan	Substructural evolutions accelerated by 2D grain boundary sliding in ODS ferritic steel
4	<u>M. Cabibbo</u> , M.Regev, S.Spigarelli DIISM, Università Politecnica delle Marche, Ancona, Italy	Effect of microstructural instabilities on high-temperature creep response of the 2024 aluminum alloy	4	S. Ukai, R. Kamikawa, N. Oono, <u>H. Masuda</u> , E. Sato Materials Science and Engineering, Faculty of Engineering, Hokkaido University, Sapporo, Hokkaido, Japan	Threshold stress for grain boundary sliding in FeCrAl-ODS steels
5	<u>P. Hahn</u> , M. Schwienheer, M. Oechsner Institut fuer Werkstoffkunde TU Darmstadt, Darmstadt, Germany	Modelling of creep and stress relaxation of the nickel-base alloy Nimonic 80A at isothermal and non-isothermal loading conditions	5	<u>C.R. Das</u> , J. Hald Materials and Surface Engineering, Department of Mechanical Engineering,	Microstructural evolution in advanced 12Cr steels during creep

				Technical University Denmark, Lyngby, Denmark	
			6	A. Fedoseeva , N. Dudova, R. Kaibyshev Belgorod State University, Belgorod, Russia	Origin and nature of creep strength breakdown in 9%Cr steels
Coffee Break 16-45– 17-00					
June 19 Afternoon Session, Section 5: 17-00 –18-30			June 19 Afternoon Session, Section 6: 17-00 –18-30		
CREEP OF METALS AND ALLOYS II <i>Chairs: H. Inui and B. Skrotzki</i>			CREEP UNDER SPECIAL CONDITIONS <i>Chairs: T. Matsunaga and S. Tian</i>		
1	S. J. Kim , R. T. Dewa, J. Y. Park, W. G. Kim, E. S. Kim Pukyong National University, 365 Sinseon-ro, Nam-gu, Busan 48547, Republic of Korea	Creep and Low Cycle Fatigue Behaviors of Alloy 617 at Elevated Temperatures of 900°C and 950°C.	1	F. Dobeš , P. Dymáček Institute of Physics of Materials, Academy of Sciences of the Czech Republic	Application of Shear-Lag Model in Creep of Random Planar Fibre Composites
2	A. Schmitt , K.S. Kumar, X.Li, F. Stein, A. Kauffmann, M. Heilmaier ¹ Institute for Applied Materials (IAM-WK), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany	Creep of lamellar Fe-Al alloys	2	T. Jaumier , S. Vincent, L. Vincent, R. Desmorat DEN-Service de Recherches Métallurgiques Appliquées, CEA, Université Paris-Saclay, F-91191, Gif-sur-Yvette, France	Tensile and Creep Anisotropy in ODS Steel Tubes for Nuclear Cladding Applications
3	D. Kitaeva , Ya. Rudaev, Sh. Pazylov, G. Kodzhaspirov Peter the Great Saint Petersburg Polytechnic University, Saint Petersburg, Russia	On anisotropy factor assessment for aluminum alloys under high temperature creep	3	S. Zhang , H. Fukutomi, T. Nishii, K. Satoh Materials Science Research Laboratory, Central Research Institute of Electric Power Industry, 2-6-1 Nagasaka, Yokosuka-shi, Kanagawa, 240- 0196, Japan	Creep Rupture and Damage Behaviors for Welded Pipe of Ni-based Alloy Using Full Thickness Specimen

4	<u>S.P. Singh</u> , P. Kumar Department of Materials Engineering, Indian Institute of Science, Bangalore, India	Effect of Liquefaction of Low-Melting Bi Phase on the Creep Behavior of Cu-Bi Two Phase Alloy	4	<u>V. Vodárek</u> , J. Holešínský, L. Strílková, Z. Kuboň VŠB – Technical University of Ostrava, Ostrava, Czech Republic	Creep Behavior and Microstructure Evolution in Two Designs of P23/P91 Heterogeneous Welds
5	<u>K. Yamamoto</u> , M. Deguchi, H. Tobe, E. Sato The University of Tokyo, Japan	Effect of the Holding Stress in Stress-Holding Type Creep-Fatigue of Cu-Cr-Zr Alloy	5	J. M. Brear, J. Williamson John Brear – Plant Integrity, Llanelli, UK	Creep damage and strain accumulation in steam-methane reformer catalyst tubes
CITY BUS TOUR 19-00 – 21-00					
INTERNATIONAL COMMITTEE DINNER 19-00 – 21-00					
June 20, 2017					
June 20 Morning Session, Section 7: 9-00 – 11-00			June 20 Morning Session, Section 8: 9-00 – 11-00		
CREEP OF INTERMETALLICS AND ALLOYS I <i>Chairs: B. Viguier and Y. Wang</i>			CREEP MODELLING I <i>Chairs: M. Gutkin and X. Wang</i>		
1	<u>U. Glatzel</u> , E. Fleischmann, C. Konrad, F. Krieg, R. Völkl Metals and Alloys, University Bayreuth, 95447 Bayreuth, Germany	Contributions of Different Hardening Mechanisms on Creep Strength of Single Crystal Ni alloys - Pure Ni to Ni Solid Solution to Ni-Based Superalloys	1	<u>I. Sevostianov</u> , ¹ Department of Mechanical and Aerospace Engineering, New Mexico State University, Las Cruces, NM 88003, USA	Fraction-exponential operators in micromechanical modeling of creep processes in heterogeneous solids (Invited)
2	<u>R. Sahara</u> , T. Osada, S. Bhattacharyya, K. Ohno Research Center for Structural Materials, National Institute for Materials Science, Tsukuba, Ibaraki 305-0047, Japan	Thermodynamic properties in NiAl system by a first-principles renormalized potential	2	<u>V. Shlyannikov</u> , A. Tumanov Kazan Scientific Center of Russian Academy of Sciences, Kazan, Russia	The Crack-Tip Creep Damage Assessment Under Multi-Axial Stress State

3	C.Schwalbe, <u>E.Galindo-Nava</u> , N.Jones, C.M.F.Rae Rolls-Royce University Technology Centre, Department of Materials Science and Metallurgy, University of Cambridge, Cambridge, UK	Creep parameter determination based upon element segregation in Ni-SX superalloys	3	<u>V. Tseplyaev</u> , S. Starikov, N. Serenko Joint Institute for High Temperatures of RAS, Moscow 125412, Russia	Multi-scale modeling of dislocations behavior in molybdenum
4	<u>S. G. Tian</u> , S. Liang, X. J. Zhu, D. L. Shu, B. S. Zhang School of Materials Science and Engineering, Shenyang University of Technology, Shenyang, PR China	Influence of Temperature on Stacking Fault Energy and Creep Mechanism of A Single Crystal Nickel-Based Superalloy	4	<u>I.A. Migel</u> , A.I. Kustov Military Educational and Scientific Center of the Air Force Academy named after Professor N. E Zhukovsky and Y.A. Gagarin, Voronezh, Russia	Monitoring of evolution process of microstructure for natural materials and prediction their fracture with AMD-methods
5	<u>J. Albiez</u> , I. Sprenger, D. Weygand, M. Heilmaier, T. Böhlke Institute of Engineering Mechanics, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany	Simulation of creep of directionally solidified NiAl- based eutectics with local and non-local material models	5	<u>V.M. Zeleney</u> , A.I. Kustov, I.A. Migel Voronezh State Pedagogical University, Voronezh, Russia	Development of methods for control of creep solid state materials based on the physical principles of the propagation of acoustic waves
6	<u>L. Cao</u> , D. Bürger, P. Wollgramm, G. Eggeler Institut für Werkstoffe, Ruhr- Universität Bochum, Bochum, Germany	On the Influence of Triaxial Stress States on Microstructural Evolution in Ni-base Superalloy Single Crystals	6	<u>A. I. Grishchenko</u> , A. S. Semenov, L. B. Getsov, E. R. Golubovski Peter the Great Saint-Petersburg Polytechnic University, Saint Petersburg, Russia	Unified single crystal creep model with account of I, II and III stages
Coffee Break 11-15 – 11-30					
BUS TOUR TO PETERHOFF FOR GUESTS					
June 20 Morning Session, Section 9: 11-30 – 13-00			June 20 Morning Session, Section 10: 11-30 – 13-00		
CREEP OF INTERMETALLICS AND ALLOYS II			STEELS II		

<i>Chairs: A. Dlouhý and E. Gariboldi</i>			<i>Chairs: L. Kloc and E. Sato</i>		
1	<u>H. Inui</u> , N.L. Okamoto Department of Materials Science and Engineering, Kyoto University, Kyoto, Japan	Some Critical Issues for the Development of High-Temperature Co-Based Superalloys with L ₁₂ Cuboidal Precipitates	1	<u>F. Abe</u> National Institute for Materials Science (NIMS), Tsukuba, Japan	Role of Ti and Nb on creep rupture properties of stainless steels
2	<u>G. Eggeler</u> , G. Kausträter, S. Mogharebi, F. Richter, O. Kastner, Institute for Materials, Materials Science, Ruhr-University Bochum, Bochum, Germany	On the Effect of Particle Coarsening on the Creep Activation Parameters n and Q	2	<u>T. Matsunaga</u> , H. Hongo, M. Tabuchi, M. Souissi, R. Sahara, H. C. Whitt, T. K. Payton, W. Zhang, M. J. Mills National Institute for Materials Science, Tsukuba, Ibaraki 305-0047, Japan	Creep and Microstructure in Boron Added 9% Chromium Heat Resistant Steel
3	P. Y. Zhao, C. Shen, S. R. Niezgoda, <u>Y. Wang</u> Department of Materials Science and Engineering, The Ohio State University, Columbus, Ohio, USA	Modeling Creep of Ni-Base Superalloys by Integrating Phase-Field and Dislocation-Based Crystal Plasticity at Mesoscale	3	<u>S. Komazaki</u> , H. Yamashita, K. Sato, K. Kimura Kagoshima University, Kagoshima, Japan	Change in Hydrogen Thermal Desorption Characteristic of Heat Resistant Ferritic Steel with Creep
4	<u>X.M. Wang</u> , X.Z. Wang, Y. Wang, Y.Y. Hou, L. Li, Z.F. Yue School of Mechanics, Civil Engineering and Architecture, Northwestern Polytechnical University, Xi'an, PR China	The influence of thickness on the creep behavior of the thin-walled cylindrical sample of nickel-based single crystal superalloys	4	<u>A.A. Buchatsky</u> , A.G. Gulenko, B.Z. Margolin Central Research Institute of Structural Materials "Prometey", Saint-Petersburg, Russia	Modelling Creep-Rupture Properties for Austenitic Steels Undergone Neutron Irradiation and High Temperature
5	<u>K. Firlus</u> , S. Kinzel, J. Gabel, U. Glatzel University Bayreuth, Metals and Alloys, Bayreuth, Germany	Long time annealing of the nickel-based superalloy Waspaloy	5	<u>E. Tkachev</u> , A. Belyakov, R. Kaibyshev Belgorod State University, Belgorod, Russia	Microstructure and creep properties of 9%Cr steel containing boron

6	H. Sommer , J. Kiese, M. Ersanli, N. de Boer, J. Klöwer, G. Eggeler Institute for Materials, Materials Science, Ruhr-University Bochum, Bochum, Germany	On the Evolution of Microstructure during Creep of a Polycrystalline Ni base Superalloy	6	M. Münch , N. Remalli, R. Brandt University of Siegen, Siegen, Germany	Low Temperature Creep of Martensitic Steels under Tension and Torsional Loading
			7	N. Remalli , M. Münch, R. Brandt Institute of Materials Engineering, University of Siegen, Germany	Microstructural Investigations of Low Temperature Creep in Martensitic Steels
Lunch 13-00 – 14-00					
June 20 Afternoon Session, Section 11: 14-00 – 16-00			June 20 Afternoon Session, Section 12: 14-00 – 16-00		
CREEP OF METALS AND ALLOYS III <i>Chairs: S. Spigarelli and K. Kobayashi</i>			STEELS III <i>Chairs: R. Kaibyshev and D. Poquillon</i>		
1	K. Maruyama , F. Abe, H. Sato, J. Shimojo, K. Yoshimi, Department of Material Science, Tohoku University, Sendai, Japan	On Physical Basis of Larson-Miller Constant of 20 (Invited)	1	K. Yoshida, H. Tsuruta, M. Tabuchi, K. Kobayashi Graduate School of Engineering, Chiba University, Inage-ku, Chiba 263-8522 Japan	Effect of Stress Multiaxiality on Creep Life of High-Chromium Ferritic Heat Resisting Steels
2	C. Rockenhäuser, S. Schrieffer, B. Skrotzki Federal Institute for Materials Research and Testing (BAM), Berlin, Germany	Microstructural Evolution during Creep of Al-Alloy 2618A	2	A. Rudskoy, G. Kodzhaspirov Peter the Great St.Petersburg Polytechnic University, St.Petersburg, Russia	Effect of thermomechanical processing on the high temperature tensile and creep rupture strength of austenitic stainless steel
3	E. Gariboldi , M. Colombo Politecnico di Milano, Dipartimento di meccanica, Milano, Italy	Creep behaviour of an Al-Si-Mg alloy with Er and Zr additions.	3	K. Kimura, K. Sawada National Institute for Materials Science, Tsukuba, Ibaraki 305-0047, Japan	Long-term creep strength and rupture ductility of Grade 92 steel

4	<u>M. Söndel</u> , D. Schwarz, J. Koukal, V. Vodarek, Z. Kubon VSB - Technical University of Ostrava, Czech Republic	Creep Behaviour of the Simulated P91 HAZ Regions at 600°C	4	<u>J. Rajesh</u> , P. Suresh Babu, R. Vijay, S. Ganesh Sundara Raman, G. Sundararajan Department of Metallurgical and Materials Engineering, Indian Institute of Technology Madras, Chennai-600036, India	Creep behavior of n-ODS-18Cr steel
5	<u>W. G. Kim</u> , J. Y. Park, S. J. Kim, E. S. Kim, M. H. Kim Korea Atomic Energy Research Institute, 989-111 Daedeok-daero, Yuseong-gu, Daejeon 34057, Republic of Korea	Creep Life Extrapolation of Alloy 617 Using a New Master Curve	5	M. Callaghan, J. Eaton-McKay, A. Wisbey, P. Deem, M. Chevalier Amec Foster Wheeler, Walton House, Birchwood Park, Warrington, Cheshire, WA3 6GA, UK	Creep Crack Initiation in Carburised 316H Austenitic Stainless Steel
6	<u>M. Gazizov</u> , R. Kaibyshev Belgorod State University, Pobeda 85, Belgorod, 308015, Russia	Creep behavior of an Al-Cu-Mg-Ag alloy subjected to T6 treatment	6	<u>N. Dudova</u> , R. Mishnev, R. Kaibyshev ¹ . Belgorod State University, Belgorod 308015, Russia	Creep Behavior of a 10%Cr Martensitic Steel
7	<u>M.S. Kalienko</u> , A.V. Volkov, A.V. Zhelnina PSC VSMPO-AVISMA CORPORATION, Verkhnia Salda, Russia	High Temperature Titanium Sheets of Ti6242 and VT18U	7	<u>R. Mishnev</u> , N. Dudova, R. Kaibyshev Belgorod State University, Belgorod 308015, Russia	Long Term Microstructural Evolution in a 10%Cr High Creep Resistant Martensitic Steel
Coffee Break 16-15 – 16-30					
June 20 Afternoon Session, Section 13: 16-30 – 18-00			June 20 Afternoon Session, Section 14: 16-30 – 18-00		
CREEP OF INTERMETALLICS AND ALLOYS III <i>Chairs: M.J. Mills and J. Zhao</i>			EXPERIMENTAL SETUPS FOR CREEP TYPE TESTS II <i>Chairs: J. Zhang and F. Dobeš</i>		
1	<u>B. Viguier</u> , C. Josse. CIRIMAT, INP/ENSIACET, Université de Toulouse, Toulouse, France.	Localised deformation during high temperature creep of a Ni based single crystal superalloy.	1	<u>H-Y. Lee</u> , S-K. Son, J-H. Eoh, J-Y. Jeong, Y-S. Ju SFR NSSS System Design Division, Korea Atomic Energy	Evaluation of Creep-Fatigue Damage in a Large-Scale Sodium Test Facility of the STELLA-2

				Research Institute, Daejeon, Korea	
2	S. Neumeier , F. Xue, C. Zenk, L. Freund, M. Göken Friedrich-Alexander-University Erlangen-Nuremberg, Department Materials Science & Engineering, Institute I, Erlangen, Germany	Double minimum creep in the rafting regime of a single crystal Co-base superalloy with positive lattice misfit	2	T. Kimura, Y. Shioda, K. Nomura, K. Kubushiro IHI Corporation, Yokogama, Japan	Method of Estimating the Temperature for 18Cr-9Ni-3Cu-Nb-N Austenitic Stainless Steel by Coarsening of the Sigma Phase
3	A. I. Epishin, T. Link, G. Nolze, B. Fedelich, T. Feldmann, B. Viguier, D. Poquillon, Y. Le Bouar, A. Ruffini, A. Finel Technical University of Berlin, Berlin, Germany	Creep of the single-crystal nickel-base superalloy CMSX-4 at a super-solvus temperature	3	M. Yaguchi, M. Tomobe, S. Komazaki , A. Kumada Kagoshima University, Kagoshima, Japan	Method of Assessing Individual Creep Properties of Actual Piping Using Small Samples
4	G. Angella, R. Donnini, M. Maldini, D. Ripamonti National Research Council, Institute of Condensed Matter Chemistry and Technology for Energy, Italy	Creep Behaviour of overaged Nimonic 263 Superalloy	4	K.I. Kobayashi , S. Fukuda, R. Kaneko Department of Mechanical Engineering, Chiba University, 263-8522 Japan	Evaluation of Cumulative Creep Rupture Life by Time-Fraction and Strain-Fraction Rules Using Small Punch Creep Tests
5	R.W.L. Fong, T. Nitheanandan Canadian Nuclear Laboratories, Chalk River, Canada	High-Temperature Creep-Sag Deformation of a Full-Sized Zr-2.5Nb Pressure Tube			

CONFERENCE DINNER ON A CRUISE SHIP 19-00 – 22-00

June 21, 2017

June 21 Morning Session, Section 15: 9-00 – 11-00

CREEP OF INTERMETALLICS AND ALLOYS IV

Chairs: U. Glatzel and H. Sato

June 20 Morning Session, Section 16: 9-00 – 11-00

MODELLING AND SIMULATION OF CREEP

Chairs: R. Sahara and V. Shlyannikov

1	T. M. Smith, A. Eagan, M. Ghazisaeidi, S.R. Niezgoda, Y. Wang, <u>M.J. Mills</u> ¹ Center for Electron Microscopy and Analysis, The Ohio State University, Columbus, OH 43212, USA	New Insights Into Rate Limiting Deformation Processes in Ni-Base Superalloys	1	<u>R. Kaibyshev</u> , Belgorod State University, Belgorod, Russia	Role of strain-induced particle coarsening in creep strength breakdown (Invited)
2	N. Luptáková, T. Záležák, I. Kuběna, G. Laplanche, E.P. George, <u>A. Dlouhý</u> Academy of Sciences CR, Institute of Physics of Materials, Zizkova 22, 616 62 Brno, Czech Republic	Phase stability during creep of CoCrFeMnNi and CoCrFeNi compositionally complex high- and medium-entropy alloys	2	S. Seyedkavoosi, D. Zaytsev, B. Drach, P. Panfilov, <u>M.Yu. Gutkin</u> , I. Sevostianov ¹ Institute of Problems of Mechanical Engineering, Russian Academy of Sciences, St. Petersburg, Russia	Fraction-exponential description of the viscoelastic properties of dentin
3	W. Vultros, <u>F. Pettinari-Sturm</u> , M. Hantcherli, J. Douin, L. Thébaud, P. Villechaise, J. Cormier, A. Devaux ¹ CEMES-CNRS, BP 94347, 29 rue Jeanne Marvig, 31055 Toulouse cedex 4, France	Influence of microstructural parameters on creep properties of the Nickel-Based superalloy AD730 TM	3	<u>S. Reschka</u> , L. Munk, D. Rodman, F. Nürnberger Leibniz Universität Hannover, Institut für Werkstoffkunde, Hannover, Germany	Data acquisition for stress analysis by Digital Image Correlation of nickel-based superalloys under tensile load at high temperatures
4	<u>F. Krieg</u> , M. Mosbacher, M. Fried, E. Affeldt, U. Glatzel Metals and Alloys, University Bayreuth, Ludwig-Thoma-Str. 36b, 95447 Bayreuth, Germany	Creep and Oxidation Behavior of Coated and Uncoated Thin Walled Single Crystal Samples of the Alloy PWA1484		<u>Syed Idrees Afzal Jalali</u> , P. Kumar, V. Jayaram Department of Materials Engineering, Indian Institute of Science, Bangalore 560012, India	Prediction of Creep Deformation by Bending
5	<u>B. Kumar Singh</u> , S.S. Bhattacharya, U. Chakkingal, S. A Aksenov Materials Forming Laboratory, Department of Metallurgical and Materials Engineering, Indian Institute of Technology, Madras, Chennai – 600 036, India	Interrelation of FEM Simulation to Superplastic Forming Experiments for Ti-6Al-4V		C.M.Omprakash, M.Kamaraj, D.V.V.Satyanarayana Defence metallurgical Research Laboratory, Hyderabad, India	Creep rupture life prediction of a Nickel based Superalloy DS CM247 using □-projection technique

6	L. Munk , S. Reschka, Dr. S. Löhnert, P. Wriggers Gottfried Wilhelm Leibniz Universität Hannover, Institut für Kontinuumsmechanik, Hannover, Germany	Modeling of nickel-based superalloys in a crystal plasticity framework		J. Eisentträger , K. Naumenko, H. Altenbach Otto-von-Guericke Universität, Magdeburg, Germany	Modelling the Viscoplastic Behaviour of a Martensitic Steel with a Mixture Approach
Coffee Break 11-15 – 11-30					
CREEP OF INTERMETALLICS AND ALLOYS V <i>Chairs: V. Vodarek and P. Eisenlohr</i>			CREEP BEHAVIOR OF INORGANIC and NATURAL MATERIALS <i>Chairs: J. Koukal and M. Cabibbo</i>		
1	P. Kellner, R. Völkl , U. Glatzel Metals and Alloys, University Bayreuth, Germany, Bayreuth, Germany	Creep of Mo-Si-B-Al-Ge alloys at ultra-high temperatures	1	D. Zaytsev , P. Panfilov Ural Federal University, Institute of Natural Sciences and Mathematics, Yekaterinburg, Russia	Time-depend properties of human dentin and enamel
2	M. Souissi , T. Matsunaga, R. Sahara, M. H. F. Sluiter, M. Tabuchi, M. J. Mills National Institute for Materials Science, Tsukuba, Japan.	Role of non-random metal site occupation in the formation stability of γ -Cr _{23-x} Fe _x C ₆ (x = 0–3) carbide phases by high resolution TEM and ab initio calculations	2	C. Settgest , M. Abendroth, M. Kuna TU Bergakademie Freiberg, Institute of Mechanics and Fluid Dynamics, Freiberg, Germany	Investigation of creep behavior of open cell ceramic Kelvin foam
3	S. Fintová, I. Kuběna , M. Jarý, N. Luptáková, T. Zálezák, L. Stratil, F. Šiška Institute of Physics of Materials, Academy of Sciences of the Czech Republic v. v. i., Žitkova 22, 616 62 Brno, Czech Republic	Creep behavior of newly developed Fe-Al-O powder based alloy.	3	S.P. Singh , M.E. Kassner, P. Kumar Department of Materials Engineering, Indian Institute of Science, Bangalore, India	Harper-Dorn Creep in Lithium Fluoride Single Crystals
4	D. Bürger, X. Wu, P. Wollgramm, A. Dlouhy, G. Eggeler	Double Shear Creep Testing of Single Crystal Ni-Base Superalloys	4	S.K. Karimov , A. Abdumanonov, M.Kh. Egamov Khujand Scientific Centre AC of the RT	Deformation behavior of polymeric liquid-crystalline films in a creep mode.

	Institut für Werkstoffe, Ruhr-Universität Bochum, 44801 Bochum, Germany				
5	P. Wollgramm, B. Ruttert, D. Bürger, L. Heep, A. B. Parsa, G. Eggeler Institut für Werkstoffe, Ruhr-Universität Bochum, 44801 Bochum, Germany	Uniaxial Creep of Superalloy Single Crystals – On Microstructural and Crystallographic Scatter and the Effect of Pre-Exposure and Different Thermo-Mechanical Treatments on Creep	5	P. Panfilov , A.N. Kochanov Ural Federal University, Yekaterinburg, Russia	Why a Rock never creeps
6	S. Ulan kyzy , O. Munz, T. Fischer, U. Glatzel Metals and Alloys, University of Bayreuth, 95447 Bayreuth Bavaria, Germany	Examination of thermo-physical properties and strain rate behaviour of honeycomb alloys to study the effect of rub in in outer air seals	6		
CONFERENCE CLOSING					

* - the length of presentation including discussion: invited - 30 minutes, regular – 20 minutes, student – 15 minutes.

Registration Fee

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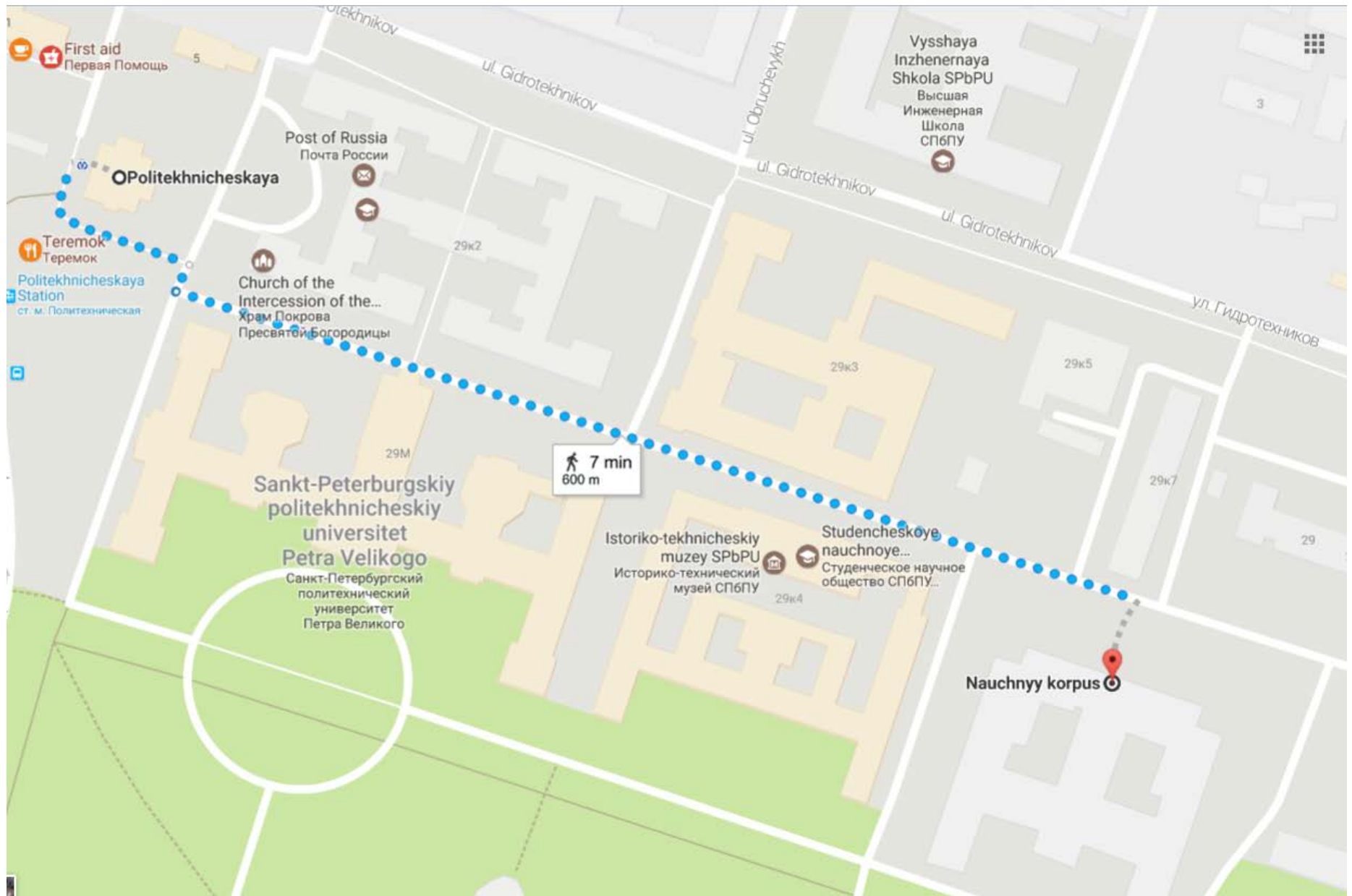
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