

SLT 2022 Advance Program, Tuesday, 21.6.2022

08:15 - 09:00	Registration and Coffee
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Room C1.2.2: Plenary Session

<i>Plenary Session</i>			<i>Chair T. Graf</i>						
09:00 - 09:10	H. Götz	SLT Opening and Information	SLT Organization, IFSW, Universität Stuttgart, Germany						
09:10 - 09:30	T. Graf	Welcome to the SLT 2022	IFSW, Universität Stuttgart, Germany						
09:30 - 10:00	N. N. (newly Prof. "Laser Technology in Manufacturing")	N.N.	IFSW, Universität Stuttgart, Germany						
10:00 - 10:30	C. Schmitz	Industrial Laser Processing: What's next?	TRUMPF Lasertechnik GmbH, Ditzingen, 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

<i>Process Improvement with Shaped Laser Beams</i>			<i>Chair R. Weber</i>
11:15 - 11:40	T. Hesse	Latest Technolog Leaps due to Beam Shaping in Laser Materials Processing	TRUMPF GmbH, Ditzingen, Germany
11:40 - 12:05	S. Olschok	OldHats in New Hoses	RWTH Aachen University, 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

<i>Process Control for Additive Manufacturing and Welding</i>			<i>Chair C. Hagenlocher</i>
14:15 - 14:40	M. Kogel-Hollacher	OCT in Additive Manufacturing	Precitec GmbH & Co. KG, Gaggenau, Germany
14:40 - 15:05	T. Seefeld	Advanced Process Monitoring Approaches for Additive Manufacturing of Metals	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

<i>Process Fundamentals of Additive Manufacturing and Welding</i>			<i>Chair T. Graf</i>
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

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	

Program subject to change without notice

Room C1.2.2: Ultrafast Laser Sources and Optics

<i>High-Power and High-Energy Ultrafast Lasers</i>			<i>Chair M. Abdou Ahmed</i>
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 visible and UV ultra-short laser pulses	IFSW, Stuttgart, Germany
12:05 - 12:30	M. Smrz	High beam quality thin-disk Perla platform for multi-beam micromachining	HiLASE, Praha, Czech Republic

12:30 - 14:15

Lunch and LASYS visit

<i>Novel Laser and Beam Delivery Concepts</i>			<i>Chair M. Abdou Ahmed</i>
14:15 - 14:40	É. Audouard	New microstructured optical fibers for innovative lasers and beam transportation	Amplitude Système, Pessac, France
14:40 - 15:05	C. Röhrer	Design, production and characterization of specialty optical fibers at the IFSW	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

<i>Holistic Approach to Ultrafast Laser Processing Systems</i>			<i>Chair V. Onuseit</i>
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 and Cutting to Surface Structuring and Micromachining: kW-Class Ultrafast Laser Applications	IFSW, Universität Stuttgart, Germany

17:25

18:00 - 18:30			
18:30 - 18:45			
18:45 - 19:30			
19:30 - 22:00			
22:00			

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SLT 2022 Advance Program, Wednesday, 22.6.2022

08:15 - 09:00

Registration and Coffee
Room C1.2.2: Plenary Session

<i>Plenary Session</i>		<i>Chair T. Graf</i>	
09:00 - 09:05	H. Götz	SLT Opening and Information	SLT Organization, IFSW, Universität Stuttgart, Germany
09:05 - 09:30	L. Overmeyer	Additive manufacturing under space conditions by using the Einstein-Elevator	Leibnitz Universität Hannover, Hannover, Germany
09:30 - 10:00	T. Stammler	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

10:30 - 11:15

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

<i>Spatial and Temporal Optimization of Ultrafast Laser Processes</i>		<i>Chair D. Holder</i>	
11:15 - 11:40	B. Neuenschwander	System Technology for Processing with High-Power Ultrafast Lasers	Berner FH, Burgdorf, Switzerland
11:40 - 12:05	J. Thomas	Scaling ultra-short laser processing for thick glass	Schott AG, Mainz, Germany
12:05 - 12:30	A. Feuer	Optimizing Deep-Hole Percussion Drilling with ultra-short laser pulses	IFSW, Universität Stuttgart, Germany

12:30 - 14:15

Lunch and LASYS visit

<i>Special Systems for High-Precision Laser Drilling</i>		<i>Chair V. Onuseit</i>	
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

<i>Focus on X-Rays from Ultrafast Laser Processing</i>		<i>Chair C. Hagenlocher</i>	
16:00 - 16:10	R. Weber	Introduction to the USP-X-Ray Session	IFSW, Universität Stuttgart, Germany
16:10 - 16:25	M. Rothmund	The Current Legal Situation for Ultrashort Pulse Laser Material Processing Operations (USPL)	Regierungspräsidium Stuttgart Referat 54.6 Industrie - Strahlenschutz, 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 2022 Closing Note	IFSW, Universität Stuttgart, Stuttgart, Germany

17:20

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

<i>Dynamic Path Planning for Laser Machining</i>		<i>Chair S. Boley</i>	
11:15 - 11:40	M. Wolf	Iterative path planning for laser metal deposition with online control	ISW, Universität Stuttgart, Germany
11:40 - 12:05	R. Beccard	Toolpath Generation in Laser Metal Deposition 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

<i>Laser Beam Tailoring</i>		<i>Chair M. Abdou Ahmed</i>	
14:15 - 14:40	M. Hanna	nonlinear optics in multipass cells	Laboratoire Charles Fabry,
14:40 - 15:05	G. Pallier	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

<i>Intelligent Laser and Processing Systems</i>		<i>Chair V. Onuseit</i>	
16:00 - 16:25	B. Mills	Lasers that learn	Optoelectronics Research Centre University of Southampton, Southampton, United Kingdom
16:25 - 16:50	A. Ilin	Optimization of the laser beam welding process using combination of physical based and data driven AI models	Robert Bosch GmbH, Stuttgart, Germany
16:50 - 17:15	A. Molotnikov	Application of machine learning for quality assessment of laser powder bed fusion process	RMIT University: Additive Assurance Ltd., Melbourne, Australia
17:15 - 17:20	V. Onuseit	SLT 2022 Closing Note	IFSW, Universität Stuttgart, Stuttgart, Germany

17:20

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