EMATec 2026

2-5 June 2026, Dresden / Radebeul

Fraunhofer IFAM

EMATec

Tuesday, 2 June 2026

17:00	**Registration**
19:00	**Welcome Reception**

Wednesday, 3 June 2026

09:00	**OPENING** **Prof. Dr.-Ing. Thomas Weißgärber** Fraunhofer IFAM Dresden / TU Dresden **WELCOME ADDRESS** **Prof. Dr. Heike Graßmann** State Secretary at the Saxon State Ministry for Science, Culture and Tourism **Jan Pratzka** Mayor of the City of Dresden; Division Economy, Digital, Personnel and Security **Prof. Dr.-Ing. Thorsten Schmidt** Dean of the Faculty of Mechanical Engineering, TU Dresden
	PLENARY SESSION (Chair: Prof. Dr.-Ing. Thomas Weißgärber)
09:30	**Markus Schneider, GKN Sinter Metals** The production of functional materials via powder metallurgy and its dependency on the global supply chain
10:00	**Arno Plankensteiner, Plansee** Mechanism-based modeling and numerical simulation enhancing data-driven PM process and component optimization for refractory metals applications
10:30	Coffee Break

	H2 - Materials for Electrolysis	Powder Manufacturing	Soft Magnets – Nanocrystalline
11:00	**Vesna Middelkoop, VITO** 3D printing of architectures for photo- and electro-chemical applications - multiscale characterisation	**Burghardt Klöden, m4p material solutions GmbH** Pushing the boundaries in additive manufacturing: customized alloys for specific applications & powder quality aspect	**Jae Won Jeong, Korea Institute of Materials Science** Effect of co-added transition metal elements on the glass forming ability and soft magnetic properties of high-Ms nanocrystalline alloys
11:20	**Nadine Eißmann, Fraunhofer IFAM Dresden** Tailoring the properties of open-porous metallic foams by powder metallurgical coatings	**Kenan Boz, EPMA** Sustainable solutions for Titanium supply in Additive Manufacturing	**Przemysław Zackiewicz, Lukasiewicz Research Network - Institute of Non-Ferrous Metals** Enhancing magnetizable concrete cores with nanocrystalline additives
11:40	**Oluwajuyigbe Tomisin, University of Waterloo** Porous transport layer optimization via Additive Manufacturing of Inconel 718 lattice structures	**Arun Chattopadhyay, AMAERO Inc** Atomization and characterization of Tungsten heavy alloy powders	**Peter Nahringbauer, TU Wien** Ultrasonic atomization as a route to nanocrystalline soft magnetic powders
12:00	**Sebastian Riecker, Fraunhofer IFAM Dresden** Advancing hydrogen technologies through Additive Manufacturing	**Philipp Grimm, Leibniz Institute for Solid State and Materials Research Dresden** Casting assisted design of a high-performance Sc-free Al-Mg-Si-Zr alloy for laser powder bed fusion	**Merlin Thamm, Fraunhofer IFAM Dresden** Powder metallurgical processing of nanocrystalline soft magnets
12:20	Lunch		

	H2 Storage Materials I	AM Process Design	Soft Magnets – AM
13:50	**Claudio Pistidda, Helmholtz-Zentrum Hereon** Advancing circularity: Hydrogen-storage materials and strategic metal recovery	**Simon Leupold, Friedrich-Alexander-Universität Erlangen-Nürnberg** ColdMetalFusion of AISI 316L stainless steel: Effects of laser wavelength on density, surface roughness and dimensional accuracy	**Julian Schurr, Aalen University** Additive Manufacturing of multi-material soft magnetic components for electrical machines
14:10	**Marcus Vogt, Fraunhofer IFAM Dresden** A circular magnesium route linking PM electrodes, electrolysis and POWERPASTE	**Quentin Schmid, RMIT Europe** High fidelity environmental impact prediction of AM-based hybrid manufacturing systems	**Sanjana Erravelli, Chalmers University of Technology** Lithography-based metal Additive Manufacturing of high-silicon soft magnetic alloys via digital light processing
14:30	**Bruno Hessel Silva, University of Oslo** Design of multicomponent alloys for room temperature hydrogen storage: engineering microstructure and tuning properties	**Konrad Kosiba, Leibniz Institute for Solid State and Materials Research Dresden** Bayesian optimization for laser powder bed fusion of defect-free AA2024	**Taehyeob Im, Hanyang University** Sinter-based 3D-printed metal-insulation-metal (MIM) structures using Fe-6.5Si for soft magnetic cores
14:50	**Nicol Daniela Jaramillo Rodriguez, Helmholtz-Zentrum Hereon** Sustainable synthesis of TiFe-based alloys for hydrogen storage: Influence of synthesis method and manganese substitution	**Dim Eberechukwu, Enugu State University of Science and Technology** Technological maturity assessment of Additive Manufacturing technology reviewed	**Bruno Weise, Fraunhofer IFAM Dresden** Advances in additive screen printing of electrical steel

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EMATec

Wednesday, 3 June 2026 (continued)

15:10	Coffee Break		
	H2 Storage Systems	**PM for Nuclear Applications**	**AM Production**
15:40	**Tobias Boschmann, Johnson Electric Aachen GmbH** AI-driven alloy design and industrial manufacturing of metal hydride systems	**Jai-Sung Lee, Hanyang University ERICA** Advances in high-density W-Cu alloy processing by nanopowder technology	**Christian Staudigel, Headmade Materials** ColdMetalFusion - Eliminating laser-sintering porosity in green parts via Cold Isostatic Pressing
16:00	**Jan Warfsmann, Helmholtz-Zentrum Hereon** Investigation of the hydrogen storage performance by the in-situ combination of an AB2-metal hydride and PCM	**Mike Parkin, CERN - European Organisation for Nuclear Research** Hot-isostatic pressing for CERN's beam intercepting devices	**Aljoscha Roch, AM Extrusion GmbH** From FFF to MIM, from prototyping to production
16:20	**Alexander Wimmer, DLR-TT** Additive manufactured high-performance reactor for metal hydride-based air-conditioning of fuel cell electric vehicles	**Uwe Funk, Dr. Fritsch GmbH** Industrialization of intelligent alloys (SMART) and tungsten fiber reinforced tungsten composites (FitWf/W) for fusion power plants	**Omer Sagi, Tritone** Additive Manufacturing of fully enclosed hollow metal structures with complex internal geometry
16:40	**Davide Violi, MetHydor Srl** Improving thermal conductivity on a metal hydride hydrogen storage tank	**Goulven Janod, CEA Grenoble** Automated heatsink optimization for divertor cooling application	36 **Christian Staudigel, Headmade Materials** ColdMetalFusion - Industrial process capability in production
17:00	Coffee Break		
	Nickel-based AM	**Waste Heat – Materials for Storage**	**Hard Magnets I**
17:30	**So-Yeon Park, Inha University** Plate-strut hybrid design for strengthening Kelvin-Truss Inconel 718 lattice structures	**Sabrine Medjouel, CIRIMAT** Innovative Freeze-Casting Manufacturing of 3D Copper Foams with Tailored Architecture for Energy Applications	**Lukas Schäfer, Technische Universität Darmstadt** Recycling and Additive Manufacturing of Nd-Fe-B: Challenges and prospects for resource Efficient permanent magnets
17:50	**Ho Jin Ryu, Korea Advanced Institute of Science and Technology KAIST** In situ alloying in metal Additive Manufacturing of ceramic-reinforced Ni-base superalloys	**Rico Schmerler, Fraunhofer IWU** Investigation of PCM infiltrated aluminum foam for heat storage in an EV battery system	**Martin Schönfeldt, Fraunhofer IWKS** The 2-powder method for producing resource-efficient and more sustainable Nd-Fe-B magnets
18:10	**Christian Staudigel, Headmade Materials** ColdMetalFusion – Applications of Nickel-based alloys in oil & gas and energy	**Torsten Seidel, Fraunhofer IFAM Dresden** Advancing air compression technologies with a thermal compressor utilizing phase change materials and metal fiber-based heat conductive structures	
18:30	Break		
19:00	**Poster Session**		

EMATec 2026

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Fraunhofer IFAM

EMATec

Thursday, 4 June 2026

	PLENARY SESSION (Chair: Dr.-Ing. Inge Lindemann)		
09:00	**Animesh Bose, Shaping Innovations, Inc.** Binderjet: Past, Present and Future		
09:30	**Simon Höges, GKN AM** Successes in serial production with AM technologies – How we can expand PM opportunities in new markets		
	H2 Storage Materials – HEA	**AM Post Processing**	**Hard Magnets II**
10:10	**Guilherme Zepon, Federal University of São Carlos** Gas Shielded Arc Melting (GSAM) process to produce hydride-forming multicomponent alloys	**Florian Döring, Neue Materialien Bayreuth GmbH** Automated surface treatment method for combined depowdering and smoothing of SLS-printed metal green parts using Cold Metal Fusion Technology (AutoSmooth)	**Christian Kukla, Montanuniversität Leoben** In-situ particle alignment in Powder Extrusion Moulding (PEM) of NdFeB magnets
10:30	**Bartosz Morończyk, AMAZEMET Sp z o.o.** Ultrasonic atomization of high-entropy metal powders for solid-state hydrogen storage	**Feyzi Emrah Başar, TUD Dresden University of Technology** A concept for automated support removal in SLM using 5-axis CNC milling	**H.J. Blüm, MUT Advanced Heating** Hydrogen processing for rare-earth magnet production
10:50	**Jéssica Bruna Ponsoni, Federal University of São Carlos** Tuning hydrogen absorption in the (Ti0.5Zr0.5)1(Fe0.5Mn0.5)2 C14 Laves phase alloy through Ce addition	**David Bacher, TUD Dresden University of Technology** A generic pre-/postprocessor for non-planar G-code generation in FDM printing	**Mahmudul Hasan, Fraunhofer IWKS** Dismantling and recyclability of Nd-Fe-B magnets from electric motors: strategies for circular product design
11:10	Coffee Break		
	PM Recycling	**AM Powder Bed Processes**	**Thermal Management**
11:40	**Min-Kyu Paek, Clausthal University of Technology** Development of thermodynamic database for recycling and refining of Ti-V-Al alloy melt	**Sasidharan Periane Natarajan, Wayland Additive** NeuBeam® Electron Beam AM: A novel and unique pathway for high-performance alloy 718	**Giulia Ferri, Snam SpA** Electrified steam methane reforming with 3D-printed copper structures: A novel approach for low-carbon hydrogen production
12:00	**Abhishek Maurya, Indian Institute of Technology Madras** Green recycling of Aluminium alloys: Microwave-based solid-state technique for composite sheet fabrication	**Jingjia Sun, Nanjing University of Aeronautics and Astronautics** Performance enhancement and crack control in Laser Powder Bed Fusion of Hastelloy X	**Thomas Hutsch, Fraunhofer IFAM Dresden** Complex shaping of copper diamond using gel casting and quasi-static SPS
12:20	**Gabriel Caballero García, Universidad Carlos III de Madrid** Circular metal powders: Transforming scrap into AM-grade feedstocks for g-MEX extrusion	**Alexander Wenda, Montanuniversität Leoben** Processing of a novel oxide dispersion strengthened iron based high temperature alloy via Laser-Powder Bed Fusion	**Paul Peritsch, Incus GmbH** High-performance copper components via Lithography-Based Metal Manufacturing for advanced thermal management
12:40	**Samuel Lister, University of Sheffield** Dissimilar rotary friction welding of Titanium swarf billets consolidated via Field Assisted Sintering technology	**Martin Werz, Materialprüfungsanstalt Universität Stuttgart** Mechanical and corrosion testing of additively manufactured Inconel 718 and AISI 316L at high temperatures	**Sandra Wieland, Fraunhofer IFAM Bremen** Metal-powder-rich polymer composites for lightweight conductive structures, heat dissipation and EMC protection
13:00	Lunch		
	PM Characterisation	**AM Debinding & Sintering**	**Biomaterials**
14:30	**KEYNOTE** **Afsaneh Rabiei, North Carolina State University** Composite Metal Foam for Transportation of HAZMAT and Sensitive Equipment		
15:10	**Gerhard Weber, Dr. Fritsch GmbH** Audio-Sense: Analyzing FAST/SPS audio signals	**Florian Jürries, Chalmers University of Technology** Multi-material lithography-based Additive Manufacturing: Considerations for debinding	**György Harakaly, Incus GmbH** Lithography-based Metal Manufacturing: Process development for biomedical devices
15:30	**Julian Reeh, Headmade Materials** ColdMetalFusion - Fatique of Ti6Al4V as-sintered and HIP	**Gabriele Muraca, Chalmers University of Technology** Debinding optimization for Multi-Material Cu-Al_2O_3 components produced via Lithography-based Additive Manufacturing	**Dimitru Mitrica, R&D Institute for Nonferrous and Rare Metals - IMNR** Modelling and selection of high entropy alloys for bacterial corrosion resistance
15:50	**Ulrike Jehring, Fraunhofer IFAM Dresden** Mechanical characterisation of PM and AM components	**Tim Küsters, Carbolite Gero GmbH & Co. KG** Part quality, sustainability, and performance: A comparison between graphite and metallic lined MIM furnaces	**Afsaneh Rabiei, North Carolina State University** A study on metal foam bio-filters
16:10	**Witold Węglewski, Institute of Fundamental Technological Research Polish Academy of Sciences** The influence of material models and mesh quality on the accuracy of micro-XCT-based finite element simulations of thermal residual stresses in alumina-chromium sintered composites	**Thomas Studnitzky, Fraunhofer IFAM Dresden** Materials and processes in Additive Manufacturing – is any combination possible?	**Jia-Chang Wang, National Taipei University of Technology** Feasibility study of dental Zirconia discs Recycling applied to solvent-based slurry stereolithography printing
16:30	Coffee Break		

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Thursday, 4 June 2026 (continued)

	New Material Concepts I	Space & Defense	
17:00	**Yohann Thimont, CIRIMAT** Binder Jetting coupled with Spark Plasma Sintering for the manufacturing of MnSiy thermoelements with specific geometries	**Erich Neubauer, RHP Technologies** Assessment of different Additive Manufacturing methods for printing of 4D components	
17:20	**Kamil Bochenek, IPPT PAN** Rhenium-modified hot-pressed AlCoCrFeNi high-entropy alloys: Strengthening and microstructural refinement effect	**Fatih Gözüküçük, Hamburg University of Applied Sciences** Mechanical compression behaviour of additively manufactured spherene, gyroid and hexagonal cellular structures via Metal Fused Filament Fabrication	
17:40	**Johannes Pötschke, Fraunhofer IKTS** Beyond WC-Co: Supply-resilient hardmetals based on the high-entropy concept	**Javier Hidalgo, Universidad de Castilla-La Mancha** Pushing material extrusion Additive Manufacturing toward Titanium mesostructures for next-generation aerospace applications	
18:00	Break		
19:00	**Conference Dinner**		

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	PLENARY SESSION (Chair: Dr.-Ing. Felix Heubner)	
09:00	**Matthias Scharvogel, Element 22** Scaling up the manufacturing of Titanium powder metallurgy products used in medical, aerospace, energy and high-end consumer products industries	
09:30	**Kee-Ahn Lee, Inha University** Fabrication, structural and mechanical properties of porous materials by using powder metallurgy and Additive Manufacturing	
	New Material Concepts II	**H2 Storage Materials II**
10:10	**Parthiban Ramasamy, Erich Schmid Institute of Materials Science of the Austrian Academy of Sciences** Influence of Mo micro-particles on crack formation, microstructure, and mechanical behaviour of laser powder bed fusion fabricated CuZrAl bulk metallic glass composites	**Peter Hannappel, Fraunhofer IFAM Dresden** Digitalizing materials development for hydrogen storage applications
10:30	**Jiayan Yu, TU Bergakademie Freiberg** In-situ formation of TiC from recycled MgO-C refractories and structural characterization by Rietveld refinement	**Jan Krusenbaum, RWTH Aachen** Mechanochemical synthesis of a deactivated hydrogen storage alloy based on TiMn2
10:50	**Behzad Sadeghi, Austrian Academy of Sciences** Laminated CNT-RGO/Al hybrid composites for exceptional high-cycle fatigue and impact energy absorption	**Gabriela C. Mayer, Federal University of São Carlos** Impact of distinct cycling conditions on hydride stability of the Ti11Nb61Cr28 alloy for hydrogen storage
11:10	Coffee Break	
	Materials for Extreme Environments	**AM Simulation**
11:40	**Hongju Chen, Nanjing University of Aeronautics and Astronautics** Unusual deformation substructure and strain hardening in an additively manufactured CoCrFeMnNi high entropy alloy under extreme environment	**Oliver Schenk, RWTH Aachen** AI-based prediction of the microstructure of green bodies produced by LMM
12:00	**Dinh Van Cong, University of Ulsan** Effects of thermal exposure on microstructural stability and mechanical performance of an ODS Ni-based alloy fabricated by Spark Plasma Sintering	**Jakob Scheibler, Fraunhofer IFAM Dresden** Prediction of sinter deformation in sinter-based AM – Simulation vs. reality
12:20	**Adam Hunt, Globus Metal Powders** Development of 718 Nickel superalloy via PM-HIP for oil and gas application	**Yanze Li, Nanjing University of Aeronautics and Astronautics** Multi-scale phase field modeling for Laser Additive Manufacturing: Crystal growth prediction and mechanical property enhancement
12:40	**Hongyu Chen** **Nanjing University of Aeronautics and Astronautics** Unusual deformation substructure and strain hardening in an additively manufactured CoCrFeMnNi high entropy alloy under extreme environment	**Pei Wang, A*STAR Institute of Materials Research and Engineering (A*STAR IMRE)** Accelerating alloy discovery through machine learning-guided high-throughput methods using Additive Manufacturing
12:00	**CLOSING**	
13:10	Lunch	
14:30	**Option: Excursion Fraunhofer Institute Center Dresden**	

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