SLT 2020 Advance Program, Tuesday, 16.6.2020

08:15 - 09:00 Registration and Coffee

Room C1.2.2: Plenary Session

Plenary Session			***Chair T. Graf***							
09:00 - 09:10	**H. Götz**	*SLT Opening and Information*	SLT Organization, IFSW, Universität Stuttgart, Germany							
09:10 - 09:20	**T. Graf**	*Welcome to the SLT 2020*	IFSW, Universität Stuttgart, Germany							
09:20 - 09:30	**E. Kerwien**	*Women in Photonics*	Photonics BW, Stuttgart, Germany							
09:30 - 10:00	**C. Schmitz**	*Industrial Laser Processing: What's next?*	TRUMPF Lasertechnik GmbH, Ditzingen, Germany							
10:00 - 10:30	**C. Häfner**	*N.N.*	Fraunhofer ILT Aachen, Germany							
10:30 - 11:15		***Coffee and Cookies***			10:30 - 11:15			***Coffee and Cookies***		

Room C1.2.1: Fundamentals and Applications of CW Laser Processing

Process Improvement with Shaped Laser Beams			***Chair R. Weber***
11:15 - 11:40	**T. Hesse/Speker**	*Copper Welding with Green Wavelength in the kW Laser Power Class*	TRUMPF GmbH, Ditzingen, Germany
11:40 - 12:05	**J. Lind**	*Insight into the Laser Cutting Process*	IFSW + Precitec, Germany
12:05 - 12:30	**A. Wetzig**	*Fast beam oscillations improve laser cutting of thick materials*	Fraunhofer IWS, Dresden, Germany
12:30 - 14:15		***Lunch and LASYS visit***	
Process Control for Additve Manufacturing and Welding			***Chair C. Hagenlocher***
14:15 - 14:40	**M. Kogel-Hollacher**	*OCT in additive manufacturing*	Precitec GmbH & Co. KG, Gaggenau, Germany
14:40 - 15:05	**T. Seefeld**	*Prozessüberwachung bei der additiven Fertigung*	BIAS - Bremer Institut für angewandte Strahltechnik GmbH, Bremen, Germany
15:05 - 15:30	**C. Franz**	*Laser Welding Monitoring and Control*	4D GmbH, Isernhagen, Germany
15:30 - 16:10		***Coffee and Cookies***	
Process Fundamentals of Additive Manufacturing and Welding			***Chair T. Graf***
16:10 - 16:35	**B. Simonds**	*Experimental Advances in Dynamic Laser Coupling Measurements on Metals - From Solids to Powders*	NIST, Boulder, USA
16:35 - 17:00	**A. Otto**	*Numerical modelling of powder bed processes*	LPT, Universität Wien, Austria
17:00 - 17:25	**P. Berger**	*Looking back - Process Fundamentals Over the Years-*	IFSW, Universität Stuttgart, Germany
17:25			

Room C1.2.2: Ultrafast Laser Sources and Optics

High-Power and High-Energy Ultrafast Lasers			***Chair M. Abdou Ahmed***
11:15 - 11:40	**A. Killi**	*Industrial high power lasers covering ns to fs regime*	TRUMPF Laser- und Systemtechnik GmbH, Schramberg, Germany
11:40 - 12:05	**C. Röcker**	*Generation of high-power Green and UV ultra-short pulses (TBD)*	IFSW, Stuttgart, Germany
12:05 - 12:30	**M. Smrz**	*TRL 8 laser manufacturing station for multibeam processing*	HiLASE, Praha, Czech Republic
12:30 - 14:15		***Lunch and LASYS visit***	
Novel Laser and Beam Delivery Concepts			***Chair M. Abdou Ahmed***
14:15 - 14:40	**É. Audouard**	*New microstructured optical fibers for innovative lasers and beam transportation*	Ampitude Système, Pessac, France
14:40 - 15:05	**C. Röhrer**	*Propagation of high-brightness laser beams in highly multimode fibers*	IFSW, Stuttgart, Germany
15:05 - 15:30	**C. Gaida**	*Thulium-doped, ultrafast fiberlasers: from a laboratory curiosity to a top-performer*	Active Fiber Systems GmbH, Jena, Germany
15:30 - 16:10		***Coffee and Cookies***	
Holistic Approach to Ultrafast Laser Processing Systems			***Chair V. Onuseit***
16:10 - 16:35	**A. Loescher**	*kW-ps thin-disk laser for high throughput manufacturing*	IFSW, Universität Stuttgart, Germany
16:35 - 17:00	**A. Peter**	*Automated free-space beam delivery system for ultrafast laser beams in the kW regime*	IFSW, Universität Stuttgart, Germany
17:00 - 17:25	**D. Holder**	*From Drilling to Surface Structuring: kW-Class Laser Applications*	IFSW, Universität Stuttgart, Germany
17:25			

18:00 - 18:30		*Individual transfer to IFSW*								
18:30 - 18:45	**T. Graf**	*SLT-Evening Welcome*	IFSW, Universität Stuttgart, Germany							
18:45 - 19:30	**IFSW Staff**	*Laser Application Basics Live*								
19:30 - 22:00		*Networking and dinner in the inner courtyard*								
22:00		*Official end of evening*								

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Dr. Rudolf Weber
IFSW, Universität Stuttgart

SLT 2020 Advance Program, Wednesday, 17.6.2020

08:15 - 09:00 Registration and Coffee

Room C1.2.2: Plenary Session

Plenary Session			***Chair T. Graf***
09:00 - 09:05	**H. Götz**	*SLT Opening and Information*	SLT Organization, IFSW, Universität Stuttgart, Germany
09:05 - 09:30	**L. Overmeyer**	*Einstein Elevator*	Leibnitz Univerität Hannover, Hannover, Germany
09:30 - 10:00	**W. Kaiser**	*Technology development and outlook for the future of lithography*	Carl Zeiss SMT GmbH, Oberkochen, Germany
10:00 - 10:30	**T. Graf**	*Laser Processing Today and Tomorrow*	IFSW, Universität Stuttgart, Germany
10:30 - 11:15		***Coffee and Cookies***	

Room C1.2.1: Fundamentals and Applications of Ultrafast Laser Processing

Spatial and Temporal Optimization of Ultrafast Laser Processes			***Chair A. Feuer***
11:15 - 11:40	**B. Neuenschwander**	*System technology for processing with high power ultrafast lasers*	Berner FH, Burgdorf, Switzerland
11:40 - 12:05	**A. Koglbauer**	*Scaling ultra-short laser processing for thick glass*	Schott AG, Mainz, Germany
12:05 - 12:30	**A. Michalowski**	*Temporally Optimized USP Laser Processes*	Robert Bosch GmbH, Stuttgart, Germany
12:30 - 14:15		***Lunch and LASYS visit***	

Special Systems for High-Precision Laser Drilling			***Chair V. Onuseit***
14:15 - 14:40	**R. Holtz**	*Ultrafast Helical Drilling Optic*	Fachhochschule Nordwestschweiz, Windisch, Switzerland
14:40 - 15:05	**H. Schlüter**	*5-Axis Scan Head for High Precision Drilling*	SCANLAB GmbH, Puchheim, Germany
15:05 - 15:30	**D. Brinkmeier**	*Optic Concept for High Power Helical Drilling*	IFSW, Universität Stuttgart, Germany
15:30 - 16:10		***Coffee and Cookies***	

Focus on X-Rays from Ultrafast Laser Processing			***Chair R. Weber***
16:00 - 16:10	**R. Weber**	*Introduction to the USP-X-Ray Session*	IFSW, Universität Stuttgart, Germany
16:10 - 16:25	**B. Hahn**	*The Current Legal Situation for Ultrashort Pulse Laser Material Processing Operations (USPL)*	Ministerium für Energie BW, Heilbronn, Germany
16:25 - 16:40	**C. Freitag**	*USP-X-Ray Emission Protection in Industrial Production Environment*	LightPulse LASER PRECISION, Stuttgart, Germany
16:40 - 16:55	**R. Giedl-Wagner**	*X-Ray Emission During Laser Turning with Ultra-Short Pulses*	GFH GmbH, Deggendorf, Germany
16:55 - 17:15	**G. Kunz**	*X-Ray Emission from Industrial Applications with Ultra-Short Laser Pulses*	Robert Bosch GmbH, Stuttgart, Germany
17:15 - 17:20	**R. Weber**	*SLT 2020 Closing Note*	IFSW, Universität Stuttgart, Stuttgart, Germany
17:20		*Program subject to change without notice*	

Room C1.2.2: High Average Power CW Laser Sources and Optics

Dynamic Path Planning for Laser Machining			***Chair V.Onuseit***
11:15 - 11:40	**A. Verl**	*Real time path planning and process control for additive manufacturing*	ISW, Universität Stuttgart, Germany
11:40 - 12:05	**R. Beccard**	*oolpath Planning in Laser Metal Deposition Processes for Complex 3D Geometries*	Lunovu GmbH, Germany
12:05 - 12:30	**M. Buser**	*Dynamic path planning for depth controlled laser ablation*	IFSW, Universität Stuttgart, Germany
12:30 - 14:15		***Lunch and LASYS visit***	

Laser Beam Tailoring			***Chair M.Abdou Ahmed***
14:15 - 14:40	**M. Hana**	*1D nonlinear optics in multipass cells*	Laboratoir Charles Fabry, Germany
14:40 - 15:05	**G. Pallier**	*TBC: MPLC systems for high-power CW and fs laser beams*	CaiLabs, France
15:05 - 15:30	**M. Rumpel**	*Latest results on Resonant Grating Mirrors for High-Power Lasers*	Martec Photonics GmbH, Stuttgart, Germany
15:30 - 16:10		***Coffee and Cookies***	

Intelligent Laser and Processing Systems			***Chair V. Onuseit***
16:00 - 16:25	**A. Patschger**	*In process defect detection in additive manufacturing through image supported machine learning*	Zentrum für Maschinenbau Thüringen, Illmenau, Germany
16:25 - 16:50	**T. Grünberger**	*Machine learning for process monitoring systems based on examples from laser materials processing to additive manufacturing*	plasmo Industrietechnik GmbH, Germany
16:50 - 17:15	**K. Schmidt**	*Methods for controlling adaptive optical systems in high power resonators*	ISYS, Universität Stuttgart, Stuttgart, Germany
17:15 - 17:20	**V. Onuseit**	*SLT 2020 Closing Note*	IFSW, Universität Stuttgart, Stuttgart, Germany
17:20		*Program subject to change without notice*	