



LiM 2017 Advance Program, Sunday, 25.6.2017

12:00 - 18:00 **Registration at the LiM-counter in the ICM**

LiM 2017 Advance Program, Monday, 26.6.2017

07:30 **Registration at the LiM-counter in the ICM**

ICM Ground Floor/1st Floor, Room 1	
<i>WoP Opening and Plenary Session</i>	
09:00 - 11:00	WoP-Opening Ceremony and Plenary Session <i>World of Photonics Congress</i>

Coffee break

ICM 1st Floor, Room 13b	
<i>LiM Plenary Session and WLT ceremony, Chair M. Schmidt & L. Overmeyer</i>	
11:15 - 11:25	Welcome to LiM <i>Ludger Overmeyer (LiM General Chair) Michael Schmidt (WLT-President)</i>
11:25 - 11:50	Additive Biomanufacturing for Regenerative Medicine <i>Paulo J. Bartolo CDRsp, Polytechnic Institute of Leiria, Rua de Portugal</i>
11:50 - 12:15	50 years of combining a focussed laser beam with a high pressure gas jet. Then and now. <i>Paul Hilton TWI, Cambridge</i>
12:15 - 12:40	Making magic X3 - novel ultrafast laser interaction physics in transparent materials <i>Peter Herman Department of Electrical and Computer Engineering, University of Toronto</i>
12:40 - 12:50	WLT Award Ceremony <i>Michael Schmidt WLT-President</i>
12:50 - 13:10	Prize Winning Topic Presentation <i>Prize Winner</i>

Lunch

LIM 2017 Advance Program, Monday, 26.6.2017		LIM 2017 Advance Program, Monday, 26.6.2017		LIM 2017 Advance Program, Monday, 26.6.2017	
ICS Room 2, 1st Floor		ICS Room 3, 1st Floor		ICS Room 22B, 2nd Floor	
<i>Joining (Welding and Brazing) (Mo_2_1), B. Graf</i>		<i>Ablation, Drilling, and Micro-Cutting (Mo_3_1), A. Ostendorf</i>		<i>System Technology and Process Control (Mo_22B_1), J. Hauptmann</i>	
14:30 - 14:45	Welding of sensors in vacuum (Invited) <i>Dirk Jäkel E+H Flowtec AG</i>	Direct Laser Interference Patterning: from fundamentals to industrial applications <i>Tim Kunze Andrés Fabián Lasagni Fraunhofer IWS Dresden</i>		New approach for all-in-one control of galvanometer scanners <i>Peter Rauscher Thomas Schwarz, Jan Hauptmann, Andreas Wetzig, Eckhard Beyer Fraunhofer IWS Dresden</i>	
14:45 - 15:00				Observing process zone temperature fields for process characterization <i>Dieter Tyralla Joerg Volpp, Viktor Hohenäcker, Hannes Freijße, Nils Brocke, Frank Silze, Michael Schnick, Claus Thomay BIAS - Bremer Institut fuer angewandte Strahltechnik GmbH</i>	
15:00 - 15:15	Laser Beam Welding in mobile Vacuum <i>Niklas Holtum Uwe Reising, Simon Olschok, Stefan Jakobs Institut für Schweißtechnik und Fügetechnik</i>	Influencing the ablation efficiency in ultra-short pulse laser micro structuring by using a deformable mirror for beam shaping <i>Marco Smarra Klaus Dickmann Laser Center of the University of Applied Sciences Muenster</i>		Laser joining improvement and prediction of the quality of the joint of metal-composite samples using a control and supervision system for temperature and clamping force <i>Maite Andrés Fernando Liébana, Mercedes Ferros, Iker Villarón, Eneko Ukar Tecnalía</i>	
15:15 - 15:30	The influence of ambient pressure during laser beam welding of aluminium high pressure die castings on the occurrence of weld bead porosity <i>Fabian Teichmann Sebastian Müller, Klaus Dilger Technische Universität Braunschweig</i>	Excimer lasers machining of low density inorganic material <i>Isabelle Geoffray Rémy Bourdenet, Cédric Chicanne, Marc Théobald CEA</i>		Power Management of Randomly Modulated and Pulsed Laser Systems <i>Ilya Bystryak QPEAK</i>	
15:30 - 15:45	Laser Beam Welding in Vacuum of Dissimilar Metals for Surgical Instruments <i>Christian Otten Stephan Klein Aachen University of Applied Science</i>	Multi-axis Positioning Approach for Precise Sharpening of Monolithic Cutting Tools by USP Laser Processing <i>Adam Čermák Pavel Kozmin University of West Bohemia</i>		Laser beam shape monitoring as a quality control tool in material processing <i>Nick Harrop Rolf Klein, Harald Schwede PRIMES GmbH</i>	
15:45 - 16:00	Three-dimensional X-ray transmission in-situ observation of spatter formation and reduction in laser welding of stainless steel <i>Yosuka Kawahito Kouji Nishimoto, Hiroshi Kawakami, Seiji Katayama Osaka university</i>	Ultrafast z-scanning for high efficiency laser micro-machining <i>Ting-Hsuan Chen Romain Fardel, Craig Arnold Princeton University</i>		Realization and First Time Operation of a High-Power Laser-Water-Jet System <i>Florian Schmidt Christian Brecher, Henning Janssen Fraunhofer Institute for Production Technology IPT</i>	
Coffee break		Coffee break		Coffee break	
<i>Joining (Welding and Brazing) (Mo_2_2), B. Graf</i>		<i>Ablation, Drilling, and Micro-Cutting (Mo_3_2), A. Ostendorf</i>		<i>System Technology and Process Control (Mo_22B_2), A. Wetzig</i>	
16:30 - 16:45	Detecting and utilizing reflected radiation in laser beam brazing <i>Thomas Seefeld Christoph Mittelstädt BIAS - Bremer Institut für angewandte Strahltechnik GmbH</i>	Fabrication of PMN-PT piezoelectric actuators with ultrashort pulses <i>Giovanni Piredda Sandra Stroj, Javier Martín-Sánchez, Rinaldo Trotta, Armando Rastelli Fachhochschule Vorarlberg</i>		Advanced Pierce Detection by Intrinsic Fiber Laser Diagnostics <i>Andrew Mark Richmond Stephen John Keen SPI Lasers</i>	
16:45 - 17:00	Investigation of solidification cracking susceptibility of type 316L stainless steel during laser beam welding using an in-situ observation technique <i>Nasim Bakir Andrey Gumenyuk, Michael Rethmeier BAM Federal Institute for Materials Research and Testing</i>	Rotary 2.5D Pulsed Laser Ablation <i>Maximilian Georg Warhanek Josquin Pfaff, Johannes Gysel, Konrad Wegener ETH Zurich</i>		A New Parametric Model for 3D Laser Remote Scanner Systems <i>Thomas Krähling Georg Cerwenka, Jörg Wollnack, Claus Emmelmann Hamburg University of Technology</i>	
17:00 - 17:15	High-strength welding of aluminum-lithium alloy of Al-Cu-Li systems <i>Anatolii Mitrofanovich Orishich Alexander Gennadievich Malikov Khristianovich Institute of Theoretical and Applied Mechanics SB RAS</i>	Galvanometer Scanning Technology and 9.3µm CO2 Lasers for On-The-Fly Converting Applications <i>Malte Hemmerich Mohammad Darvish, Justin Conroy, Ray Silta, Hai Vo, Xi Luo, Rinaldo Galdamez, Jin Li Cambridge Technology</i>		Study of laser wobbling welding process through the radiation of plasma plume <i>Libor Mrna Petr Horník, Petr Jedlička, Jan Pavelka Institute of Scientific Instruments of the ASCR</i>	
17:15 - 17:30	Development of the methods of scandium utilization at the laser welding of aluminum alloys of Al-Cu-Li and Al-Mg-Li systems <i>Alexander Gennadievich Malikov Khristianovich Institute of Theoretical and Applied Mechanics SB RAS</i>	Compact and ultra-flexible Gauss to Top-hat Beam Shaping with Aspheres <i>Ulrike Fuchs Anna Moeh, Sven Wickenhagen asphericon GmbH</i>		193 & 248 nm high power lasers for the micro and macro material processing <i>Junichi Fujimoto Koji Kakizaki, Masakazu Kobayashi, Hiroaki Oizumi, Toshio Mimura, Haku Mizoguchi Gigaphoton Inc.</i>	
17:30 - 17:45	Mechanical and corrosion properties of thin Hastelloy C-276 plate by pulsed laser welding with filler wire <i>Guangyi Ma Dongjiang Wu, Dongdong Wu, Mingkai Lei Dalian University of Technology</i>	New Picosecond Laser Technology for Micromachining in Microelectronics Manufacturing <i>Rajesh Patel Jim Bovatsek Spectra-Physics</i>		Transformation of Weld Seam Geometry in Laser Transmission Welding by Using an Additional Integrated Thulium Fiber Laser <i>Anton Schmailzl Bastian Geißler, Frederik Maiwald, Tobias Laumer, Michael Schmidt, Stefan Hierl OTH Regensburg</i>	
17:45 - 18:00	Laser welding of HCT980XD at subzero temperatures to improve Heat Affected Zone material properties <i>Simon Olschok Benjamin Gerhards, Uwe Reising RWTH Aachen University ISF Welding and Joining Institute</i>	TruMicro ultrashort-pulse lasers for material processing – industrially-proven laser architectures for microprocessing <i>Max Kahmann Florian Kanal, Aleksander Budnicki, Christian Stolzenburg, Dirk Sutter Trumpf</i>		Hollow core waveguide for simultaneous laser plastic welding <i>Felice Catania Luciano Scaltrito, Paolo Siranni, Massimiliano Messere, Matteo Cocuzza, Simone Marasso, Francesco Perrucci, Candido Fabrizio Pirri, Sergio Ferrero, Stefano Bernard Politecnico di Torino</i>	

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<i>Joining (Welding and Brazing) (Tu_2_1), B. Graf</i>		<i>Ablation, Drilling, and Micro-Cutting (Tu_3_1), A. Ostendorf</i>		<i>System Technology and Process Control (Tu_22B_1), P. Abels</i>	
08:30 - 08:45	Effect of material gauge on laser weld pool mixing between dissimilar steels <i>Alexandre Métais Pierre Sallamand, Iryna Tomashchuk, Sadok Gaied ArcelorMittal</i>	High Precision Drilling with Ultra-Short Laser Pulses <i>Simone Russ Benjamin Führ, Max Kahmann, Andrey Andreev, Tim Hesse, David Diego-Vallejo, Patricia Hammers-Weber Trumpf Laser GmbH</i>	Extending Laser Metal Deposition Equipment as Cyber Physical Manufacturing Systems (Invited) <i>Pablo Romero Research Strategy Manager</i>		
08:45 - 09:00	Perspectives of laser-beam welding of ultra-high steels <i>Martin Dahmen Stefan Lindner, Damien Monfort, Dirk Petring Fraunhofer-Institut für Lasertechnik</i>	Heat accumulation effects on efficiency during laser drilling of metals <i>Daniel Johannes Förster Rudolf Weber, Thomas Graf Insitut für Strahlwerkzeuge</i>	Twin Hexapod Operated Beam Expander and Dual Pyrocam Measurement for Laser Beam Path Optimization <i>Murad Aziz George Jamalieh Markus Bohrer, Bernhard Weinberger Dr. Bohrer Lasertec GmbH</i>		
09:00 - 09:15	Laser Technologies in Modern Shipbuilding <i>Nikolay A. Nasyrev Nataliya A. Steshenkova Shipbuilding & Shiprepair Technology Center, JSC (JSC SSTC)</i>	Zero taper, fast drilling of high thickness metal parts <i>Girolamo Mincuzzi Marc Faucon, Thomas Hamoudi, Marie Fleureau, Rainer Kling Alphanov</i>	Time-resolved temperature measurement during laser marking of stainless steel <i>Martin Kučera Jifi Martan University of West Bohemia</i>		
09:15 - 09:30	Joint tracking in zero gap laser butt welding using vision and spectroscopic sensing <i>Morgan Nilsen Fredrik Sikström, Anna-Karin Christiansson, Antonio Ancona University West</i>	Laser micro drilling of wing surfaces for hybrid laminar flow control <i>Hermann Uchtmann Dennis Haasler, Arnold Gillner Fraunhofer Institute for Laser Technology ILT</i>	Femtosecond processing with programmable spatial beams <i>Eric AUDOUARD Guillaume MACHINET, Amélie LETAN, Konstatin MISCHICHIK, Clemens HONNINGER, Eric MOTTAY, Yoann DIMAIO, Sébastien LANDON, Benjamin DUSSE AMPLITUDE SYSTEMES</i>		
09:30 - 09:45	In situ, time-resolved, element specific measurements of vaporization during laser welding using laser-induced fluorescence <i>Brian Simonds Jeffrey W. Sowards, Paul A. Williams National Institute of Standards and Technology</i>	Picosecond-laser drilling limits for deep precision microholes in tool steel <i>Ehsan Zahedi Rudolf Weber, Christian Freitag, Thomas Graf, Christoph Würz, Georg Umlauf Institut für Strahlwerkzeuge</i>	Flexible, compact and picosecond laser capable four-beam interference setup <i>Alexander Peter Volkher Onuseit, Sebastian Faas, Christian Freitag, Thomas Graf Institut für Strahlwerkzeuge</i>		
09:45 - 10:00	Modelling of temperature-controlled laser joining of aluminum and galvanized steel <i>Daniel Weller Florian Fetzer, Rudolf Weber, Thomas Graf Institut für Strahlwerkzeuge</i>	Percussion Drilling of Nickel Superalloy using Millisecond Quasi-CW Fibre Laser <i>Sundar Marimuthu Mohammad Antar, Phillip Hayward The Manufacturing Technology Centre Ltd</i>			
Coffee break		Coffee break		Coffee break	
<i>Joining (Welding and Brazing) (Tu_2_2), B. Graf</i>		<i>Ablation, Drilling, and Micro-Cutting (Tu_3_2), A. Ostendorf</i>		<i>System Technology and Process Control (Tu_22B_2), P. Abels</i>	
10:30 - 10:45	LASER 4.0 – The impact of digitalization on laser material processing (Invited) <i>Michael F. Zaeh Stefan Liebl, Alexander N. Fuchs Institute for Machine Tools and Industrial Management - Technical University of Munich</i>	Helical drilling of three-dimensional shaped holes using ultrashort laser pulses <i>Chao He Frank Zibner, Christian Farnaroli, Arnold Gillner Fraunhofer Institut für Lasertechnik ILT</i>	Laser-micro-processing with ultrashort pulses using flexible beam delivery <i>Beat Jaeggi Beat Neuenschwander, Stefan Remund, Sebastian Eilzer, Bjoern Wedel, Bastian Kruschke Bern University of Applied Sciences</i>		
10:45 - 11:00		High-speed process observation of pulsed laser drilling in non-transparent materials <i>Thomas Arnold Patrick Götter, Dominik Wanke, Rudolf Weber, Thomas Graf, Johanna Spöri, Antje Ota, Frank Hermanutz Institut für Strahlwerkzeuge</i>	Optical monitoring and control in laser additive technologies <i>Yuri Chivel Merphotonics</i>		
11:00 - 11:15	Laser beam Submerged Arc Hybrid Welding for thick metal sheets <i>Oliver Engels Hassan Lohrasbi, Simon Olschok, Uwe Reisgen, Yingyot Aueulan, Alexander Brezging Institut für Schweißtechnik und Fügetechnik</i>	Optimization of key parameters for efficient processing with 100 W femtosecond laser <i>Eric Audouard Girolamo Mincuzzi, Amélie Letan, Konstantin Mischik, Kevin Gaudfrin, Rainer Kling, Eric Mottay, John Lopez AMPLITUDE SYSTEMES</i>	High energy and dual-pulse MOPA laser for selective recovery of non-ferrous metals <i>Youssef Lebour Jordi Juliachs, Carles Oriach MONOCROM SL - ES 860355948</i>		
11:15 - 11:30	Welding of high thickness steel plates using a fiber coupled diode laser with 50KW of output power <i>Oliver Engels Matthias Weinbach, Simon Olschok, Uwe Reisgen Institut für Schweißtechnik und Fügetechnik</i>	Incubation effect during laser irradiation of stainless steel with bursts of fs-pulses <i>Giuseppe Giannuzzi Caterina Gaudiuso, Antonio Ancona, Pietro Mario Lugarà University of Bari</i>	Fast high yield cutting of 4 and 6 inch SiC-wafer using Thermal Laser Separation (TLS) <i>Christian Belgardt Reinhard Kosuch, Dirk Lewke, Michael Grimm, Hans-Ulrich Zühlke 3D-Micromac</i>		
11:30 - 11:45	Adaptive de-noising and smoothing technique for signal in the monitoring of laser welding <i>Giuseppe D'Angelo Giorgio Pasquettaz, Tommaso Giunti Centro Ricerche FIAT</i>	A Parametric Investigation of Picosecond and Femtosecond Micromachining for Metals and Plastics used in the Medical Device Industry <i>Geoff Shannon Hojin Jang, Brennan DeCesar Amada Miyachi America</i>	Closing the loop – Using Online Monitoring Techniques for an Automated Laser Welding Process Optimization in Industrial Applications <i>Jörg Hermsdorf Michael Huse, George Panoutsos, Benjamin Emde, Adrian Rubio Solis, Stefan Kaierle Laser Zentrum Hannover e.V.</i>		
11:45 - 12:00	Low electrical resistance of aluminum to copper joints achieved with temporal and spatial laser beam modulation <i>Michael Jarwitz Florian Fetzer, Rudolf Weber, Thomas Graf Institut für Strahlwerkzeuge, Universität Stuttgart</i>	Direct writing of zero taper high aspect ratio features on elastomer micromoulds with femtosecond laser <i>Nerea Otero Ramudo Sara Vidal Álvarez, Pablo Romero Romero, Daniel Sanmartin, Tim Button AIMEN</i>	Simultaneous 3D laser processing with mechanical axes and galvanometric scanner <i>John Walter Flemmer Fraunhofer ILT</i>		
Lunch		Lunch		Lunch	

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<i>Joining (Welding and Brazing) (Tu_2_3), B. Graf</i>		<i>Ablation, Drilling, and Micro-Cutting (Tu_3_3), A. Ostendorf</i>		<i>Cutting and CFRP-Processing (Tu_22B_3), T. Graf</i>	
14:00 - 14:15	Influence of oscillation parameter on melt pool geometry and hot cracking susceptibility during laser beam welding of high strength steels <i>Vincent Mann Matthias Holzer, Konstantin Hofmann, Andreas Korbacher, Stephan Roth, Michael Schmidt Bayerisches Laserzentrum GmbH</i>	Towards near-net shape micro-machining of aerospace materials by means of a water jet-guided laser beam. <i>Jeremie Diboine Helgi Diehl, Bernald Richerzhagen Synova SA</i>		Laser based processing of Fibre Reinforced Plastics as an enabler technology for lightweight solutions (Invited) <i>Oliver Suttmann Verena Wippo, Sven Blümel, Richard Stähr, Hagen Dittmar, Peter Jäschke, Ludger Overmeyer Laser Zentrum Hannover e.V.</i>	
14:15 - 14:30	Strain behavior during the initiation process of centerline cracks in laser welding of aluminum alloys. <i>Christian Hagenlocher Jonas Nolte, Rudolf Weber, Thomas Graf Institut für Strahlwerkzeuge</i>	Laser based surface and post coating treatment of cutting tools <i>Sebastian Michel Timo Bathe, Ivan Iovkov, Dirk Biermann, Bastian Kühle, Alexander Kanitz, Cemal Esen Institute of Machining Technology (ISF) / Technical University of Dortmund</i>			
14:30 - 14:45	Laser beam welding of high reflective materials using a short wave length laser beam of 515 nm <i>Dirk Dittrich Jens Liebscher, Philipp Mohlau, Axel Jahn, Jens Stadfuss, Eckhard Beyer Fraunhofer Institute for Material and Beam Technology IWS</i>	Laser manufacturing of carbide micro milling tools <i>Melik Hajri Josquin Pjoff, Claudio Häffner, Konrad Wegener ETH Zurich</i>		CFRP Bonding pre-Treatment With Laser Radiation of 3 µm Wavelength: Influence of Different Treatment Parameters <i>David Blass Sebastian Nyga, Veronika Katzy, Bernd Jungbluth, Hans-Dieter Hoffmann, Klaus Dilger TU Braunschweig</i>	
14:45 - 15:00	Laser deep penetration weld seams with high surface quality <i>Villads Schultz Won Ik Cho, Peer Woizeschke, Frank Vollertsen BIAS - Bremer Institut für angewandte Strahltechnik</i>	Selective Ablation of titanium Nitride Film on Tungsten Carbide Substrate Using Ultrashort Laser Pulses <i>Wagner de Rossi Eduardo Spinelli Oliveira, Ricardo Elgul Samad, Nilson Dias Vieira Jr Nuclear and Energy Research Institute</i>		Process emissions during laser processing of CFRP: measurement of hazardous substances and recommendation of protective measures <i>Juergen Walter Michael Hustedt, Sven Blümel, Peter Jaeschke, Stefan Kaierle Laser Zentrum Hannover e.V.</i>	
15:00 - 15:15	Reduction of the spatter formation due to the use of superposition of two laser intensities <i>Falk Nagel Christine Drechsel, Jean Pierre Bergmann TU Ilmenau</i>	Picosecond laser processing for fast cross sectioning and preparation of TEM lamella prior to ion milling polishing <i>Aurélien Sikora Lahouari Fares, Jérôme Adrian, Vincent Goubier, Anne Delobbe, Antoine Corbin, Thierry Sarnet, Marc Sentis LP3/CNRS</i>		Distance Controlled Laser Ablation of CFRP <i>Steffen Boley Daniel Helber, Matthias Buser, Volkher Onuseit, Thomas Graf, Martin Schönleber Institut für Strahlwerkzeuge</i>	
15:15 - 15:30	Spatter Occurrence when Using Laser Beam Oscillated Welding for Aluminum <i>Martin Sommer Jan-Philipp Weberpals, Andreas Heider, Mario Prokop Audi AG</i>	Investigations on ultra-short pulse laser processing of ceramics using statistical methods <i>Maria Friedrich Kristina Völm, Sebastian Wächter, Jens Bliedtner ifw - Günter-Kähler-Institut für Fügetechnik und Werkstoffprüfung GmbH</i>		High-power laser surface processing for fast, reliable repair preparation of CFRP <i>Hagen Dittmar Sven Blümel, Peter Jäschke, Oliver Suttmann, Ludger Overmeyer Laser Zentrum Hannover e.V.</i>	
Coffee break		Coffee break		Coffee break	
<i>Joining (Welding and Brazing) (Tu_2_4), B. Graf</i>		<i>SLM-Metal (Tu_3_4), I. Smurov</i>		<i>Cutting and CFRP-Processing (Tu_22B_4), T. Graf</i>	
16:00 - 16:15	Challenges and Solutions in Copper Processing with High Brightness Fiber Lasers for E-Mobility Applications <i>Michael Grupp Nils Reineremann IPG Laser GmbH</i>	Use of additive manufacturing for high-throughput material development <i>Konstantin Vetter Sven Hohenäcker, Hannes Freijße, Frank Vollertsen BIAS - Bremer Institut für angewandte Strahltechnik</i>		Determination of the flow speed of the ablation products generated during laser processing of CFRP with a cw-laser by means of high-speed imaging <i>Christian Freitag Sebastian Faas, Steffen Boley, Peter Berger, Rudolf Weber, Thomas Graf Institut für Strahlwerkzeuge</i>	
16:15 - 16:30	Influence of dual beam on process stability in laser beam welding of high strength aluminum alloy AA 7075 <i>Matthias Holzer Katrin Zapf, Stefan Kronberger, Florian Henkelmann, Vincent Mann, Konstantin Hofmann, Stephan Roth, Michael Schmidt blz - Bayerisches Laserzentrum GmbH</i>	A Fluid-Dynamic Numerical Model for the Selective Laser Melting of High-Thickness Metallic Layers <i>Francisco Cordovilla Miguel Garzón, Diego Alejandro Muñoz, Javier Diaz, Ángel García-Beltrán, José Luis Ocaña Polytechnical University of Madrid</i>		Swift and accurate - investigation of remote laser cutting for open cell foams <i>Robert Baumann Patrick Herwig, Andreas Wetzig, Eckhard Beyer Fraunhofer IWS</i>	
16:30 - 16:45	Novel developments for laser beam welding of power train components <i>Axel Jahn Dirk Dittrich, Jens Stadfuss, Eckhard Beyer, Christoph Leyens Fraunhofer IWS</i>	Investigation of Selective Laser Melting Process Dynamics for Single- and Multi-Beam Strategies using High Speed Imaging <i>Thorsten Heeling Marcel Gerstgrasser, Konrad Wegener Institute of Machine Tools and Manufacturing, ETH Zurich</i>		Dynamic beam shaping for thick sheet metal cutting <i>Cindy Goppold Thomas Pinder, Patrick Herwig Fraunhofer Institute for Material and Beam Technology IWS</i>	
16:45 - 17:00	Investigations on Laserstabilized Gas Metal Arc Welding using Low Laser Power and Intensity for Thin Plate Welding <i>Jan Leschke Erik Zokoll, Isaiiah Becker-Mayer, Jörg Hermsdorf, Stefan Kaierle Laser Zentrum Hannover e.V.</i>	Study on topology optimization design, SLM fabrication and performance of porous structure <i>Dongyun Zhang Beijing University of Technology</i>		Laser cutting of pure lithium metal anodes <i>Tobias Jansen David Blass, Stefan Kreling, Klaus Dilger TU Braunschweig</i>	
17:00 - 17:15	Laser beam welding and straightening of Titanium T-joints for aircraft structures <i>Pedro Alvarez Fidel Zubiri, Martin Froend, Fedor Fomin, Stefan Riekehr, Nikolai Kashaev, Stefan Bauer IK4-LORTEK</i>	Selective laser melting of AlSi40 using ultrashort laser pulses for additive manufacturing applications <i>Tobias Ullsperger Gabor Matthäus, Lisa Kaden, Markus Rettenmayr, Stefan Risse, Andreas Tünnermann, Stefan Nolte Friedrich-Schiller-Universität Jena</i>		Pulsed laser cutting of granite <i>Juan Pou Antonio Riveiro, Ana Mejías, Ramón Soto, Félix Quintero, Jesús del Val, Mohamed Boutinguiza, Fernando Lusaquias, Juan Pardo University of Vigo</i>	
17:15 - 17:30	Advantages of Three-focal Fiber Technology in Laser Brazing of Galvanized Steel <i>Mohammad Darvish Cemal Esen, Holger Mamerow, Andreas Ostendorf Novanta Europe GmbH</i>	Deterministic defect generation in selective laser melting: parametric optimization and control <i>Olivier Andreau Patrice Peyre, Jean-Daniel Penat, Imade Koutiri, Corinne Dupuy, Étienne Pessard, Nicolas Saintier CEA Saclay</i>		Quantitative Identification of Laser Cutting Quality relying on Visual Information <i>Matteo Pacher Lorenzo Monguzzi, Lorenzo Bortolotti, Maurizio Sbetti, Barbara Previtali Politecnico di Milano</i>	
17:30 - 17:45		Experimental and theoretical analysis of thermo-optical effects in protective window for selective laser melting <i>Tobias Bonhoff Maximilian Schniedenhorn, Jochen Stollenwerk, Peter Loosen Chair for Technology of Optical Systems, RWTH Aachen</i>		Optical monitoring of fiber laser based cutting processes for in-situ quality evaluation <i>Iker Garmendia Roberto Ocaña, Carlos Soriano, Jon Lambarri Fundación Tekniker</i>	
19:00 - 23:00	LIM Get together	LIM Get together	LIM Get together	LIM Get together	LIM Get together
	Augustiner Bier Keller	Augustiner Bier Keller	Augustiner Bier Keller	Augustiner Bier Keller	Augustiner Bier Keller

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<i>Joining (Welding and Brazing) (We_2_1), B. Graf</i>		<i>SLM-Metal (We_3_1), D. Herzog</i>		<i>Surface Treatment and Cladding (We_22B_1), M. Zäh</i>	
08:30 - 08:45	Experimental investigations on laser-based hot-melt bonding and injection molding for laser-structured metal plastic hybrids <i>Tobias Loumer Philipp Amend, Michel Wolf, Tina Mrotzek, Stephan Roth, Maik Gude, Michael Schmidt Bayerisches Laserzentrum GmbH</i>	How can AM factories match cost and lead time requirements? Configuration and optimization of AM factories for different production programs. (Invited) <i>Markus Möhrle LZN Laser Zentrum Nord, Hamburg</i>		Resistance modification of diamond through silicon incorporation <i>Markus Prieske Frank Vollertsen BIAS - Bremer Institut für angewandte Strahltechnik GmbH</i>	
08:45 - 09:00	Weld Quality Assurance by Keyhole Depth Measurement using Optical Coherence Tomography <i>Jan-Patrick Hermani Friedhelm Dorsch, Sven Plaßwich, Patrick Haug TRUMPF Laser- und Systemtechnik GmbH</i>			Influence of Laser Scan Speed on Microhardness and Ablation Resistance of Ti-ZrB2 Cermet Coatings <i>Gabriel Ayokunle Farotade Abimbola Patricia Idowu Popoola Tshwane University of Technology, Pretoria, South Africa</i>	
09:00 - 09:15	Hybrid Laser-Arc Welding of steel S700MC butt joints under different sheet thickness <i>Egidijus Petronis Georg Cerwenka, Claus Emmelmann Hamburg University of Technology (TUHH)</i>	In situ and real-time monitoring of powder-bed AM by combining acoustic emission and machine learning <i>Kilian Wasmer Sergey A. Shevchik, Christoph Kenel, Fatemeh Saeidi, Christian Leinenbach Empa - Swiss Federal Laboratories for Materials Science and Technology</i>		Laser Softening of Ultra-high Strength Steels for Self-piercing Riveting Process <i>Dongsig Shin Sanghoon Ahn, Jaehoon Lee, Jengo Kim, Junho Jang, Shinhu Cho, Jongkook Lee Korea Institute of Machinery and Materials (KIMM)</i>	
09:15 - 09:30	Electromagnetic porosity reduction in laser beam welding of die cast aluminum <i>André Fritzsche Fabian Teichmann, Helge Pries, Kai Hilgenberg, Michael Rethmeier Bundesanstalt für Materialforschung und -prüfung</i>	Influence of SLM Process Parameters and Heat Treatments on the Microstructure and Mechanical Resistance of INCONEL 625 Superalloy <i>Thibaut DE TERRIS Frédéric ADAMSKI, Patrice PEYRE, Corinne DUPUY PIMM</i>		Laser Hardening of Thin Walled Parts with Cryogenic Cooling <i>Stefan Gräfe Fritz Klocke, Martin Schulz, Gaoyuan Zheng Fraunhofer Institute for Production Technology IPT</i>	
09:30 - 09:45	Behavior of laser induced keyhole during dissimilar welding of metals <i>Iryna Tomashchuk Massoud Mostafa, Tobit Caudwell, Pierre Sallamand, Mélanie Duband Université de Bourgogne-Franche Comté</i>	Processing of a high-strength Al-Fe-Ni alloy using laser beam melting and its potential for in-situ graded mechanical properties <i>Gunther Mohr Jan Johannsen, Daniel Knoop, Eric Gärtner, Klaus Hummert Institute of Laser and System Technologies iLAS, Technische Universität Hamburg TUHH</i>		Influence of alloying elements on the mechanical properties and defect formation at wire based laser beam alloying of hot-working tool steel <i>Konstantin Hofmann Matthias Holzer, Vincent Mann, Ann-Christin Meyer, Stephan Roth, Michael Schmidt Bayerisches Laserzentrum GmbH</i>	
09:45 - 10:00	Spiking behaviour and capillary instabilities observed during welding of ice <i>Peter W. Berger Florian Fetzner, Haoyue Hu University of Stuttgart</i>			Laser surface texturing of natural stones <i>Adolfo Chantada Joaquín Penide, Pablo Pou, Antonio Riveiro, Jesús del Val, Félix Quintero, Ramón Soto, Fernando Lusquinos, Juan Pou University of Vigo</i>	
Coffee break		Coffee break		Coffee break	
<i>Processing of Transparent Materials (We_2_2), D. Oberschmidt</i>		<i>SLM-Metal (We_3_2), D. Herzog</i>		<i>Surface Treatment and Cladding (We_22B_2), M. Zäh</i>	
10:30 - 10:45	Towards a comprehensive understanding of nonlinear energy deposition into transparent tissues (Invited) <i>Alfred Vogel Universität zu Lübeck</i>	Laser based post processing of additive manufactured metal parts <i>Harald Riegel Markus Hofele, Jochen Schanz, Bahrudin Burzic, Simon Lutz, Markus Merkel Aalen University</i>		Surface oxidation of Titanium by cw-Nd:YAG laser <i>Ángel Rodríguez Javier N. Montero, José M. Amado, María J. Tobar, Armando Yáñez University of A Coruña</i>	
10:45 - 11:00		Comprehensive analysis of SLM of TiAl powder <i>Igor Smurov Maria Doubenskaya, Alexey Domashenkov, Pavel Petrovskiy ENISE</i>		Quasi-simultaneous local hardness reduction via Remote Laser Scanner for cost-effective mechanical joining of press-hardened high-strength steel 22MnB5 <i>Philipp Surrey Claus Emmelmann, Dmitry Ivanov Technische Universität Hamburg</i>	
11:00 - 11:15	A novel 2 µm Ultrashort Pulsed Laser Source for Selective Laser-Induced Etching of Glass <i>Florian Sotier Wycliffe K. Kipnusu, Martin Hermans, Jens Gottmann, Stephan Geiger, Gerd Marowsky, Katrin R. Siefermann InnoLas Photonics GmbH</i>	Experimental investigation of a process chain combining sheet metal bending and laser beam melting of Ti-6Al-4V <i>Florian Huber Lorenz Butzhammer, Patrick Dubjella, Adam Schaub, Markus Aumüller, Alexasnder Baum, Oleksandra Petrunenko, Marion Merklein, Michael Schmidt Institute of Photonic Technologies - FAU Erlangen-</i>		Surface Finish using Laser-thermochemical Machining <i>Sandra Eckert Frank Vollertsen BIAS - Bremer Institut für angewandte Strahltechnik</i>	
11:15 - 11:30	Strong Connection: Welding of different kinds of glass using femtosecond laser pulses <i>Simone Russ Christoph Müller, Aleksander Budnicki, Jan Wieduwilt, Michael Lang, Tim Hesse Trumpf Laser GmbH</i>	Geometrical and Topological Potentialities and Restrictions in Selective Laser Sintering of Customized Carbide Precision Tools <i>Tobias Schwaneckamp Markus Bräuer, Martin Reuber Rheinische Fachhochschule Köln gGmbH</i>		Feasibility study for the automation of a Selective Laser Deburring Process <i>Christian Conrad Mauritz Möller, Vishnuu Prakash, Claus Emmelmann Institut of Laser and System Technologies (iLAS)</i>	
11:30 - 11:45	Cutting thin glasses with ultrafast lasers <i>Matthias Domke Giovanni Piredda, Benjamin Bernard, Victor Matylyitsky FH Vorarlberg</i>	Selective Laser Melting of NiTi powder <i>Igor Smurov Alexey Domashenkov, Maria Doubenskaya, Maxim Smirnov, Andrew Travyanov ENISE</i>		Evaluation of a Laser-Hot-wire hybrid process for producing deep Net-Shape welds <i>Jonas Näsström Jan Frostevarg Luleå University of Technology</i>	
11:45 - 12:00	Automated color printing of glass by using a laser-burning process <i>Kristin Plat Philipp von Witzendorff, Oliver Suttmann, Ludger Overmeyer Laser Zentrum Hannover</i>	Study of resistance of stainless steels manufactured by selective laser melting to pitting and crevice corrosion <i>Olga Parmenova Svetlana Mushnikova, Pavel Kuznetsov, Aleksey Krasikov, Mikhail Staritsyn NRC "Kurchatov Institute" - CRISM "Prometey"</i>			
Lunch		Lunch		Lunch	

Joint session with ECLEO, room "Newton 1" (A31)

Joint session with ECLEO, room "Newton 1" (A31)

LIM 2017 Advance Program, Wednesday, 28.6.2017		LIM 2017 Advance Program, Wednesday, 28.6.2017		LIM 2017 Advance Program, Wednesday, 28.6.2017	
ICS Room 2, 1st Floor		ICS Room 3, 1st Floor		ICS Room 22B, 2nd Floor	
<i>Processing of Transparent Materials (We_2_3), D. Oberschmidt</i>		<i>LIA-Session (We_3_3), M. Schmidt</i>		<i>Micro-Joining (Welding and Brazing) (We_22B_3), J.-P. Bergmann</i>	
14:00 - 14:15	Novel Optical Concept for Large Area Rapid Thermal Processing <i>Christoph Tillkorn Lorenzo Canova, Stefan Dorer, Michael Lang, Martin Huonker TRUMPF Laser GmbH</i>	Humanitarian FabKit (Invited) <i>David Ott Global Humanitarian Lab (GHL)</i>		Process strategies and heat input in laser welding of metal foams (Invited) <i>Michael Jarwitz Jens Johannsen, Rudolf Weber, Thomas Graf Institut für Strahlwerkzeuge, Universität Stuttgart</i>	
14:15 - 14:30	Patterning of graphene from ps to fs pulses <i>Giovanni Piredda Matthias Domke, Nicolas Coca Lopez, Achim Hartschuh, Victor Matylytsky, Benjamin Bernard Fachhochschule Vorarlberg</i>				
14:30 - 14:45	Induction of low-stress and crack-free laser micro holes in sapphire: Optimization of the process parameters under different ambient conditions <i>Christina Gantner Karsten Liebold, Tristan Kaszemeikat, Daniela Schädel, Verena Knappe Laser- und Medizin- Technologie GmbH, Berlin</i>	Material Requirements for Additive Manufacturing (Invited) <i>William Herbert Carpenter Technology</i>		Stable Conduction and Keyhole Welding of Copper with 275 Watt Blue Laser <i>Stan Ream Mathew Finuf, Jean Michel Pelaprat, Bill Gray, Mark Steven Zediker Nuburu Inc.</i>	
14:45 - 15:00	Spatio-temporal beam shaping for glass cutting with femtosecond lasers <i>Eric MOTTAY Konstantin MISHCHIK, John LOPEZ, Guillaume DUCHATEAU, Bruno CHASSAGNE, Rainer KLING AMPLITUDE SYSTEMES</i>	Breakthrough Solutions for Additive Manufacturing (Invited) <i>Robert Martinson nLIGHT</i>		Micro laser joining of capillary tubes for medical applications using filler metal <i>T.-E. Adams H. Letsch, P. Mayr Steinbeis-Innovationszentrum Fügechnik</i>	
15:00 - 15:15	Inducing scattering centers in medical optical fibers by pulses in the range of ps. <i>Alexander Wall Hans-Jürgen Hoffmann, Verena Knappe Laser- und Medizintechnologie GmbH Berlin</i>			Control of temperature fields and melt formation in laser transmission welding using adapted laser wavelengths <i>Andreas Schkutow Thomas Frick Technische Hochschule Nürnberg Georg Simon Ohm</i>	
15:15 - 15:30		Additive Manufacturing with LMD-CLAD® Process: An Industrial Opportunity (Invited) <i>Yannick Lafue IREPA Laser</i>		Single mode fiber laser micro joining of dissimilar metals: a comparative study <i>Benjamin Schmieder Dmitrij Walter, Patrick Mucha, Vasile Raul Moldovan Manz AG</i>	
Coffee break		Coffee break		Coffee break	
<i>Processing of Transparent Materials (We_2_4), D. Oberschmidt</i>		<i>SLM-Metal (We_3_4), D. Herzog</i>		<i>Micro-Joining (Welding and Brazing) (We_22B_4), J.-P. Bergmann</i>	
16:00 - 16:15	Single pass cutting of glass substrates >4mm with ultra-short laser pulses <i>Klaus Bergner Jens Ulrich Thomas, Malte Kumkar, Brian Seyfarth, Jonas Schatz, Frank-Thomas Lentjes, Herbert Gross, Anne Feuer, Rudolf Weber, Andreas Tünnermann, Stefan Nolte Institute of Applied Physics, Abbe Center of Photonics,</i>	Single crystal microstructure built by Selective Laser Melting <i>Jiachun Chen Dieter Schwarze, Thomas Niendorf SLM Solutions Group AG</i>		A comparison of IR- and UV-laser pretreatment to increase the bonding strength of adhesively joined Aluminum/CFRP components <i>Harald Riegel Valentina Reitz, Dieter Meinhard, Simon Ruck, Volker Knoblauch Aalen University</i>	
16:15 - 16:30	Simultaneous Femtosecond Laser Processing of Optical Fiber Glass Cladding and Buffer Coating for Buffered Optofluidic Lab in Fiber Applications <i>Kevin A. J. Joseph Moez Haque, Stephen Ho, J. Stewart Aitchison, Peter R. Herman University of Toronto</i>	Selective Laser Sintering/Melting of Multi-Material Parts <i>Yuri Chivel Merphotonics</i>		Laser joining of laser-structured metal and plastic components <i>Johannes Eckstädt Jens Rauschenberger Leister Technologies AG</i>	
16:30 - 16:45	Nanosecond laser ablation of different crystallographic planes of sapphire <i>Fatemeh Saeidi Freidy Mouhamad Ali, Kilian Wasmer Swiss Federal Laboratories for Materials Science and Technology-Empa</i>	Additive Technology of Ceramic Turbomachines Manufacturing <i>Yuri Chivel Anatoly Sudarev, Vladimir Konakov Merphotonics</i>		Repair of nickel-based superalloys by pulsed Nd:YAG welding with wire feeding <i>Martin Bielenin Jean Pierre Bergmann Technische Universität Ilmenau</i>	
16:45 - 17:00	Damage mechanisms of ultrashort pulsed laser processing of glass in dependency of the applied pulse duration <i>Christian Kalupka Tim Henrik Holtum, Martin Reininghaus Rheinisch Westfälisch Technische Hochschule Aachen</i>	Optimization of laser welding process for laser additive manufactured aluminum parts by means of beam oscillation and process-oriented component design <i>Frank Beckmann Prof. Dr.-Ing. Claus Emmelmann Technische Universität Hamburg</i>		Quantification of geometric properties of melting zones in laser welding processes <i>Björn John Daniel Markert, Norbert Englisch, Marc Prof. Dr. rer. nat. Ritter, Danny Dr. Koweko, Michael Dr. Grimm 3D-Micromac AG</i>	
17:00 - 17:15	Spatial Phase Manipulation on Shaping Nonlinear Laser Interactions inside Thin-Film and Bulk Glass <i>Ehsan Alimohammadian Stephen Ho, Erden Ertorer, Jianzhao Li, Peter R. Herman University of Toronto</i>	Manufacturing, microstructure and mechanical properties of selective laser melted Ti6Al4V-xCu <i>P. Krakhmalev A. Kinnear, T.C. Dzoghbeu, I. Yadroitsova, I. Yadroitsev Central University of Technology, Free state</i>		Effect of laser assistance in ultrasonic copper wire bonding <i>Friedrich Schneider Yangyang Long, Hendrik Ohres, Jens Twiefel, Michael Bräkelmann, Matthias Hunstig, Arjun Venkatesh, Jörg Hermsdorf, Stefan Kaierle, Ludger Overmeyer Laser Zentrum Hannover e.V.</i>	
17:15 - 17:30	Ablative Processing of Fine Features in Transparent Brittle Materials with Ultrashort Laser Pulses <i>Geoffrey Lott Guillaume Lafay, Nicolas Falletto, Pierre-Jean Devilder, Rainer Kling Alphanov</i>	Effect of baseplate temperature on molten titanium particle for development of sputter-less SLM <i>Yuji Sato Masahiro Tsukamoto, Takahisa Shobu, Yorihiro Yamashita, Shuto Yamagata, Ritsuka Higashino, Shinichiro Masuno, Nobuyuki Abe Osaka University</i>		Welding thin section dissimilar metals with ns pulsed fiber lasers <i>Jack Gabzdyl SPI Lasers</i>	
17:30 - 17:45	In-volume structuring of silicon using ultrashort laser pulses <i>Helena Kämmer Gabor Matthäus, Stefan Nolte, Margaux Chanal, Olivier Utéza, David Grojo Friedrich-Schiller-Universität Jena</i>	Investigations on laser-based hot-melt bonding of additive manufactured plastic parts to metal sheets for strong and tight multi-material joints <i>Tobias Laumer Philipp Amend, Florian Baat, Stephan Roth, Michael Schmidt Bayerisches Laserzentrum GmbH</i>		Laser welding of copper alloys using a pulsed laser source at green wavelength <i>Michael Karl Kick Andreas Ganser, Christian Braun, Eva-Maria Dold, Hans-Peter Tranitz, Alexander Fuchs, Elke Kaiser, Ricus Mueller, Michael Friedrich Zaeh Technisch Universität München</i>	

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<i>Processing of Transparent Materials (Th_2_1), D. Oberschmidt</i>		<i>SLM-Metal (Th_3_1), G. Mohr</i>		<i>Fundamentals and Process Simulation (Th_22B_1), S. Nolte</i>	
08:30 - 08:45		Selective laser melting of copper using ultrashort laser pulses	Lisa Kaden Gabor Matthäus, Tobias Ullsperger, Stefan Nolte Institut of Applied Physics, Friedrich-Schiller-Universität Jena	Numerical simulation of WC particles distribution in laser melt injection with external electromagnetic field support	Liang Wang Jianhua Yao, Yong Hu, Qunli Zhang, Rong Liu Zhejiang University of Technology
08:45 - 09:00	Laser Sintering of Silica Soot Sheet	Microstructure and mechanical properties of additive manufactured aluminium alloys Scalmalloy® and Silmagal®	Katja Schmidtke Frank Palm, Claus Emmelmann Airbus Defence and Space GmbH	Hybrid joining of high reflective and thin metal substrates with polymers by laser micro-structuring with short and ultra-short pulsing lasers	Anne Henrottin Jérôme Patars, Jose Antonio Ramos-de-Campos LASEA
09:00 - 09:15	Laser-based Process for Polymeric Coatings on Temperature-Sensitive Metallic Components	Materials Characterization of Additively Manufactured 316L Stainless Steel Parts	Stephen G. L. Nestor Jordan M. R. Solomon, Mark R. Daymond, James M. Fraser Queen's University	Enhancement of the area rate for laser macro polishing by using non-rotational symmetric intensity distributions	Judith Kumstel Sven Lüken Fraunhofer Institute for Laser Technology
09:15 - 09:30	Additive manufacturing by UV laser direct writing of UV-curable PDMS	Influence of laser power fluctuations on the quality of additive manufactured workpieces	Martin Heintl Bagdan Galovskiy, Florian Bayer, Tobias Laumer, Tino Hausotte Friedrich-Alexander-Universität Erlangen-Nürnberg	Layer-selective laser-lift off and removal mechanism in a TCO/Si thin film system by nano- to femtosecond pulses	Stephan Krause Paul-Tiberiu Miclea, Kai Kaufmann, Christian Hagendorf, Nadezhda M. Bulgakova Anhalt University of Applied Science/Fraunhofer CSP
09:30 - 09:45	Direct Femtosecond Laser Irradiation of Polymeric Substrates for High Resolution Ink-jet Printing of Conductive Lines	Ultra-short-pulse laser for the production of three-dimensional microstructures for implants and BioMEMS utilizing two-photon-polymerization	Eric Markweg Norman Petzold, Thomas Kowallik TETRA Gesellschaft für Sensorik, Robotik und Automation mbH	Improving the understanding of ultrafast laser processing of metals by experimental and simulated transient studies of reflectivity and absorption	Heinz P. Huber Jan Winter, Stephan Rapp, Rudolph Reiel Munich University of Applied Sciences
09:45 - 10:00	Telecentric CO2 laser ring-cutting system with adjustable diameter	Monitoring of powder flow dynamic behavior in LMD processes by high speed imaging.	Javier Nicolás Montero Ángel Rodríguez, José Manuel Amado, María José Tabar, Armando Yáñez University of A Coruña	High speed and high power laser material processing: First determination of process limits	Jens Hildenhagen Paul Bant, Klaus Dickmann University of Applied Sciences Muenster
Coffee break		Coffee break		Coffee break	
<i>Surface Functionalization (Th_2_2), R. Weber</i>		<i>Laser Metal Deposition (Th_3_2), S. Kailerle</i>		<i>System Technology and Process Control (Th_22B_2), R. Poprawe</i>	
10:30 - 10:45	Diamond surface functionalization induced by laser nanoablation (Invited)	Additive Manufacturing: Generating and Printing (Invited)	Elena Lopez Fraunhofer IWS, Dresden	Process stability of laser induced plasma for hardness measurements	Tobias Markus Czotscher Frank Vollersten BIAS GmbH
10:45 - 11:00				Application of laser-spectroscopy on organic photovoltaic devices	Shyama Prasad Banerjee Thierry Sarnet, Marc Sentis, Thomas Kuntze, Henri Fledderus, Ahmed Salem, Hylke Akkerman, Niels Friedrich-Schilling, Benedikt Gburek, Merve Anderson, Stéphane Cros
11:00 - 11:15	Surface functionalization of metals by laser texturing for adhesive joints	Characterization of microstructural and physical properties of iron-tungsten alloy synthesized by LAAM	Guijun Bi Baicheng Zhang, Pei Wang, Youxiang Chew, Jie Song, Jiaming Bai, Hui-chi Chen, Seung Ki Moon Singapore Institute of Manufacturing Technology	Application of two-photon polymerization technique for resonator-based biosensors fabrication	Anton Saetchnikov Vladimir Saetchnikov, Elina Tcherniavskaia, Andreas Ostendorf Ruhr University Bochum
11:15 - 11:30	A novel method of laser doping to poly-Si thin films using XeF excimer laser irradiation in acid solution	Development of a High-speed and High-resolution 3D Printer by Using Laser Metal Deposition Technology	Yasutomo Shiomi Hiroshi Ohno, Naotada Okada, Shimpei Fujimaki, Kazuki Wada Toshiba corp.	Laser scribing of alumina ceramics by Nd:YAG and ytterbium fiber laser	Lenka Rihakova Hana Chmelickova RCPTM, Joint Laboratory of Optics of Palacký University and Institute of Physics CAS, Faculty of Science, Palacký University
11:30 - 11:45	Tamper-proof holographic markings for high-value goods	Temperature evolution of different travel path strategies to build layers using Laser Metal Deposition	Torsten Petrat Rene Winterkorn, Benjamin Graf, Andrey Gumenyuk, Michael Rethmeier Fraunhofer Institute for Production Systems and Design Technology IPK	Synthesis and resizing silver nanoparticles by laser ablation in liquids	Mónica Fernández Jesús del Val, Mohamed Boutinguiza, Antonio Riveiro, Rafael Comesaña, Fernando Lusquinos, Juan Pou University of Vigo
11:45 - 12:00	Femtosecond laser micropatterning of diamond-like nanocomposite coatings to improve friction on the microscale	Performance of Hot Forging Tools Built by Laser Metal Deposition of Hot Work Tool Steel X37CrMoV5-1	Daniel Junker Oliver Hentschel, Schramme Ralph, Michael Schmidt, Marion Merklein Friedrich-Alexander-Universität		
Lunch		Lunch		Lunch	

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<i>Surface Functionalization (Th_2_3), V. Konov</i>		<i>Laser Metal Deposition (Th_3_3), I. Alfred</i>		<i>Fundamentals and Process Simulation (Th_22B_3), F. Vollertsen</i>	
14:00 - 14:15	Applying laser dispersion and laser ablation to generate functional layers for deep drawing tools <i>Hannes Freijse Konstantin Vetter, Thomas Seefeld, Frank Vollertsen BIAS</i>	Laser metal deposition of high entropy alloys using elemental powders and in situ alloying <i>Henrik Dobbstein David Pflüging, Evgeny L. Gurevich, Guillaume Laplanche, Easo P. George, Andreas Ostendorf Applied Laser Technologies, Ruhr-University Bochum</i>		State of the art of finite element modelling of the welding process (Invited) <i>Andreas Otto TU Vienna</i>	
14:15 - 14:30	Influence of Pulse Duration and Scanning Direction on the Deformation of Edges during Laser Micro Polishing <i>Christian Nüsser Simon Schneider Fraunhofer-Institut für Lasertechnik ILT</i>	Laser metal deposition of magnesium alloys <i>Josephin Enz Anna Konovalova, Marco Schultz, Stefan Riekehr, Volker Ventzke, Nikolai Kashaev Helmholtz-Zentrum Geesthacht - Centre for Materials and Coastal Research</i>			
14:30 - 14:45	Generation of functional sub-µm sphere patterns on quartz substrates using fs-laser <i>Sandra Stroj Valha Matylytskaya, Victor Matylytsky, Stephan Kasemann, Matthias Domke Vorarlberg University of Applied Sciences</i>	Characterization and Optimization of Residual Stress State, Geometrical Accuracy and Productivity for Laser Metal Deposition of Complex Three-Dimensional Titanium Parts <i>Mauritz Möller Christoph Scholl, Vishnuu Prakash, Claus Emmelmann Bionic Production GmbH</i>		Experimental and numerical investigation of the capillary front and side walls during laser beam welding <i>Florian Fetzer Haoyue Hu, Rudolf Weber, Thomas Graf Universität Stuttgart</i>	
14:45 - 15:00	Ultra-fast multi-spot-parallel processing of functional micro- and nano-structures on embossing dies with ultrafast lasers <i>Stephan Brünig Manfred Jarczynski, Thomas Mitra, Keming Du, Christian Fornaroli, Arnold Gillner Schepers GmbH & Co KG</i>	Laser Metal Deposition of Ti-6Al-4V Structures: New Building Strategy for a Decreased Shape Deviation and its Influence on the Microstructure and Mechanical Properties <i>Markus Heilemann Mauritz Möller, Claus Emmelmann, Irmela Burkhardt, Stefan Riekehr, Volker Ventzke, Nikolai Kashaev, Josephin Enz TUHH ILAS</i>		Dynamic Method for Determination of Coupling Efficiencies in Laser Material Processing <i>Dominik Hipp Achim Mahrle, Eckhard Beyer TU Dresden</i>	
15:00 - 15:15	Scanning strategy of high speed shifted laser surface texturing <i>Denys Moskal Jiri Martan, Martin Kučera University of West Bohemia</i>	Closed loop control system for Laser Metal Deposition applied to parts of variable thickness. <i>Jordi Figueras Laura Huarte-Mendiccoa, Sonia Moralejo IK4-IDEKO</i>		Thermal & Fluid Field Modelling for Laser Aided Additive Manufacturing <i>Youxiang CHew Jie Song, Guijun Bi, Hui-chi Chen, Xiling Yao, Baicheng Zhang, Jiaming Bai, Zhaoqin Guo, Seung Ki Moon Singapore Institute of Manufacturing Technology</i>	
15:15 - 15:30	Surface structuring with a 500 W picosecond laser <i>Sebastian Faas Corrado Sciancalepore, Rudolf Weber, Luca Romoli, Thomas Graf IFSW</i>	Adapted approach of the product development process for hybrid manufactured parts <i>Ake Ewald Mauritz Möller, Josef Schlattmann Hamburg University of Technology (TUHH)</i>		Interaction of powder jet and laser beam in blown powder laser deposition processes: Measurement and simulation methods <i>Florian Wirth Sebastian Freihse, Daniel Eisenbarth, Konrad Wegener ETH Zürich</i>	
Coffee break		Coffee break		Coffee break	
<i>Surface Functionalization (Th_2_4), C. Freitag</i>		<i>Laser Metal Deposition (Th_3_4), I. Alfred</i>		<i>Fundamentals and Process Simulation (Th_22B_4), P. Woizeschke</i>	
16:00 - 16:15	Application specific intensity distributions for laser functionalization of (nano-)ceramic coatings as wear protection <i>Annika Völl Susanne Wollgarten, Jochen Stollenwerk, Peter Loosen Chair for Technology of Optical Systems, RWTH Aachen University</i>	Effects of Heat Treatment on the microstructure of the in-situ Laser Metal Deposited Ti-Al-Nb <i>Monnamme Tlotleng Thabo Lengopeng, Sisa Pityana Council for Scientific and Industrial Research</i>		Pulsed Nd:YAG laser drilling of alumina ceramics and silicon wafers <i>Hana Chmelickova Martina Havelkova, Helena Hlškova, Lenka Rihakova Institute of Physics of the Academy of Sciences of the Czech Republic</i>	
16:15 - 16:30	Combination of laser surface texturing and PVD coating for cold forming tools <i>Josu Leunda Carmen Sanz, Jon Etxarri IK4-Tekniker</i>	High speed laser metal deposition process: development of technology and equipment using robotic systems <i>Gleb Andreevich Turichin Olga Klimova-Korsmik, Evgeniy Zemlyakov, Konstantin Babkin, Ekaterina Valdaitseva Saint-Petersburg State Marine Technical University</i>		Simulation of the buttonhole formation during laser welding with wire feeding and beam oscillation <i>Won-ik Cho Villads Schultz, Frank Vollertsen Bremer Institut für angewandte Strahltechnik</i>	
16:30 - 16:45	Fabrication of bionic surfaces with mixed superhydrophobic and superhydrophilic properties using fs-lasers <i>Matthias Domke Elisabeth Kostal, Stephan Kasemann, Victor Matylytsky, Sandra Stroj FH Vorarlberg</i>	Design recommendations for laser metal deposition of thin wall structures in TiAl6V4 <i>Hannes Zapf Niels Bendig, Mauritz Möller, Claus Emmelmann Laser Zentrum Nord</i>		Nucleate boiling in laser beam welding of aluminum alloys <i>Florian Hugger Matthias Holzer, Stephan Roth, Michael Schmidt BBW Lasertechnik GmbH</i>	
16:45 - 17:00	Water condensation enhancement over metallic hierarchical surfaces with controlled wettability fabricated by femtosecond laser <i>Miguel Martinez Calderon Mikel Gómez Aranzadi, Ainara Rodriguez, Eduardo Granados, Santiago Olaizola CEIT-IK4 VAT: ESG20079695</i>	Blue direct diode laser induced pure copper layer formation on stainless steel plate for reduction of heat affected zone <i>Masanori Sengoku Masahiro Tsukamoto, Kahei Asano, Yuji Sato, Ritsuko Higashino, Yoshinori Funada, Minoru Yoshida, Nobuyuki Abe Kindai university</i>		Numerical modeling of laser welding process of NiTi shape memory alloy <i>Mehrshad Mehrpouya Annamaria Gisario, Mohammad Elahinia Sapienza University of Rome</i>	
17:00 - 17:15	Advances in spatial beam shaping for ultrafast laser surface functionalization <i>Cyril Mauclair Hélène Desrus, Dorian Saint Pierre Laboratoire H Curien - Manutech-USD</i>	Micro-Hardness measurements of the heat-treated TiAl-Nb synthesised using Laser Metal Deposition Technique <i>Lerato Tshabalala Monnamme Tlotleng, Thabo Lengopeng, Sisa Pityana, Ntombi Mathe Council for Scientific and Industrial Research</i>		Recent Advances in the Multiphysical Simulation of Laser Assisted Manufacturing Processes <i>Rodrigo Gómez Vázquez Andreas Otto, Jaka Peternel Technische Universität Wien</i>	
17:15 - 17:30	Femtosecond-Laser-Induced Surface Texturing of Al-Si Alloy for Lower Friction Surface <i>Masayuki Fujita Toshihiro Sormekawa, Minoru Yoshida, Noriaki Miyanaga, Takuya Nakase, Takashi Kobayashi Institute for Laser Technology</i>	Affecting Transmission NVH-Behavior by Implementing a Damping System Using Additive Manufacturing <i>Matthias Schmitt Tobias Kamps, Gunther Reinhart Fraunhofer IGCV</i>		Modelling and measurement of keyhole laser welding applied to titanium alloy Ti6Al4V <i>Josefine Svenungsson Mats Högström, Isabelle Choquet, Alexander Kaplan University West</i>	
17:30 - 17:45					