

Monday, 6 September

17:00 **Get together**

Join us Monday afternoon between 17:00 – 18:00 for registration and a Meet & Greet! See your old friends & colleagues and make new ones. Help us welcome first time attendees. Registered attendees will receive a drink!

Tuesday, 7 September

8:00 Registration

Room 1		Room 2	
9:00	Welcome address Eckhard Beyer <i>Conference Chairman, Fraunhofer IWS</i>		
Plenary Session Chair: Eckhard Beyer			
9:30	A Socratic approach to surface modification: the example of thermal spray Michel Jeandin (plenary) <i>Competence Center for Spray Processing, Evry Cedex, France</i>		
Room 1		Room 2	
Thermal Spray I Chair: Per Nylén		Processing I Chair: Vaclav Ocelik	
10:00	Analysis of multimaterial coatings deposited by detonation spraying Igor Smurov <i>Director of DIPI Laboratory, Saint-Étienne, France</i>	Surface modification of textile materials by polyelectrolyte layers and metal organic frameworks Hans-Jürgen Buschmann <i>DTNW, Krefeld, Germany</i>	
10:20	Development of plasma spray parameters for ceramic coatings in gas turbines Georg Mauer <i>Forschungszentrum Jülich GmbH, Institut für Energieforschung (IEF-1), Jülich, Germany</i>	Influence of SF ₆ and N ₂ plasma immersion techniques on PET and PVC polymers: optical and morphological characterization J. R. R. Bortoleto <i>Universidade Estadual Paulista, Brazil</i>	
10:40 Coffee break with technical exhibition			
Room 1		Room 2	
Thermal Spray I Chair: Per Nylén		Processing I Chair: Vaclav Ocelik	
11:10	Cold spraying of hard Zn-alloy coatings for print applications Koichiro Onizawa <i>Helmut Schmidt University, Hamburg, Germany</i>	Micro- and sub-micrometer fabrication of periodic arrays on polymers and metals using nanosecond and femtosecond laser interference lithography Andres-Fabian Lasagni <i>Fraunhofer Institute for Material and Beam Technology, Dresden, Germany</i>	
11:30	Photocatalytic properties of suspension plasma sprayed TiO ₂ coatings obtained on different substrates Leszek Latka <i>Service of Thermal Spraying, Villeneuve d'Ascq, France</i>	Plasma Induced Graft Polymerization (PIGP) of flame retardant monomers onto textiles of natural origin J. Levalois-Grützmaier <i>Department of Chemistry and Applied Biosciences, Zürich, Switzerland</i>	
11:50	Elevated temperature corrosion of thermally sprayed and clad coatings in simulated chlorine containing environments Hanna Pokhmurska <i>Technical University Chemnitz, Germany</i>	How surface modifications can reduce the cleaning efforts in food processing Marc Mauermann <i>Fraunhofer Application centre for Processing Machines and Packaging Technology, Dresden, Germany</i>	
12:10	Mullite suspension plasma spraying: effects of particles size distribution on coating structure Alain Denoirjean <i>University of Limoges, Limoges cedex, France</i>	Surface modification of polyester fabrics by grafting pH / thermo-responsive microgels with UV-irradiation Pelagia Glampedaki <i>University of Twente, Enschede, Netherlands</i>	
12:30 Lunch break with technical exhibition			
Room 1		Room 2	
Laser processing I Chair: Maria Doubenskaia		Characterization I Chair: Jan Ilavsky	
13:40	Experimental investigation of a composite behaviour under ultra-short laser-shock loading Elise Gay <i>PIMMI/Arts et Métiers ParisTech, Paris, France</i>	Qualitative adhesion testing of coatings vs. pull-off and centrifuge test Uwe Beck <i>Federal Institute for Materials Research and Testing, Berlin, Germany</i>	
14:00	Micro- and sub-micrometer modification of tetrahedral amorphous carbon film: Teja Roch <i>Fraunhofer Institute for Material and Beam Technology, Dresden, Germany</i>	Residual stresses in laser clad layer measured at micron scale Václav Ocelik <i>University of Groningen, Groningen, The Netherlands</i>	
14:20	Mathematical modeling of short and ultrashort laser action on metals Vladimir Mazhukin <i>Keldysh Institute of Applied Mathematics, Moscow, Russia</i>	Influence of sensor contact on the thermal conductivity values of thermal barrier coatings: part 1 experimental Nicholas Curry <i>University West, Trollhättan, Sweden</i>	
14:40	Tribological properties of super-hard amorphous carbon (ta-C) layers microstructured by FS-laserpulses Katja Günther <i>University of Applied Sciences Mittweida, Germany</i>	Influence of sensor contact on the thermal conductivity values of thermal barrier coatings: part 2 modelling Nicholas Curry <i>University West, Trollhättan, Sweden</i>	
15:00 Coffee break with technical exhibition			
Room 1		Room 2	
Thermal Spray II Chair: Kerstin Donner		Diffusion/Electrochem Chair: T.S. Sudarshan	
15:30	Enhanced conditions for high strength coating Frank Gärtner <i>Helmut Schmidt University, Hamburg, Germany</i>	Electrochemical deposition of TiO ₂ nanoparticles from Ti-6Al-4V machining Chips Zohair Sarajan <i>Islamic Azad University-Yazd Branch, Yazd, Iran</i>	
15:50	Optical diagnostics of dispersed particles flow at detonation spraying V. Ulianitsky <i>Lavrentiev Institute of Hydrodynamics, Novosibirsk, Russia</i>	The investigation of the formation of multi-layered diffusion coatings on steel and its surface properties Erdem Sesen <i>Istanbul Technical University, Istanbul, Turkey</i>	
16:10	Characterisation of plasma-sprayed SrFe ₂ O ₇ coatings for electromagnetic wave absorption Markus Brühl <i>RWTH Aachen University, Aachen, Germany</i>	Glow discharge plasma nitriding – role of hydrogen Subroto Mukherjee <i>Institute for Plasma Research, Gujarat, India</i>	
16:30	Influence of spray parameters on the characteristics of dense suspension-sprayed Al ₂ O ₃ -coatings Filofteia-Laura Toma <i>Fraunhofer Institute for Material and Beam Technology, Dresden, Germany</i>		
16:50	Interface characterization of titanium coatings on aluminum light alloys obtained by cold gas spraying Núria Cinca <i>Thermal Spray Centre of Barcelona, Spain</i>		
Exhibition room			
17:10	Poster Session Paper posters will be on display during the whole conference in order to give participants enough time for studying them. In addition, a special poster session will be held on Tuesday evening between 17:10 - 19:00 enabling the authors to present and explain their research projects and outcomes. Wine and cheese will be served.		

Wednesday, 8 September

	Room 1	Room 2
	Laser processing II Chair: Petri Vuoristo	Bioapplication I Chair: Andres-Fabian Lasagni
9:00	Fine structured surfaces generated by a single step laser cladding process Albert Grüninger <i>Laser Zentrum Hannover e.V., Hannover, Germany</i>	TiO ₂ nanotubes for stimulated cell response: A potential nanoscale coating on titanium Sebastian Bauer <i>University Erlangen-Nuremberg, Erlangen, Germany</i>
9:20	Features of manufacturing 3D functional parts by selective laser melting I. Yadroitsev <i>DIPI Laboratory, Saint-Étienne, France</i>	Surface engineering of magnesium and its alloys for bio-implant applicator Subroto Mukherjee <i>Indian Institute of Technology Kharagpur, West Benga, India</i>
9:40	Characterization of a martensitic stainless steel coating deposited by high speed laser cladding I. Hemmati <i>University of Groningen, Groningen, The Netherlands</i>	Integration of structured gel-matrices in a modular, perfusion 3D-cell culture system Niels Schilling <i>Fraunhofer Institute for Material and Beam Technology, Dresden, Germany</i>
10:00	Increased Productivity of Laser Surface Cladding by Simultaneously Combined Energy Sources Steffen Nowotny <i>Fraunhofer Institute for Material and Beam Technology, Dresden, Germany</i>	Coating of 316L stainless with hema and glycerol dimethacrylate via electropolymerization to improve bio-compatibility Duygu Korsacilar <i>Dokuz Eylül University, Izmir, Turkey</i>

10:20 Coffee break with technical exhibition

	Room 1
	Plenary session Chair: Tangali S. Sudarshan
10:50	Tribology of coated surfaces – A modelling approach to prediction of wear Kenneth Holmberg (plenary) <i>VTT Technical Research Centre of Finland, Espoo, Finland</i>
11:20	Application of PVD coatings for protection of components in the hot section of aeroengine Uwe Schulz (plenary) <i>German Aerospace Center, Köln, Germany</i>

	Room 1	Room 2
	Wear/Tribology Chair: Kenneth Holmberg	PVD/CVD Chair: Uwe Schulz
11:50	Tungsten-based wear and corrosion protective coatings for casting molds Viktor E. Drescher <i>Technical University Berlin, Germany</i>	Erosion resistant thin coatings for aerospace applications Christoph Leyens <i>Dresden University of Technology, Dresden, Germany</i>
12:10	Fretting wear behaviour of controlled ball impact treated aluminium alloy R. Gnanamoorthy <i>Indian Institute of Information Technology, Chennai, India</i>	

12:30 Lunch break with technical exhibition

	Room 1	Room 2
	Wear/Tribology Chair: Kenneth Holmberg	PVD/CVD Chair: Uwe Schulz
13:40	Highly stressed rolling contacts: Thin film coatings or novel steel grades? Mathias Woydt <i>Federal Institute for Materials Research and Testing, Berlin, Germany</i>	Trends and Applications of Cathodic Arc Evaporation Otmar Zimmer <i>Fraunhofer Institute for Material and Beam Technology, Dresden, Germany</i>
14:00	Thermally sprayed hardmetal coatings for rolling contact fatigue application Lutz-Michael Berger <i>Fraunhofer Institute for Material and Beam Technology, Dresden, Germany</i>	Co-sputter deposition of nano structured composite coatings of copper doped titanium nitride Subroto Mukherjee <i>Institute for Plasma Research, Gujarat, India</i>
14:20	In-situ microtribology with high local resolution Wolfgang P. Weinhold <i>Innowep GmbH, Würzburg, Germany</i>	Stress state of CVD TiCNK-Al ₂ O ₃ hard coatings Christoph Czettl <i>Materials Center Leoben Forschungs GmbH, Leoben, Austria</i>
14:40	Fluoro-hydro alkyne self-assembled monolayer on silicon Sidharam Pujari <i>Laboratory of Organic Chemistry Wageningen University Dreijenplein, Netherlands</i>	Challenges in Surface engineering and Glimpses into the future T.S. Sudarshan <i>Materials Modification, Inc., Fairfax, VA, USA</i>

15:00 Coffee break with technical exhibition

	Room 1	Room 2
	Thermal Spray III Chair: Filofteia-Laura Toma	Processing II Chair: Larry Pershin
15:30	High velocity suspension flame spraying (HVSFS) of Al ₂ O ₃ coatings: Effect of the suspension composition on the microstructural and micromechanical properties Luca Lusvarghi <i>Università di Modena e Reggio Emilia, Modena, Italy</i>	Graphite like carbon as conductive coating for different applications Thomas Stucky <i>Fraunhofer Institute for Material and Beam Technology, Dresden, Germany</i>
15:50	High velocity suspension flame spraying (HVSFS) of Al ₂ O ₃ coatings: Effect of the suspension composition on the wear behaviour and residual stresses Giovanni Bolelli <i>Università di Modena e Reggio Emilia, Modena, Italy</i>	Correlation between topography and wetting of morphologically different stainless steel surfaces modified by electropolishing Alfredo Calvimontes <i>Leibniz Institute of Polymer Research, Dresden, Germany</i>
16:10	Multimaterial coatings deposited by detonation spraying A. Shtertser <i>Lavrentiev Institute of Hydrodynamics, Novosibirsk, Russia</i>	Titanium-Micro and Nano SiC Composite Cladding on Carbon Steel by GTAW Zohair Sarajan <i>Islamic Azad University-Yazd Branch, Yazd, Iran</i>
16:30	Effect of powders and heat treatments on electrical conductivity of HPCS and LPCS Cu coatings Petri Vuoristo <i>Tampere University of Technology, Finland</i>	Hollow cathode plasma assisted AlTiSiN thin film deposition by vacuum arc P+ technology for advanced wear protection of tools Martin Holzherr <i>VTD Vakuumtechnik Dresden GmbH, Germany</i>
16:50	Cold gas spraying of Cu-based composites for high-power electronics Kerstin Donner <i>Helmut Schmidt University, Hamburg, Germany</i>	Continuous wide area depositing of silicon dioxide using Atmospheric Pressure CVD Sebastian Tschoecke <i>Fraunhofer Institute for Material and Beam Technology, Dresden, Germany</i>

	The Westin Bellevue Dresden
19:00	Evening reception with buffet (You will find a detailed map in the information material) We invite you to spend a glamorous evening at The Westin Bellevue Dresden. It is situated in the centre of Dresden and has an impressive view of the skyline of the Old Town, famous as the "Canaletto view" which the Venetian painter Bernado Belotto immortalised in his works in the 18th century. The famous gardens and terraces on the banks of the river Elbe with a wonderful view of the Church of our Ladies and Semper Opera House are an inviting place to pass the time. We hope that the great atmosphere will contribute to inspiring discussions. The Westin Bellevue Dresden Große Meißner Straße 15 01097 Dresden www.westin-dresden.de

22:00 End of evening reception

Thursday, 9 September

	Room 1	Room 2
	Superhydrophobicity/Characterisation Chair: Manish T. Thakker	Processing III Chair Zohair Sarajan
9:20	Lotus Effect: Surfaces with roughness-induced superhydrophobicity, self Cleaning and Low Adhesion Bharat Bhushan <i>Ohio State University, Ohio, USA</i>	Plasma treatment of commercial polymeric substrates that are transparent Péricles Lopes Sant'Ana <i>Universidade Estadual Paulista - UNESP, Sorocaba, Brazil</i>
9:40	Laser acoustic testing of thin and thick coatings Dieter Schneider <i>Fraunhofer Institute for Material and Beam Technology, Dresden, Germany</i>	Control mechanisms for self organized nanostructures on optical polymers surfaces Stefan Gäbler <i>Fresnel Optics GmbH, Apolda, Germany</i>
10:00	Engineering Surfaces with Extreme Wettability and Adhesion Feng Zhou <i>State Key Laboratory of Solid Lubrication, Lanzhou, China</i>	Materials treatment using CO2 based plasma Larry Pershin <i>University of Toronto, Canada</i>

10:20 Coffee break with technical exhibition

	Room 1	Room 2
	Thermal Spray IV Chair: Igor Smurov	Bioapplication II Chair: Subroto Mukherjee
10:50	Sub-micrometer structured alumina based coatings manufactured by suspension plasma spraying for tribological applications: process, structure and properties Alain Denoirjean <i>University of Limoges, France</i>	Versatile Crack-free Ceramic Micropatterns Made by a Modified Molding Technique (m-µM) Marcellus große Holthaus <i>Bremen University, Germany</i>
11:10	3D temperature and trajectory analysis of a particle stream in a plasma spraying torch Emanuele Ghedini <i>University of Bologna, Italy</i>	Tantalum coatings on CoCrMo alloys for hip and knee joints substitution Cristina Balagna <i>DISMIC-Politecnico di Torino, Italy</i>
11:30	Influence of composition and spray process on dissolution of wear resistant thermal spray coatings in different chemically aggressive electrolytes Petri Vuoristo <i>Tampere University of Technology, Finland</i>	Tuning specific biomolecular interactions using electro-switchable oligopeptide surfaces Paula M Mendes <i>University of Birmingham, United Kingdom</i>
11:50	The annular injection unit of disperse materials in thermal plasma flow Alexander Saitsev <i>Russian Academy of Sciences, Novosibirsk, Russia</i>	

12:10 Lunch break with technical exhibition

	Room 1	Room 2
	Laser processing III Chair: Anja Techel	Characterization II Chair: Georg Mauer
13:30	On-line monitoring in selective laser melting technology Maria Doubenskaia <i>Ecole Nationale d'Ingénieurs de Saint-Étienne, France</i>	Quantification of the porous microstructure of the thermal barrier coatings ceramic layer: Jan Ilavsky <i>Argonne National Laboratory, Argonne, USA</i>
13:50	Effectiveness of techniques for removal of release agent on aluminium die-cast surface Gregor Wisner <i>Technische Universität Braunschweig, Germany</i>	Chemical modification of a photo definable epoxy resin with polyamines to improve adhesion with electroless deposited copper David Schaubroeck <i>TFCG Microsystems, Zwijnaarde, Belgium</i>
14:10	Powder cladding efficiency in laser cladding, and the effect of powder stream characteristics and its thermal interactions Juansethi Ibarra-Medina <i>The University of Manchester, United Kingdom</i>	Establishment of Relationships between Coating Microstructure and Thermal Conductivity in Thermal Barrier Coatings by Finite Element Modelling Mohit Kumar Gupta <i>University West, Trollhättan, Sweden</i>
14:30	Numerical simulation and experimental visualization of two-phase flow at coaxial powder injection in direct metal deposition Alexander Zaitsev <i>Russian Academy of Sciences, Novosibirsk, Russia</i>	An application of Instrumentation and Control engineering for measurement of Surface Properties and kinetics of molecular aggregation process in surfactant solutions Manish T. Thakker <i>Dharmsinh Desai University, Nadiad, India</i>
14:50	Metal matrix composite parts fabricated by direct metal deposition: analysis of processing conditions and material properties D. Novichenko <i>Director of DIPI Laboratory, Saint-Étienne, France</i>	Characterization of organic solar cells materials and structures by spectroscopic ellipsometry Christine Walsh <i>SOPRALAB, Courbevoie, France</i>

15:10 Closing remarks

15:20 **End of the conference**

Fraunhofer Campus	
15:30	Lab view (Fraunhofer IWS) Transportation from the Congress Center to Fraunhofer IWS and back busses will be provided. If you are interested in the lab tour, please enter your name on a list at the conference office.

17:30 **End of the lab view**