

CONTENTS

Conference Program

Poster Presentations

Start-Ups and Industry Exhibitors

| | | | | | | | |
|-------|---|---|---|--|---|---|---------------------|
| 09:00 | Opening | | | | | | Industry Exhibition |
| 09:15 | Pitches by Start-Ups and Industrial Companies Polytec, CMMC, 3D-Micromag, Cloeren Technology | | | | | | |
| 10:00 | Coffee Break | | | | | | |
| | N013 | | N012 | | N010 | | |
| | Composites | | Thermal Spraying I | | Additive Manufacturing I | | |
| 10:30 | Bodo Fiedler <i>Hamburg University, Germany</i> | Mechanical, electrical and thermal properties of high performance composites | Klaus Nassenstein <i>GTV, Luckenbach, Germany</i> | Hi-End Series Coating Plants for Thermal Spray and Laser Cladding | Gerald Wilhelm <i>Munich University of Applied Science, Germany</i> | Kinetics of the dissolution of tungsten carbides induced by advanced GMAW hardfacing processes to produce MMC coatings | |
| | Keynote Speech I | | Keynote Speech II | | Keynote Speech III | | |
| 11:00 | Andreas Todt <i>Fraunhofer ISC, Munchberg, Germany</i> | Innovative tube structures for small satellites | Michél Hauer <i>Fraunhofer IGP, Rostock, Germany</i> | Novel amorphous and partially amorphous HVOF-sprayed coating systems for use in cryogenic environments | Max Dominik Mierzwa <i>RWTH Aachen, Germany</i> | Achieving multi-directional Directed Energy Deposition with Plasma Arc Welding, using Surface-Scan-based Bead Shape Fits for 3D path planning | |
| 11:20 | Alexander Delph <i>Dortmund University, WPT, Germany</i> | Characterization of moisture and temperature dependent forming behavior of the all-cellulose composite vulcanized fiber | Ingor Baumann <i>Dortmund University, WT, Germany</i> | Influence of the coating parameters on the tribomechanical properties of cold sprayed IN 718 coatings | Ying Zhen <i>NMB Bayreuth, Germany</i> | Development of an environmentally friendly production route for carbide milling tools printed using Fused Filament Fabrication | |

^o presentation will be held in German, PP-slides are in English

| | N013 | | N012 | | N010 | | | |
|-------|--|--|---|--|---|---|---------------------|--|
| 11:40 | Jonas Stiller CUT, Lightweight Structures / Polymer Technology Group | Thermoset injection molding with lost cores for improved freedom of design in shaping of C/C-SiC via LSI | Lukas Martin Johann <i>RWTH Aachen, Germany</i> | Novel criterion for Wire-Arc Spraying process stability | Till Kirchhoff <i>Clausthal University of Technology, Germany</i> | Eisenaluminide für den Verschleißschutz | Industry Exhibition | |
| 12:00 | Lunch | | | | | | | |
| | Chemical/ Galvanic Surface Technology I | | Thermal Spraying II | | Additive Manufacturing II | | | |
| 13:00 | Markus Guttman <i>KIT, Germany</i> | Galvanoformung – Schnee von gestern oder Innovation für morgen? ^D | Ondřej Kovářik <i>Czech Technical University in Prague, Czechia</i> | Cold spray repair: case study for church bells restoration | Olaf Keßler <i>Rostock University, Germany</i> | Wärmebehandelbarkeit einer Aluminiumlegierung AISi10Mg nach additiver Fertigung durch pulverbettbasiertes Schmelzen mittels Laserstrahl | | |
| | Keynote Speech IV | | Keynote Speech V | | Keynote Speech VI | | | |
| 13:20 | Carsten Bonnekoh <i>KIT, Germany</i> | High-heat-flux divertor mock-ups for fusion power plants realized by the aid of galvanic deposited interlayers | Šárka Houdková <i>VZU Plzeň, Czechia</i> | The Potential of Laser Surface Texturing as a Substrate Pretreatment Method for Thermal Spraying | Jonas Wölfel <i>NMB, Germany</i> | Entwicklung einer neuen Generation von Ti-Fe-Werkstoffen durch In-situ-Legieren mittels drahtbasiertem Laserauftragschweißen | | |
| 13:40 | Mehri Hashemzadeh <i>Innovent Jena, Germany</i> | Influence of oxalate and citrate Additives on soft-sparking occurrence in the PEO Process of Al6082 Alloy | Eduard Drehband <i>Dortmund University, WT, Germany</i> | Development of a new twin-wire arc spraying process for improved processing of wires with low melting points | Karsten Wandtke <i>BAM Berlin, Germany</i> | Analyse der mechanischen Eigenschaften und Mikrostruktur additiv gefertigter hochfester Stahlbauteile | | |
| 14:00 | Igor Danilov <i>CUT, Micromanufacturing Group</i> | Simulation model of the barrier layer formation on aluminium at the initial stage of plasma electrolytic oxidation | Manuel Rodriguez Diaz <i>Hannover University</i> | Application of high reactive metals in oxygen-free environments | Matthias Schäfer <i>Dresden University, Germany</i> | Adaptive Additive Fertigung | | |

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| | N013 | | N012 | | N010 | | | | |
|-------|---|--|---|---|---|---|--|---------------------|--|
| 14:30 | Coffee Break | | | | | | | Industry Exhibition | |
| | Nickel Alloys | | Hydrogen Technology | | Additive Manufacturing III | | | | |
| 14:50 | Anton Salomon <i>Fraunhofer IFAM, Dresden, Germany</i> | Surface modification of Nickel foams for different applications | Robert Vaßen <i>Forschungszentrum Jülich, Germany</i> | Development of protective coatings for porous transport layers in PEM electrolyzers | Ismail Özdemir <i>CUT, IWW</i> | FAST-sintered Cf /Cu Composites: Wear and Corrosion Characteristics | | | |
| | Keynote Speech VII | | Keynote Speech VIII | | Keynote Speech IX | | | | |
| 15:20 | Muhammad Ali Javed <i>CUT, Applied Thermodynamics Group</i> | Thermography of thin NiTi wires during operation in an actuator based on accurate emissivity measurements | Andreas Zaffora <i>Palermo University, Italy</i> | Functionalization of Porous Transport Layers for Alkaline Water Electrolysis by Electrodeposition | Fabian Dittrich <i>BTU Cottbus, Germany</i> | Challenge of an Inline Coupled Wire Arc Additive Manufacturing (WAAM) Process with Quenching and Partitioning (QP) Treatment | | | |
| 15:40 | Sepideh Ghorbanalipour <i>CUT, Micromanufacturing Group</i> | Influence of the cutting speed in turning and force in subsequent diamond smoothing of pure nickel on the surface properties | Sebastian Kaiser <i>BAM Berlin, Germany</i> | Evaluation of welding on in-service pressurized hydrogen pipelines by component testing | Jorge Eduardo Tapia-Cabrera <i>Munich University of Technology, Germany</i> | Study of the overlapping factor for WAAM deposition of a defect free multi material wall over nodular cast iron for remanufacturing | | | |
| 16:10 | YOUNG SCIENTISTS Poster Session (N012) | | | | | | | | |
| 17:25 | Coffee Break | | | | | | | | |

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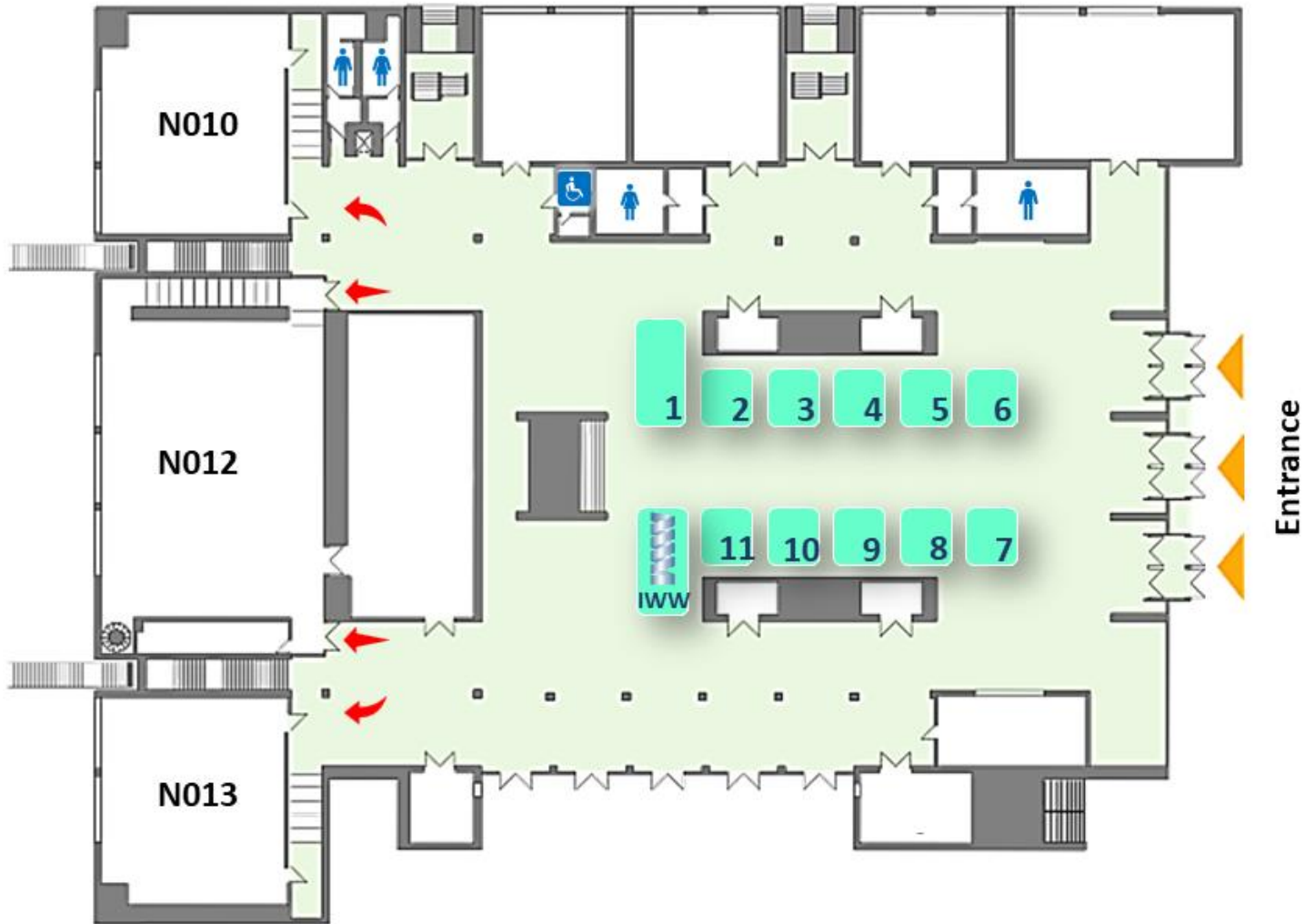
| | N013 | | N012 | | N010 | | |
|---|--|--|---|--|---|--|---------------------|
| | Surface Characterization | | Thermal Spraying III | | Process Control | | |
| 17:45 | Tom Marquardt <i>Muehlhan AG, Hamburg, Germany</i> | Influence of the measuring method on the determination of the fractal dimensions of blasted steel surfaces | Frank Gärtner <i>HSU Hamburg, Germany</i> | Bonding and Layer Formation in Cold Gas Spraying and Aerosol Deposition | Andreas Gester <i>CUT, IWW</i> | Development of process control for ultrasonic metal welding of aluminum automotive wires based on machine learning | Industry Exhibition |
| 18:05 | Alexander Schnettger <i>University Hannover, Germany</i> | Physical-metallurgical investigations for the in-situ production of Al- and Zn-based thin films | Ondřej Chocholátý <i>VZU Plzeň, Czechia</i> | Advancements in Cold Spray Technology for Industrial and Aerospace Repair Applications | Marcin Korzeniowski <i>Wroclaw University, Poland</i> | Application of Image Processing Algorithms for Quantitative Analysis of Cracks in Plasma-Sprayed Hadfield Steel Coatings | |
| 18:25 | End of the Lecture Program | | | | | | |
| Evening Event (Bar Ausgleich, Mensa ⁵⁵) | | | | | | | |
| 19:00 | Dinner | | | | | | |
| 20:00 | Barbara Waske <i>Chemnitz Industrial Museum</i> | <i>Tales of Transformation</i> – Transformation of the industrial city of Chemnitz with the focus on the last 30 years, compared to five European industrial cities. | | | | | |
| until 23:00 | Networking and Best Poster Awards | | | | | | |

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| Plenary Presentations I (N012) | | | | | | |
|--------------------------------|--|---|--|--|---|---|
| 9:00 | Lukas Wojarski <i>Dortmund University of Technology, WT, Germany</i> | | Digital labs in lectures and exams | | | |
| 9:15 | Sebastian Härtel <i>BTU Cottbus, Germany</i> | | From chip waste to high-performance components - an approach that combines DED processes and energy-efficient recycling strategies | | | |
| | N013 | | N012 | | N010 | |
| | Human-Centered Digitalization | | Chemical/ galvanic surface technology II | | Joining / Welding | |
| 09:40 | Norbert Huchler <i>ISF Munich, Germany</i> | Human-centered design as a value-adding factor. In search of sustainable human-technology relations. | Wolfgang Hansal <i>EGM Institute, Wiener Neustadt, Austria</i> | Hybride Post-Processing of 3D-printed metal parts involving dynamic electrochemistry | Holger Letsch CUT, Welding Engineering Group | Beeinflussung der Festigkeit diffusionsgefügter Verbindungen durch eine dynamisch modulierte Prozesskraft und den Einsatz mikro- und nanoskaliger Zwischenschichten |
| 10:00 | Isabel Kreißig <i>Fraunhofer IWU, Chemnitz, Germany</i> | The Finishing Touch A Human Centred Approach to the Development of Automation for Abrasive Machining and Formalisation of Expert Knowledge on Surface Roughness | Serhatcan Berk Akçay <i>Karadeniz Technical University, Turkey</i> | Effects of Coating Bath Composition on the Properties of Electroless Copper Coated SiC Powders | Martin Neumann CUT, Welding Engineering Group | Beurteilung der Schweißeignung hochfester Feinkornbaustähle unter Berücksichtigung der Herstellrouten |
| 10:20 | Tina Morgenstern <i>CUT, IWW</i> | Supporting energy-efficient behavior through human-centered digitalization in industrial manufacturing: A transdisciplinary approach | Temel Varol <i>Karadeniz Technical University, Turkey</i> | Effects of Electroless Copper Coating on the Properties of Copper-Silicon Carbide Composite Powders Produced by Mechanical Milling | Dmitrii Ozherelkov <i>CUT, IWW</i> | Influence of Contamination and Passivation on the Ultrasonic Welding Performance of Aluminum Stranded Wires |
| 10:40 | Coffee Break and Poster Session | | | | | |

| | N013 | | N012 | | N010 | |
|--------------------------------|--|--|---|---|---|---|
| | Thermal Spraying IV | | Materials Design and Characterization | | Joining / Brazing | |
| 11:10 | Lutz-Michael Berger <i>Fraunhofer IKTS, Dresden, Germany</i> | Thermally sprayed hardmetal coatings - current situation and path of future developments | Heinz Werner Höppel <i>FAU Erlangen, Germany</i> | Tailoring Mechanical Properties of Ti-6Al-4V through new Short-Time Heat Treatment Strategies | Matthias Türpe <i>Mahle, Stuttgart, Germany</i> | Veni, vidi, consideravi – joining task instead of process parameters |
| | Keynote Speech X | | Keynote Speech XI | | Keynote Speech XII | |
| 11:40 | Alexander List <i>HSU Hamburg, Germany</i> | Breaking the Oxide Barrier: New Approaches towards Aluminum-Aluminum Compound Casting | Luca Alexander Koch <i>Dortmund University, WPT, Germany</i> | Microstructure analysis and fatigue assessment of a thermo-mechanically aged austenitic pipeline component | Cheng Zhang <i>Mahle Stuttgart, Germany</i> | Considerations on Joining Technology of Low-Temperature Sintering by Nano-Ag Pastes |
| 12:00 | Kerstin Horn <i>Innovent Jena, Germany</i> | Robuste kaltplasmagespritzte antimikrobielle Beschichtungen mit definierter Porosität | Benjamin Bohne <i>CUT, IWW</i> | Effect of plane strain loading direction and strain rate on microstructure, texture and mechanical properties of a mild steel | Sophie Vinke <i>RWTH Aachen, Germany</i> | Joining of Stainless Steel with a novel Fe-based Amorphous Brazing Foil |
| 12:20 | Aleksandra Małachowska <i>Wroclaw University, Poland</i> | Microstructure and mechanical properties of Hadfield steel deposited with APS | Mücahit Kocaman <i>Karadeniz Technical University, Turkey</i> | Effects of Milling Ball Diameter on the Morphology and Particle Size of Dendritic Copper Powders | Alexa Nebel <i>Dortmund University of Technology, WT, Germany</i> | Vacuum brazing of NiTi shape memory alloys using Ag26.5Cu3Ti |
| Plenary Presentation II (N012) | | | | | | |
| 12:50 | Shrikant Joshi <i>University West, Trollhättan, Sweden</i> | | tba | | | |
| Closing Remarks and Snacks | | | | | | |
| LAB TOUR | | | | | | |

- P01** Stephanie Stöckel *CUT, Production Measurement Technology Group*
New parameter for describing the spatial distribution of characteristic features using the example of blasted surfaces
- P02** Lisa-Marie Rymer *IWW*
Influencing the fatigue threshold of the medium-entropy alloy CrCoNi
- P03** Sebastian Weis *Zwickau University of Applied Sciences, Germany*
Metal Powder Production by Wire Arc Atomization
- P04** Vasilii Fedorov *Zwickau University of Applied Sciences, Germany*
Development of MIG-TIG hybrid brazing for galvanised steel sheets
- P05** Susan Conze *Fraunhofer IKTS, Dresden, Germany*
Electrical insulation properties of APS oxide coatings
- P06** Manuel Pinho Ferreira *Dortmund University, WT, Germany*
Online diagnostics for internal diameter (ID) HVOF spray processes
- P07** Mark Dennis Kensy *Dortmund University, WT, Germany*
Investigation of the Axial Injection of Cermet Powders Into the Primary Gas Flow of the Twin-Wire Arc Spraying Process
- P08** Kay Schäfer *CUT, Lightweight Structures / Polymer Technology Group*
Impact Compressive Properties of Polyurethane Foams with 3D Continuous Fibre Reinforcement
- P09** Jonas Zajaczkowski *Dortmund University of Technology, WT, Germany*
High-Pressure Cold Gas Sprayed cBN-Copper Coatings for Improved Grinding Disc Durability and Performance
- P10** Biswal Pratidhwani *Fraunhofer IGP, Rostock, Germany*
Thermally Sprayed Coating for Soilless Cultivation (Proof-of-Concept for using Recycled Feedstocks in future)
- P11** Christin Reuter *IWW*
Cognition-Based Information Visualization for Atmospheric Plasma Spraying: The Influence of Expertise on Gaze Behavior
- P12** Marek Hebda *Cracow University of Technology, Poland*
Evaluation of copper powders for the Binder Jetting 3D printing process.
- P14** Lukáš Václavěk *JLO Olomouc, Czechia*
Characterization of mechanical properties of CrN-TiN layers deposited by advanced sputtering methods



Industry Exhibitors:

| | |
|---|--------------------------|
| 1 | Zeiss |
| 2 | Netzsch Gerätebau |
| 3 | Polytec |
| 4 | Kulzer |
| 5 | tba |
| 6 | tba |

Start-Ups

| | |
|----|--------------------|
| 7 | CMMC |
| 8 | 3D-Micromag |
| 9 | tba |
| 10 | tba |
| 11 | tba |

