

# ICALLEO®

40<sup>th</sup> INTERNATIONAL CONGRESS ON  
APPLICATIONS OF LASERS & ELECTRO-OPTICS

## ICALLEO 2021 PROGRAM AT-A-GLANCE

 **LIA**<sup>TM</sup>  
THE LASER INSTITUTE

# MONDAY, OCTOBER 18

	FLA	LAM	MACRO	MICRO	NANO
8:00 AM	Welcome and Introduction				
8:15 AM	<b>PLENARY I</b> AI in the Laser Industry – from Sensor Parametrization to Process Control Presenter: Julia Hartung				
8:55 AM	Introduction				
9:00 AM	<b>PLENARY II</b> Artificial Intelligence and Digital Solutions for Laser Technology Presenter: Prof. Carlo Holly				
9:40 AM	<b>Networking Break: Meet the Presenters!</b> Join us in the networking area to mingle with other attendees, as well as the speakers from the Opening Plenary Session. 9:40AM - 10:00AM				
	<b>Frontiers in Laser Processing</b> Session Chair: Eric Mottay FLA Session 1	<b>Advanced DEDAM Processing 1</b> Session Chair: Ted Reutzel LAM Session 1	<b>Cu-Welding</b> Session Chair: Friedhelm Dorsch MACRO Session 1	<b>Texturing</b> Session Chair: John Lopez MICRO Session 1	<b>Femtosecond Laser for Photonics and Nanoprocessing</b> Session Chair: Yves Bellouard NANO Session 1
10:00 AM	FLA 101	LAM 101	MACRO 101	MICRO 101	NANO 101
10:05 AM	0116 - Process Optimization in Laser Micro-Processing with Ultra-Short Pulses by Help of Artificial Intelligence* Presenter: Beat Neuenschwander Start time: 10:00 AM	0182 - Large Area DED: Status Quo and Expected Developments in the Next 5 Years* Presenter: Elena Lopez Start time: 10:00 AM	<b>0013 - Welding of Pure Copper Wires Using a Hybrid Laser System with a Blue Diode Laser and a Single-Mode Fiber Laser*</b> Presenter: Shumpei Fujio Start Time: 10:00 AM	0192 - Ultrafast Pump-Probe Reflectometry and Ellipsometry for Measuring Transient Material States during Laser Processing* Presenter: Alexander Horn Start Time: 10:00 AM	0176 - Ultrafast Laser Written 3D Photonics: Fabrication and Applications* Presenter: Michael Withford Start Time: 10:00 AM
10:10 AM					
10:15 AM					
10:20 AM					
10:25 AM					
10:30 AM	FLA 102	LAM 102	MACRO 102	Macro 102	NANO 102
10:35 AM	<b>0008 - Optimization of Processing Parameters of Ultra-short (100 fs – 2 ps) Pulsed Laser Shock Peening of Stainless Steel</b> Presenter: Lalit Kukreja Start time: 10:30 AM	0200 - Extreme High-speed Laser Material Deposition for Coating, Repair and Additive Manufacturing Presenter: Thomas Schopphoven Start time: 10:30 AM	<b>0030 - Laser Welding of Copper to Aluminum with Spiral Trajectory and Identification of Excessive Aluminum Melting</b> Presenter: Karthik Mathivanan Start Time: 10:30 AM	0110 - Energy Efficiencies and Thermal Effects for Ultrashort Pulse Laser Machining of Various Materials Presenter: Axel Fehrenbacher	0170 - Femtosecond Laser-Induced Nano-Crystallization in Dielectric Multilayer Systems Presenter: Ruben Ricca Start Time: 10:30 AM
10:40 AM					
10:45 AM					
10:50 AM	FLA 103	LAM 103	MACRO 103	MICRO 103	NANO 103
10:55 AM	0119 - Advantages of Tunable GHz and MHz Femtosecond BiBurst for Various Material Processing Presenter: Aivara Urnezisius Start Time: 10:50 AM	0056 - Adapting Additive Manufacturing and Laser Gas Alloying for Directed Energy Titanium Nitride Depositions Presenter: Cory Jamieson Start time: 10:50 AM	<b>0038 - Influence of Plume Attenuation Under High Power Laser Welding of Copper Using Visible Wavelengths</b> Presenter: Florian Kaufmann Start Time: 10:50 AM	0141 - Laser Micromachining of Transport Structures on Ti-6Al-4V with Ultrashort Laser Pulses for Passive Directional Transport of Fluids Presenter: Daniel Holder Start Time: 10:50 AM	089 - Fully Reflective Bessel Beam Generation with Constant Energy Distribution over the Propagation Axis for Complex Glass Cutting Presenter: Gwenn Pallier Start Time: 10:50 AM
11:00 AM					
11:05 AM					
11:10 AM	FLA 104	LAM 104	MACRO 104	MICRO 104	NANO 104
11:15 AM	<b>0085 - Characterization of Dissimilar Laser Welding Processes with Spatial Beam Oscillation of Copper and Aluminum Alloys in Multilayer Configuration for Battery Applications</b> Presenter: Vincenzo Dimatteo Start Time: 11:10 AM	0086 - Dynamic Laser Cladding with Variable Track Width and Adaptable Laser Power Distribution Presenter: Maria Barbosa Start time: 11:10 AM	<b>0084 - Laser Beam-Submerged Arc Hybrid Welding of Thick Duplex Stainless Steel</b> Presenter: Rabi Lahdo Start Time: 11:10 AM	0111 - Laser Processing of GaN with Ultra-Short Pulses for Semiconductor Applications Presenter: Beat Neuenschwander Start Time: 11:10 AM	0171 - Laser 3D Nanomanufacturing of Renewable Organics and Pure Inorganics via Multiphoton Lithography* Presenter: Mangirdas Malinauskas Start Time: 11:10 AM
11:20 AM					
11:25 AM					
11:30 PM	<b>Networking Break: Meet the Presenters!</b> Join us in the networking area to mingle with other attendees, as well as Session 1 and On-Demand presenters. 11:30PM - 12:30PM				
	<b>Session Title: Frontiers in Medical Applications</b> Session Chair: Eric Mottay FLA Session 2	<b>Advanced DEDAM Processing 2</b> Session Chair: Stefan Kailerle LAM Session 2	<b>Dissimilar Materials</b> Session Chair: Klaus Kleine MACRO Session 2	<b>Session Title: Micro</b> Session Chair: Carlos Molpeceres MICRO Session 2	<b>Femtosecond Laser for Surface Processing and Future Technologies for Integrated Laser Photonics</b> Session Chair: Yves Bellouard NANO Session 2
12:30 PM	FLA 201	LAM 201	MACRO 201	MICRO 201	NANO 201
12:35 PM	0131 - PDT as a Positive Modifying Factor in the Treatment of Periodontal Disease in Patients Living With HIV / AIDS (PLHIV / AIDS) Presenter: Rafaela De Matos Start time: 12:30 PM	0184 - Next Generation Laser Materials Processing* Presenter: Michael Schmidt Start time: 12:30 PM	0073 - New Possibilities for Laser Beam Welding of Copper and Aluminum Alloys with Dynamic Beam Modulation* Presenter: Dirk Dittrich Start Time: 12:30 PM	0193 – Smart Medical Devices and Tissue-Engineered Organ on Chip Devices* Presenter: Gerard O'Connor Start Time: 12:30 PM	175 - Ultrashort Pulsed Laser Structuring of Biomimetic Surfaces* Presenter: Emmanuel Strakakis Start Time: 12:30 PM
12:40 PM					
12:45 PM					
12:50 PM	FLA 202	LAM 202	MACRO 202	MICRO 202	NANO 202
12:55 PM	0132 - The Low-Power Laser as a Therapeutic Conduct After Exodontics in Patients Living With HIV/AIDS (PLHIV/AIDS) Presenter: Guilherme Pires Start time: 12:50 PM	<b>0005 - Process Development and Mechanical Properties of Ti-6Al-4V Samples Generated by Laser Material Deposition with Coaxial Wire Feed</b> Presenter: Jana Kelbassa Start time: 1:00 PM	<b>0049 - Different Approaches to Prevent Solidification Cracking in Laser Beam Welding Stainless Steel-Copper Dissimilar Joints</b> Presenter: Jonas Rinne Start Time: 1:00 PM	0067 - Effect of Pulse Duration on Optical Properties in Ultrafast Laser Micro-Processing Of Polymers Presenter: Arifur Rahaman Start Time: 1:00 PM	0204 - Active Lithium Niobate Micro/Nano Photonic Devices Fabricated by the Femtosecond Laser and Chemo-Mechanical Etching Technique* Presenter: Zhiwei Fang Start Time: 1:00PM
1:00 PM					
1:05 PM					
1:10 PM					
1:15 PM					
1:20 PM		LAM 203	MACRO 203	MICRO 203	
1:25 PM		0045 - A Novel Keyhole-Based Wire-Feed Laser Additive Manufacturing Process Presenter: Shihui Guo Start time: 1:20 PM	<b>0028 - Experimental Study of Dissimilar Metal Joining by Laser Riveting of Ti-6Al-4V to AA6061</b> Presenter: Bowei Li Start Time: 1:20 PM	0090 - Fiber Laser Texturing of Surfaces to Increase Adhesive Bond Strength Presenter: Liam Mومن Start Time: 1:20 PM	
1:30 PM					
1:35 PM					
1:40 PM		LAM 204	MACRO 204	MICRO 204	
1:45 PM		0048 - Influence of the Laser Beam Parameters in the LDNA Process on the Seam Geometry of Generatively Manufactured Structures Presenter: Tjorben Bokelmann Start time: 1:40 PM	<b>0057 - A Personalized Demand Responsive Optimization Method for Dissimilar Materials Laser Welding</b> Presenter: Chang Lei Start Time: 1:40 PM	0125 - Optimized High-Quality Ultra-Thin Glass Cutting and Glass Micro Welding with Ultrashort Pulse Lasers Presenter: Terence Hollister Start Time: 1:40 PM	
1:50 PM					
1:55 PM					
2:00 PM	<b>Networking Break: Meet the Presenters!</b> Join us in the networking area to mingle with other attendees, as well as the speakers from Session 2. 2:00PM - 2:30PM				

Note: All times listed are in Eastern Daylight Time. Peer reviewed presentations are shown in bold. Presentations ending with \* indicate invited speakers.

# TUESDAY, OCTOBER 19

	FLA	LAM	MACRO	MICRO	NANO
	<b>Session Title: Frontiers in Laser Applications</b> <b>Session Chair: Robert Braunschweig</b> <b>FLA Session 3</b>	<b>AM Design &amp; Processing</b> <b>Session Chair: Mihaela Vlasea</b> <b>LAM Session 3</b>	<b>Welding</b> <b>Session Chair: Markus Koger-Hollacher</b> <b>MACRO Session 3</b>	<b>Matter Deposition</b> <b>Session Chair: Razvan Stoian</b> <b>MICRO Session 3</b>	<b>Laser Synthesis</b> <b>Session Chair: Ya Cheng</b> <b>NANO Session 3</b>
8:00 AM	FLA 301	LAM 301	MACRO 301	MICRO 301	NANO 301
8:05 AM	0034 - A Glimpse into Laser Applications for Space Exploration*	0185 - Effect of Internal Pores and Stress State on Multiaxial Fracture of Additively Manufactured Alloys*	0196 - Laser-Based Manufacturing in E-mobility – Innovation Driver for Laser Technology*	0194 - Nanopatterning with Photonic Nnanojets*	177 - Laser Synthesis of Electrocatalysts: From Nanoparticles to Single Atoms*
8:10 AM	Presenter: Eliana Fu	Presenter: Allison Beese	Presenter: Oliver Bockrocker	Presenter: Marti Duocastella	Presenter: Zhu Liu
8:15 AM	Start time: 12:00 PM	Start Time: 8:00 AM	Start Time: 8:00 AM	Start Time: 8:00 AM	Start Time: 8:00 AM
8:20 AM					
8:25 AM					
8:30 AM	FLA 302	LAM 302	MACRO 302	MICRO 302	NANO 302
8:35 AM	0078 - 1000 Fold Reduction in Water Consumption Using Laser Peri-Dyeing	0095 - Design Guidelines for Laser Powder Bed Fusion in Inconel 718	0107 - Laser Lap Joining of High-Strength Steel to Aluminum with Cold Sprayed Steel Coating	0100 - Laser-Induced Forward Transfer As a Potential Alternative to Pick-and-Place Technology When Assembling Semiconductor Components	091 - Laser-Enhanced Large-Scale Growth of Patterned 2D MoS2 and WS2 Crystals Directly on Molybdenum and Tungsten Substrates
8:40 AM	Presenter: Francesca Wheeler	Presenter: Dirk Herzog	Presenter: Kyohel Maeda	Presenter: Matthias Springer	Presenter: Parvin Fathi
8:45 AM	Start time: 12:30 PM	Start Time: 8:30 AM	Start Time: 8:30 AM	Start Time: 8:30 AM	Start Time: 8:30 AM
8:50 AM	FLA 303	LAM 303	MACRO 303	MICRO 303	NANO 303
8:55 AM	0109 - 3D Fabrication and Characterization of Polymer-Imprinted Optics for Function-Integrated, Lightweight Optomechanical Systems	0009 - Study Of Spatters Ejections During L-PBF Process for Aluminum Alloys	0142 - Local Hardness Recovery in the Heat-Affected Zone of Laser Beam Weld Seams in AlMgSi-Alloys with an In-Process Laser Post-heat Treatment	0123 - Ultrafast Laser Deposition of Powder Materials on Glass	0112 - Additive Nanomanufacturing of Flexible and Rigid Electronics
9:00 AM	Presenter: Fabian Kranert	Presenter: Gwenaelle Chebil	Presenter: Frauke Faure	Presenter: Ilya Mingareev	Presenter: Zabihollah Ahmadi
9:05 AM	Start time: 12:50 PM	Start Time: 8:50 AM	Start Time: 8:50 AM	Start Time: 8:50 AM	Start Time: 8:50 AM
9:10 AM	FLA 304	LAM 304	MACRO 304	MICRO 304	NANO 304
9:15 AM	0156 - High Power Nanosecond Laser for Dynamic Shock Compression	0055 - Effect of Post Processing Technique on Surface Roughness of Additively Manufactured Pure Copper Parts	0143 - New Shielding Gas Mixtures for Laser Conduction Welding of Aluminum with Filler Wire	0129 - Laser Induced Electroless Plating With Microdroplets of SiO2 Nanosuspension	079 - The Dendritic Si NWs Encapsuled in RGO with Superior Rate Capacity and Cycling Stability in LIBs
9:20 AM	Presenter: Florian Mollica	Presenter: Samira Gruber	Presenter: Junjie Ma	Presenter: Tianyi Li	Presenter: Li Cao
9:25 AM	Start time: 9:10 AM	Start Time: 9:10 AM	Start Time: 9:10 AM	Start Time: 9:10 AM	Start Time: 9:10 AM
9:30 AM	<b>Networking Break: Meet the Presenters!</b> Join us in the networking area to mingle with other attendees, as well as the speakers from the Session 3. 9:30AM - 10:00AM				
10:00 AM	<b>PANEL SESSION: Artificial Intelligence in the Laser Industry</b> Moderator: Prof. William M. Steen Panelist: Julia Hartung, TRUMPF Laser GmbH Panelist: Prof. Carlo Holly, RWTH Aachen University Panelist: Prof. Dr. Volker Sorger, George Washington University 10:00AM - 11:00AM				
11:00 AM	<b>Networking Break: Meet the Presenters!</b> Join us in the networking area to mingle with other attendees, as well as the Panel Session and On-Demand presenters. 11:00AM - 12:00PM				
		<b>Large Scale AM</b> <b>Session Chair: Markus Koger-Hollacher</b> <b>LAM Session 4</b>	<b>Non-metal/Surface</b> <b>Session Chair: Christoph Leyens</b> <b>MACRO Session 4</b>	<b>Session Title: Laser Drilling</b> <b>Session Chair: Andreas Ostendorf</b> <b>MICRO Session 4</b>	<b>Nano-structuring &amp; Nano-printing</b> <b>Session Chair: Ya Cheng</b> <b>NANO Session 4</b>
12:00 PM		LAM 401	MACRO 401	MICRO 401	NANO 401
12:05 PM		0186 - Laser Additive Manufacturing Processes and Systems: One Size Doesn't Fit All*	0015 - Automatically Controlled Laser-Based Welding Process for Repair Of CFRP Parts*	0190 - Quality Aspects in Percussion Laser Drilling with Ultrashort Pulses*	172 - Metal Nanostructuring inside 3D Glass Microfluidics by Hybrid Femtosecond Laser Processing for Attomolar SERS Sensing*
12:10 PM		Presenter: Brian Gibson	Presenter: Simon Hirt	Presenter: Anne Feuer	Presenter: Koji Sugioaka
12:15 PM		Start Time: 12:00 PM	Start Time: 12:00 PM	Start Time: 12:00 PM	Start Time: 12:00 PM
12:20 PM					
12:25 PM					
12:30 PM		LAM 402	MACRO 402	MICRO 402	NANO 402
12:35 PM		0117 - A Comparative Study of Filament-Fed and Blown Powder Based Laser Additive Manufacturing for Transparent Magnesium Aluminate Spinal Ceramics	0019 - Consolidation of Thermoplastic Coatings by Means of a Thulium-Doped Fiber Laser	0093 - Ultrashort Pulsewidth Fiber Laser Processing of Polymer Components	189 - Nanoscale 3D Printing of Functional Structures Using Blended Resin Mixtures with Micro/Nanojoining of Metallic Nanowires*
12:40 PM		Presenter: Xiangyang Dong	Presenter: Alexander Wittmann	Presenter: Brian Baird	Presenter: Yongfeng Lu
12:45 PM		Start Time: 12:30 PM	Start Time: 12:30 PM	Start Time: 12:30 PM	Start Time: 12:30 PM
12:50 PM		LAM 403	MACRO 403	MICRO 403	
12:55 PM		0050 - Influence of Timing Strategies on Process Stability and Deposition Accuracy in Laser Material Deposition with Coaxial Wire Feed	0087 - 2KW Nanosecond High Productive Laser Cleaning By Means of Beam Shaping	0113 - Reduction of Surface Features in Boundary Areas Between Assembled Laser Polishing Fields	
1:00 PM		Presenter: Max Fabian Steiner	Presenter: Christoph Neugebauer	Presenter: Lucas Beste	
1:05 PM		Start Time: 12:50 PM	Start Time: 12:50 PM	Start Time: 12:50 PM	
1:10 PM		LAM 404	MACRO 404		
1:15 PM		0070 - Prediction of Build Geometry for Directed Energy Deposition Using Supervised Learning Methods on Simulated Process Monitoring Data	0180 - Surface Deoxidation of Aluminium Alloys with Ns-Pulsed Laser Radiation in XHV-Adequate Atmosphere for Laser Brazing Processes		
1:20 PM		Presenter: Charles Snyers	Presenter: Witali Aman		
1:25 PM		Start Time: 1:10 PM	Start Time: 1:10 PM		
1:30 PM	<b>Networking Break: Meet the Presenters!</b> Join us in the networking area to mingle with other attendees, as well as the speakers from Session 4. 1:30PM - 2:00PM				

Note: All times listed are in Eastern Daylight Time. Peer reviewed presentations are shown in bold. Presentations ending with \* indicate invited speakers.

# WEDNESDAY, OCTOBER 20

	LAM	MACRO	MICRO
	<b>Process Monitoring and Processing High Reflectivity Alloys</b> Session Chair: Adam Hicks LAM Session 5	<b>Sensing</b> Session Chair: Barbara Previtali MACRO Session 5	<b>Beam Engineering 1</b> Session Chair: Nathan Mathew MICRO Session 5
8:00 AM	LAM 501	MACRO 501	MICRO 501
8:05 AM	0199 - Frontiers for Additive Manufacturing*	0168 - Enabling E-mobility - With Laser Welding and Sophisticated Sensor Technology to Guaranteed Quality*	0195 - Femtosecond Pulsed Laser Processing By Using Adaptive Optics Based on a Deep Learning Method*
8:10 AM	Presenter: Jennifer Wolk Start Time: 8:00 AM	Presenter: Markus Kogel-Hollacher Start Time: 8:00 AM	Presenter: Satoshi Hasegawa Start Time: 8:00 AM
8:15 AM			
8:20 AM			
8:25 AM			
8:30 AM	LAM 502	<b>MACRO 502</b>	MICRO 502
8:35 AM	0032 - Sensing of Lack-of-Fusion and Key-Holing Processing Regimes during Laser-Based Powder Bed Fusion Additive Manufacturing of Inconel 625	<b>0071 - Eddy Current Detection of Laser-Dispersed Markers as a New Approach to Determining the Position of Load Supporting Means</b>	0022 - Single Pass Cleaving of Ultrafast Laser Modified C-Shaped Glass Edges
8:40 AM	Presenter: Christopher Stutzman Start Time: 8:30 AM	Presenter: Tjorben Griemsmann Start Time: 8:30 AM	Presenter: Daniel Flamm Start Time: 8:30 AM
8:45 AM			
8:50 AM	LAM 503	MACRO 503	MICRO 503
8:55 AM	<b>0037 - Material Loss Analysis in Glass Additive Manufacturing by Laser Glass Deposition</b>	0122 - OCT Solutions for E-Mobility Welding Applications	0139 - Aberration-Free High NA Focusing In Transparent Media at Depth up to 4 mm
9:00 AM	Presenter: Khodor Sleiman Start Time: 8:50 AM	Presenter: Jan Hermani Start Time: 8:50 AM	Presenter: Alexander Laskin Start Time: 8:50 AM
9:05 AM			
9:10 AM	LAM 504	MACRO 504	MICRO 504
9:15 AM	0145 - Laser Powder Bed Fusion Additive Manufacturing of Copper Vapor Chambers	0088 - Solution for Real Time Sensor Guided PLControl of Galvanometer Scanners	0061 - Glass Tube Cleaving with Phase-Corrected Non-diffracting Laser Pulses
9:20 AM	Presenter: Adnen Mezghani Start Time: 9:10 AM	Presenter: Sabine Nieke Start Time: 9:10 AM	Presenter: Daniel Flamm Start Time: 9:10 AM
9:25 AM			
9:30 AM	<b>Networking Break: Meet the Presenters!</b> Join us in the networking area to mingle with other attendees, as well as the speakers from Session 5. 9:30AM - 10:00AM		
	<b>AM of Reflective Materials</b> Session Chair: Dongdong Gu LAM Session 6	<b>Emerging Technologies</b> Session Chair: Mark Zediker MACRO Session 6	<b>Beam Engineering 2</b> Session Chair: Florian Kiefer MICRO Session 6
10:00 AM	LAM 601	MACRO 601	MICRO 601
10:05 AM	0183 - Laser Additive Manufacturing of High Reflectivity Alloys*	<b>0140 - Applying Edge Artificial Intelligence to Closed Loop Real Time Control and Monitoring of Laser Based Battery Pack Welding*</b>	0191 - Ultrafast Laser Writing Deep inside Silicon*
10:10 AM	Presenter: Mihaela Vlasea Start Time: 10:00 AM	Presenter: Benat Arejita Start Time: 10:00 AM	Presenter: David Grojo Start Time: 10:00 AM
10:15 AM			
10:20 AM			
10:25 AM			
10:30 AM	LAM 602	MACRO 602	MICRO 602
10:35 AM	0092 - New Developments in Metal Additive Manufacturing (Green Laser & 500C) - LMF	<b>0081 - In Situ X Ray Observation of Keyhole Dynamics for Laser Beam Welding of Stainless Steel with 16kW Disk Laser</b>	0108 - Ultrashort Pulse Micro Material Processing Using a Hollow Core Fiber
10:40 AM	Presenter: Roland Spiegelhalter Start Time: 10:30 AM	Presenter: Yuji Sato Start Time: 10:30 AM	Presenter: Axel Fehrenbacher Start Time: 10:30 AM
10:45 AM			
10:50 AM	LAM 603	MACRO 603	MICRO 603
10:55 AM	<b>0103 - Development of High Intensity Multi-Beam Laser Metal Deposition System with Blue Diode Lasers for Additively Manufacturing of Copper Rod</b>	0138 - Multi-Spot Optics for Beam Shaping of High-Power Single-Mode and Multimode Lasers	0147 - High Sharpness Top-Hat Laser Beam Shaping for Low Taper Drilling With Femtosecond Laser
11:00 AM	Presenter: Kazuhiro Ono Start Time: 10:50 AM	Presenter: Alexander Laskin Start Time: 10:50 AM	Presenter: Gwenn Pallier Start Time: 10:50 AM
11:05 AM			
11:10 AM	LAM 604	MACRO 604	MICRO 604
11:15 AM	0094 - Laser Metal Deposition of High Reflective Materials	<b>0106 - Off-Axis Laser Beams for Welding Efficiency</b>	0155 - High Power Femtosecond Laser for Parallel Processing
11:20 AM	Presenter: Roland Spiegelhalter Start Time: 11:10 AM	Presenter: Nick Goffin Start Time: 11:10 AM	Presenter: Eric Mottay Start Time: 11:10 AM
11:25 AM			
11:30 AM	<b>Networking Break: Meet the Presenters!</b> Join us in the networking area to mingle with other attendees, as well as the Session 6 and Poster presenters. 11:30AM - 12:30PM		
12:30 PM	Welcome and Introduction		
12:50 PM	PLENARY I Laser Technology for Realizing the Ultrahigh Intensity of 10 <sup>23</sup> W/cm <sup>2</sup> Presenter: CHANG HEE NAM		
1:20 PM	Introduction PLENARY II Science Fiction 3D Made Real Presenter: DANIEL SMALLEY		
2:00 PM	<b>Last Chance Networking!</b> Meet the closing plenary speakers and say farewell to your friends and colleagues until fall of 2022! 2:00PM - 2:30PM		

Note: All times listed are in Eastern Daylight Time. Peer reviewed presentations are shown in bold. Presentations ending with \* indicate invited speakers.