

Preliminary Conference Programme - Beyond Nickel-Based Superalloys V (BNBS-V): Materials for Extreme Environments

Sunday 28th June 2026

Time	Location	Event		
1400 onwards	Park Hotel	Check-in		

Monday 29th June 2026

DAY ONE

Time	Location	Event	Speakers	Talk Title
0830-0900	Atrium	Registration and Refreshments		
0900-1030	G03/G11	Session 1 - Design of Mo-based silicides	Manja Krüger Otto von Guericke University Magdeburg, Germany	(Invited) Alloy design for Mo-based silicide materials to tailor the mechanical and oxidation response
			Taichi ABE National Institute for Materials Science (NIMS)	(Invited) Thermodynamic database of MoSiB ₂ TiC-X systems for microstructural analysis
			Naoyuki Nomura Tohoku University	Particle-Level Compositional Design of MoSiB ₂ TiC Alloys via FD- POEM and Plasma Spheroidization
			Toni Renz University of Oxford	Phase Stability in the Mo-Si-Ti system
1030-1100	Atrium	Refreshments		
1100-1230	G03/G11	Session 2 - Bcc-superalloys (1)	Carolina Frey ATI SA&C	(Invited) Design of BCC-B2 Precipitation Strengthened Nb-based Alloys
			Kateryna Khanchych Karlsruhe Institute for Technology (KIT), Germany	Ta-Mo-Cr-Ti-Al-based refractory high-entropy alloy coatings for high-temperature applications
			Nataliya Yadzhak University of Bayreuth	Evaluation of Hydrogen Effect on Fe-Ni-Al bcc Superalloys by Resonance Ultrasound Spectroscopy
			Benjamin Grégoire La Rochelle Université	Superior hot corrosion resistance of TaMoCrTiAl refractory high-entropy alloy at 900°C in molten Na ₂ SO ₄ compared to CMSX-4® single-crystal nickel-based superalloy
1230-1330	Atrium?	Lunch		
1330-1500	G03/G11	Session 3 - Advances in Chromium alloys	Kan Ma City University of Hong Kong	Novel chromium-based BCC-superalloys enhanced by intermetallic B2 cobalt-aluminum
			Julie Hammoud Technische Universität Darmstadt	Deformation mechanisms in Cr-Mo-Si alloys: Insights from atomistic simulations based on first-principles calculations and machine learning interatomic potentials
			Jan Vollhüter Friedrich-Alexander-Universität Erlangen-Nürnberg	Hierarchically structured bcc superalloys in the Cr-NiAl system
			Emma White DECHEMA Research Institute	Cr-V Binary Alloys: High Temperature Oxidation Behavior and Hardness
1500-1530	Atrium	Refreshments		
1530-1700	G03/G11	Session 4 - Advances in Chromium silicides	Alexander Kauffmann Ruhr University Bochum	(Invited) Overcoming Fundamental Barriers for Novel Refractory High Temperature Candidate Alloys in Cr-Mo-Si Alloys
			Mathias Galetz DECHEMA-Forschungsinstitut	Advancements in Chromium-Silicide Alloy Systems
			Uwe Glatzel University of Bayreuth	Tensile Creep Behavior of Cr-Si alloys at 980°C
			Jonas Witzgall University of Bayreuth	Oxide-Scale Development of Cr-rich Cr-Si Based Alloys under Cyclic Oxidation at 1200°C
			Lisa Zander DECHEMA-Research Institute	From A ₂ + A ₁₅ to A ₂ + B ₂ : Influence of precipitation type on oxidation behavior and mechanical properties of Cr-based alloys in the Cr-Mo-Si+(-NiAl) system
1710-1800		Free time		
1800-2030	Atrium	Poster Session		
		with buffet dinner		

Tuesday 30th June 2026

DAY TWO

Time	Location	Event	Speakers	Talk Title
0830-0900	Atrium	Registration and Refreshments		
0900-1030	G03/G11	Session 5 - Nuclear applications for BNBS systems	Ryuta Kasada Institute for Materials Research, Tohoku University	(Invited) Microstructural Pathways to Enhanced Damage Tolerance in ODS Alloys for Advanced Nuclear Power Systems
			Adrien Couet University of Wisconsin-Madison	(Invited) High Throughput Research of Ordered-Precipitate BCC Compositionally Complex Alloys for Advanced Nuclear Environments
			Cameron Yousefian University of Birmingham	Thermal Stability and Phase Transformation Pathway in Zr30-Ti25-Nb25-Al10-Mo5-Ta5 Refractory High Entropy Superalloy
			Nick Crnkovich University of Wisconsin-Madison	Irradiation Induced Void Formation in a Light, Refractory BCC-L21 Compositionally Complex AlCoCrMnTiV System
1030-1100	Atrium	Refreshments		
1100-1230	G03/G11	Session 6 - Refractory Metals & advanced high temperature testing	Nicholas Sim Alloyed Ltd.	Next-Generation Niobium Alloys via Additive Manufacturing: Microstructure, Mechanical Properties, and Alloy Design
			Kathy Ho Lawrence Livermore National Laboratory	Using a Gleeble to observe strain rate sensitivity behaviour of TZM at elevated temperatures
			Lukas Korell DECHEMA Research Institute	Hot corrosion behavior of Mo-based alloys
			Suraj Kumar Indian Institute of Science, Bengaluru, India	Deformation behavior of materials at ultra-high temperatures under aerobic conditions
1230-1330	Atrium	Lunch/Posters and refreshments		
1330 onwards		Free time (see social options)		

Wednesday 1st July 2026

DAY THREE

Time	Location	Event	Speakers	Talk Title
0830-0900	Atrium	Registration and Refreshments		
0900-1030	G03/G11	Session 7 - Refractory high entropy alloys (RHEAs)	Eric Lass The University of Tennessee Knoxville	Refractory compositionally complex alloys with combined high temperature strength and tensile ductility
			Julia Chmielewska EMPA, EPFL, Switzerland	Room Temperature Ductility and Elevated Temperature Strength in Hf–Mo–Nb–Ti Refractory Multi Principal Element Alloys
			Masoumeh Faraji Coventry University, UK	Sustainable Solid-State Manufacturing of Refractory High-Entropy Alloys for Nuclear Energy Systems: Opportunities and Challenges
			Oleg Senkov Air Force Research Laboratory, USA	Unconventional Deformation Twinning in Refractory High Entropy Alloys
1030-1100	Atrium	Refreshments		
1100-1230	G03/G11	Session 8 - Vanadium-based silicide developments	Florian Pyczak Helmholtz-Zentrum Hereon	Microstructure formation of eutectic V-9Si-6.5B alloys observed by in-situ HE-XRD during directional solidification
			Georg Hasemann Otto-von-Guericke University Magdeburg	Assessment of the Isothermal Section in the V-Rich V–Si–B System at 1400 °C
			Zahra Sabeti Otto-von-Guericke University Magdeburg, Institute of Materials, Technologies and Mechanics, Universität Platz 2, 39106 Magdeburg, Germany	High-Temperature Compressive Behaviour of Directionally Solidified V–9Si–6.5B Eutectic Alloy
			Ibrahim Ali University of South Africa	Thermodynamic, Mechanical, and Thermal Properties of Novel V ₁₀ Si ₃ B and V ₅ Si ₃ B Silicide–Boride Intermetallics for High-Temperature Applications
1230-1330	Atrium	Lunch/Posters		

1330-1500	G03/G11	Session 9 - Modelling approaches to enable BNBS materials	Ida Berglund Thermo-Calc Solutions	(Invited) Turning alloy concepts into hardware: CALPHAD in action
			Theresa Davey Bangor University	Designing complex microstructures using first-principles-only CALPHAD
			Sebastian Kube University of Wisconsin-Madison	Navigating the multidimensional refractory alloy design space by integrating autonomous experiments, computation, and AI
			Vincent Gagneur University of Birmingham	Rapid analysis of slip traces for the early-stage mechanical screening of bcc and ordered-bcc compounds
1500-1530	Atrium	Refreshments		
1530-1710	G03/G11	Session 10 - Panel	Panel Discussion	
		+ Next-generation FCC & TiAl systems	An-Chou Yeh National Tsing Hua University	(Invited) Grain-Boundary Engineering and Elevated-Temperature Properties of LPBF-Compatible L1 ₂ -Strengthened High-Entropy Alloys
			Ayan Bhowmik Indian Institute of Technology Delhi	Design and evaluation of high strength 316L stainless steel-based nanocomposites by laser powder bed fusion
			Manashi Sabat Indian Institute of Technology Kharagpur, India	Mechanical response and microstructural evolution of an oxide dispersion strengthened Ni-rich high entropy alloy during high-temperature deformation
			Sarra Boubtane ep Zammouri German Aerospace Center	MAX-Phase Coatings for Protecting TiAl Alloys in High-Temperature Water Vapor Environments
1710-1800		Free time		
1800-2300	Park Hotel	Reception Drinks and Conference Dinner		
Thursday 2nd July 2026				
DAY FOUR				
Time	Location	Event	Speakers	Talk Title
0830-0900	Atrium	Registration and Refreshments		
0900-1030	G03/G11	Session 11 - Bcc-superalloys (2)	Sandy Knowles University of Birmingham	Bcc-superalloys - a microstructure template for high temperature alloy design
			Vikram Raja Jothi Karlsruhe Institute of Technology (KIT)	Ultra-slow coarsening in precipitation-strengthened refractory high-entropy alloys
			Alex Carruthers UKAEA	Development of (relatively) low cost and low density Refractory-Ruthenium based superalloys (RRSs)
			Kaitlyn Mullin Max Planck Institute for Sustainable Materials	High-throughput development of alloy design principles for additive manufacturing of refractory superalloys
1030-1100	Atrium	Refreshments		
1100-1230	G03/G11	Session 12 - New approaches for s	Kyosuke Yoshimi Tohoku University	(Invited) Microstructure-Dependent Crack Propagation Behavior in MoSiB ₂ TiC Alloy Analyzed by the Extended Finite Element Method
			Panos Tsakiroopoulos The University of Sheffield	Ultra-High-Temperature-Materials for HPT Blades for Aeroengines: Directional Solidification and Design Issues
			Matthew Gelmetti University of Sheffield	Use of Field Assisted Sintering Technology (FAST) for the manufacture of a metallic high temperature materials system
			Daniel Schliephake Intitute for Applied Materials (IAM-WK), Karlsruhe Institute for Technology (KIT)	The Influence of Processing Techniques on the Creep Behavior of Eutectic Mo-Si-Ti Alloys
1230-1300	G03/G11	Closing remarks and prizes	Sandy Knowles & Kyosuke Yoshimi	
1300-1430	Atrium	Lunch and refreshments		
1430		Close		