

HIP '22

13th International Conference on Hot Isostatic Pressing

CONFERENCE AGENDA
September 11, 2022

SEPTEMBER 12, 2022		
TIME	TOPIC	PRESENTER
7:15 am	Breakfast	
8:15	Welcome	<i>Cliff Orcutt, AIP</i>
8:15	Introduction to HIP '22 from the Conference Chairman “New Technological and Scientific Challenges of HIP”	<i>Victor Samarov, Synertech PM</i>
PLENARY LECTURES		
8:30	Opening Lecture: HIP for Nuclear: Technology, Applications; Material Certification, Perspectives	<i>David Gandy, EPRI</i>
9:00	PM-HIP Material Science: Problems and Solutions	<i>Hamish Fraser, The Ohio State University</i>
9:30	How the production of high quality pre-alloyed powder changed over the years from HIP to Additive Manufacturing	<i>Jim Sears, AMAERO</i>
10:15	Break	

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TIME	TOPIC	PRESENTER
	TRACK 1—Day 1	
Session	POWER GENERATION APPLICATIONS (1)	
10:50 am	PM- HIP Developments for Nuclear Pressure Vessel Applications	<i>John Sulley, Rolls-Royce</i>
11:15	Joining Ferritic SA508 Low Alloy Steel To Austenitic 316L Stainless Steel By Powder Metallurgy Hot Isostatic Pressing	<i>Xiaoyuan Lou, Purdue Univ.</i>
11:40	Latest Developments In PM-HIP Applications For Nuclear Power Generation	<i>Jim Shipley, Quintus</i>
12:05	Optimization of PM-HIP SA508 Grade 3 for Reactor Pressure Vessels	<i>James Connell, NAMRC</i>
12:30	Lunch	
Session	POWER GENERATION APPLICATIONS (2)	
1:30 pm	Optimized Low Alloy Steel Powders via Vacuum Annealing	<i>David Gandy, EPRI</i>
1:55	Advanced Plasma Atomization – Mass Production of High-Quality Powder	<i>Frederic Marion, AP&C GE Additive</i>
2:20	Irradiation Behavior of PM-HIP Nuclear Structural Alloys	<i>Janelle Wharry, Purdue Univ.</i>
2:45	Considerations for HIP use in Radioactive Environments	<i>Sam A. Moricca, GeoRoc International</i>
3:10	Break	

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Session	OIL, GAS and NAVAL APPLICATIONS	
3:30 pm	Application Of HIP-NNS To Large Complex Products Using Super Duplex Stainless Steel Powder	<i>Toyohito Shiokawa, MTC-Japan</i>
3:55	The Pathology of PM HIP Duplex Stainless Steels	<i>Tomas Berglund, MTC Powder Solutions</i>
4:20	Powder Metallurgy HIP for Naval Nuclear Applications - Trends in Process and Property Development	<i>Colin Ridgeway, Naval Nuclear Laboratory</i>
4:45	Panel Discussion—Opposite Track	<i>All</i>
5:15	HIP '22 Exhibition	<i>All</i>
6:30	Adjourn	

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SEPTEMBER 12, 2022		
TIME	TOPIC	PRESENTER
	TRACK 2—Day 1	
Session	MATERIALS AND MATERIALS SCIENCE (1)	
10:50 am		<i>Open</i>
11:15	Laminated Structures of Titanium-Based Composites Made Using Hot Isostatic Pressing (HIP) Treatment	<i>Sergey Prikhodko, UCLA</i>
11:40	Influence Of Reinforcement Type and Volume Fraction on Mechanical and Tribological Properties of PM HIP Ni-Based MMCs	<i>Raja Khan, TWI</i>
12:05	PM HIP Of Pure Nb And C-103 Alloy for Space Application: Influence of Powder Characteristics on Mechanical Properties	<i>Alessandro Sergi, TWI</i>
12:30	Lunch	
Session	MATERIALS AND MATERIALS SCIENCE (2)	
1:30 pm	Maximizing Productivity Of L-PBF Printing in Ti-6Al-4V Using Build Strategies and HIP Consolidation	<i>Kirk Rogers, Barnes Global Advisors</i>
1:55	Development and Manufacture of Innovative Toughened Fine-Grained Recrystallized tungsten alloy	<i>Koichi Niikura, MTC Japan</i>
2:20	Comparison Of HIP Composite and Individual Materials with Solid Metallurgy	<i>Alexander Ernst, SAAR Pulvermetal, GmbH</i>
2:45	Optimization of HIP Cycle for Co-Cr-W based Alloy 6	<i>Ralf Carlstrom, Höganäs (presented by Tomas Berglund)</i>
3:10	Break	

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Session	ADVANCES IN HIP EQUIPMENT (1)	
3:30 pm	Application of Programmatic Asset Management in Hot Isostatic Presses	<i>Daniel Peters, Structural Integrity Associates</i>
3:55	Computational Fluid Dynamics (CFD) Analysis of Loss of Cooling Accidents in HIP Systems	<i>Abheek Basu, Gravitas-Technologies</i>
4:20	Optimisation of Hot Isostatic Processes by Remote Plasma Optical Emission Spectroscopy	<i>Erik Cox, Gencoa</i>
4:45	PANEL DISCUSSION – SOLUTIONS TO PPBs IN NICKEL-BASED ALLOYS	<i>Panel Discussion</i>
5:15	HIP '22 Exhibition	<i>All</i>
6:30	Adjourn	

SEPTEMBER 13, 2022

TIME	TOPIC	PRESENTER
7:30 am	Breakfast	
	TRACK 3 – Day 2	
Session	ADDITIVE MANUFACTURING COUPLED with HIP (1)	
8:30 am	Rapid LPBF Printing of IN718 Coupled With HIP-Quench: A Faster Approach to Combine Manufacturing and Heat Treatment in A Nickel-Based Alloy	<i>Emilio Bassini, Politecnico di Torino</i>
8:55	Use of High-Pressure Heat Treatment for L-PBF F357	<i>Chad Beamer, Quintus</i>
9:20	The Critical Role of HIP in Powder-Based Manufacturing Processes at Boeing	<i>Austin Mann, Boeing</i>
9:45		<i>Open</i>
10:10	Break	
Session	ADDITIVE MANUFACTURING COUPLED with HIP (2)	
10:45 am	Synergistic Effects on Metal Additive Manufacturing Components Between Hot Isostatic Pressuring and Surface Finishing Through Chemical Polishing and Accelerated Vibratory Finishing	<i>Agustin Diaz, REM Surface Engineering</i>
11:10	Production Of Complex Near-Net-Shape Components with Wear-Resistant Layers Via the Combination of Additive Manufacturing With Hot Isostatic Pressing	<i>Anke Kaletsch, Aachen Univ. (presented by Markus Mirz)</i>
11:35	Sintering and Hot Isostatic Pressing of Binder Jetted H13 Tool Steel	<i>Peeyush Nandwana, Oak Ridge National Laboratory</i>
12:00	Study Of Hot Isostatic Pressed Ti-Al Mechanically Alloyed Powders	<i>Le Quynh Trang Ngo, Gravitas-Technologies</i>
12:25	Lunch	

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Session	POWER GENERATION APPLICATIONS (3)	
1:15pm	Near-Net-Shape HIP Manufacturing for SCo2 Turbomachinery Cost Reduction	<i>Shenyan Huang, GE Research</i>
1:40	Manufacturing of Compact Heat Exchangers by HIP	<i>Emmanuel Rigal, CEA</i>
2:05	Hot Isostatic Pressing - An Omnivorous Process for the Treatment of Radioactive Waste	<i>Sebastian Lawson, GeoRoc International</i>
2:30	Dissolvable HIP space-holders enabling more cost effective and sustainable manufacture of hydrogen electrolyzers	<i>Iain Berment-Parr, MTC</i>
3:00	Poster Session and HIP '22 Exhibition	<i>All</i>
4:00	Panel Discussion—Opposite Track	<i>All</i>
4:45pm	Adjourn	
6:30 pm	Reception & Dinner	<i>All</i>

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TIME	TOPIC	PRESENTER
7:30 am	Breakfast	
	TRACK 4 – Day 2	
Session	ADVANCES IN HIP EQUIPMENT (2)	
8:30 am	Opportunities Using Steered Cooling in Hot Isostatic Pressing	<i>Anders Magnusson, Quintus (presented by Johannes Gårdstam)</i>
8:55	Thinking and Practice of HIP Engineering	<i>Hongxia Chen, CISRI HIPEX</i>
9:20	HIP with Addition of Reactive Gases	<i>Johannes Gårdstam, Quintus</i>
9:45	Industrial Gas Supply Systems for Hot Isostatic Pressing Applications	<i>Eduardo Cardoso, Linde</i>
10:10	Break	
Session	ADVANCES IN HIP EQUIPMENT (3)	
10:45 am	Real-time HIP Container Access Technology	<i>Mike Conaway, IFI</i>
11:10	Experience, Capabilities and Technical Challenges in Acid leaching of NNS PM HIPed parts	<i>Jim Ringer, Tech Met Inc.</i>
11:35	HIP Processes for Diffusion Bonding and Electrochemical Process for Can Removal	<i>Tim Hall, Faraday Technology</i>
12:00	Development of the Active Furnace Isolation Chamber (AFIC) for the HIPing of Radioactive Material	<i>Abheek Basu, Gravitas- Technology</i>
12:25	Lunch	

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Session	ADVANCES IN HIP EQUIPMENT (4)	
1:15 pm	History of Kobelco HIP's Challenges and Future Prospects	<i>Akinori Maegawa, Kobelco</i>
1:40	Development of Tie-Rod Design HIP Presses at IFI Group	<i>David Evans, IFI (presented by Mike Conaway)</i>
2:05	Advanced NDE Techniques and Their Deployment on High Pressure Hot Isostatic Presses	<i>Daniel Peters, Structural Integrity Associates</i>
2:30	Advances In Powder Metal HIP Processing for The Production of Large Components	<i>Joshua Morris, Stack Metallurgical</i>
3:00	Poster Session and HIP '22 Exhibition	<i>All</i>
4:00	PANEL DISCUSSION – LARGE HIP NEEDS AND PROGRESS	<i>Panel Discussion</i>
4:45	Adjourn	
6:30 pm	Reception & Dinner	

SEPTEMBER 14, 2022

TIME	TOPIC	PRESENTER
7:30 am	Breakfast	
	TRACK 5 – Day 3	
Session	MODELING FOR HIP APPLICATIONS (1)	
8:30 am	Simulation-Based Manufacturing of Near-Net-Shape Components with The Prediction of The Microstructural Evolution During Hot Isostatic Pressing	<i>Yuanbin Deng, Aachen Univ. (presented by Christoph Broeckmann)</i>
8:55	Modelling of Powder Filling of HIP Canisters	<i>Simon Chung, Gravitas-Tec</i>
9:20	Computational Modeling of PM-HIP Capsule Filling and Consolidation by DEM-FEA Coupling	<i>Samaneh Sobhani, Oregon State University</i>
9:45	CALHIPSO: A French platform serving HIP and Advanced Materials	<i>Frédéric Bernard, UBFC</i>

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10:10	Break	
Session	MODELING FOR HIP APPLICATIONS (2)	
10:40 am	Identification Of Porous Materials Rheological Coefficients During HIP Using Experimental Determination of The Radial and Longitudinal Strain Rate Ratio	<i>Gerard Raison, Consultant</i>
11:05	A New Constitutive Modeling for Hot Isostatic Pressing of Powders	<i>Gholamreza Aryanpour, Univ. of Quebec</i>
11:30	HIP Modeling and Design of Large Complex Shape Parts Close to The Size of The HIP Furnace Accounting Capsules Manufacturing Technology and Their Movement Inside It During The Cycle	<i>Victor Samarov, Synertech PM</i>
12:15 pm	Lunch	
1:15	PANEL DISCUSSION – MODELLING NEEDS AND REQUIREMENTS FOR INDUSTRY	<i>Panel Discussion</i>
2:00	Awards Ceremony	
2:30	Conference Summary	<i>Conference Chairman</i>
3:00	Conference Adjourn	