

NOLAMP20	Day-1: Tuesday, 26th August		
07:15 - 08:00	REGISTRATION OPEN FROM 07:15		
08:00 - 08:10	Venkata K Nadimpalli, DTU- Conference Chair's Welcome to NOLAMP20		
08:10 - 08:30	Jesper Hattel, DTU- Presentation titled 'Laser processing research'		
	Keynote: Roland Logé, École Polytechnique Fédérale de Lausanne (EPFL)		
08:30 - 09:20	Control of defects and microstructures in Laser Powder Bed Fusion through the design of advanced thermal paths combined with in situ monitoring. Chair Person: Venkata K Nadimpalli		
	Parallel sessions		
	Session name: <i>Laser Powder Bed Fusion -1</i>	Session name: <i>Acoustic emission based process control</i>	Session name: <i>Industry talks -1</i>
	Chair: Roland Logé, EPFL	Chair: Fredrik Sikström, Unviersity West	Chair: Ivan Bunaziv, SINTEF
	Aud 71	Aud 72	Aud 74
09:20 - 10:30	09:30 - 09:50 Invited. Metal lightweight features processed by powder bed fusion additive manufacturing: Process, microstructure and dimensional dependency, Li Yang, University of Louisville (P-ID 2)	09:30 - 09:50 Magnetic Levitation for Laser Processing, <i>Mads Augustinus Frøhlich, Aalborg University (P-ID 30)</i>	09:30 - 09:50 Civan Laser, Industry talk , Dynamic Beam Shaping Enables Laser Welding of Aluminum Die-Cast Parts, Ole Hill
	10:10 - 10:30 Non-peer reviewed. Microstructural engineering of 316L stainless steel processed by laser powder bed fusion by pulsed laser deposition, <i>Jayant Barode</i> , DTU	09:50 - 10:10 Assessment of laser weld bead quality via acoustic emission and optical coherence tomography, <i>Li-Wei Hsu, University of Turku (P-ID 37)</i>	09:50 - 10:10 Optiprim, Industry talk , Process Developments in Additive Manufacturing: Boosting Productivity with Enhanced Quality and Unique Laser Source Capabilities, <i>Dmitry Badyukov</i>
	10:10 - 10:30 Role of cell structure in early-stage strengthening of L-PBF stainless steel 316L, Xiaobo Wang, DTU(P-ID 17)	10:10 - 10:30 Evaluation of Acoustic Emission as a Predictor of Laser Power in Laser Welding, <i>Henrique Hiram Libutti-Núñez, University of Turku (P-ID 41)</i>	10:10 - 10:30 PRIMES, Industry talk , Towards Systematic Characterization of Ring-shaped Laser Beams, <i>Visheet Arya</i>
10:30 - 10:50	Coffee Break		
	Session name: <i>New materials in laser-based AM</i>	Session name: <i>AI-applications in laser-processing</i>	Session name: <i>Laser cutting and welding</i>
	Chair: Dermot Brabazon, Dublin City University	Chair: Franck Brückner, Fraunhofer Institute, Dresden	Chair: Morten Kristiansen, AAU
10:50 - 12:10	10:50 - 11:10 Laser melt injection of niobium carbide on aluminium bronze substrates for enhanced cavitation erosion resistance, <i>Annika Bohlen, BIAS Gmbh (P-ID 7)</i>	10:50 - 11:10 Beam Offset Detection in Laser Stake Welding of T-Joints Using a Convolutional Neural Network, <i>Morgan Nilsen, University West (P-ID 35)</i>	10:50 - 11:10 Non-peer reviewed. Formation of the vapor plume during deep penetration laser welding of stainless steel, aluminium, and copper, <i>Johannes Wahl</i> , University of Stuttgart
	11:10 - 11:30 Process parameter windows and their effect on achieved bead geometry and dilution using laser directed energy deposition wire method and 1100 M high strength steel, <i>Sami Westman, LUT (P-ID10)</i>	11:10 - 11:30 Enhanced Gap Classification in Laser Welding of Butt Joints Using Transfer Learning and Lightweight CNNs, <i>Fredrik Sikström, Yongcui Mi, University West (P-ID 36)</i>	11:10 - 11:30 Non-peer reviewed. A review and study of dross formation in laser cutting of thin stainless steel sheets, <i>Galing Tirtojati Suwito, Luleå University of Technology</i>
	11:50 - 12:10 Non-peer reviewed. Predictive Modeling of Laser Powder Bed Fusion & DED Using Gaussian Processes, <i>Sebastian Basterrech, DTU</i>	11:30 - 11:50 CNN-Based Wire Monitoring in LW-DED: Correlation with Surface Metrology, <i>Reza Asadi, Tampere University (P-ID 39)</i>	11:30 - 11:50 Non-peer reviewed. A Review and Study on Laser Welding of Thin Metallic Sheets, <i>Love Owoje John</i> , Luleå University of Technology
	11:30 - 11:50 Recycling of Stainless Steel Milling Chips for Additive Manufacturing: A Three-Stage Comminution Approach Using a Fine Impact Mill, <i>Max Bigler, Fraunhofer IPK (P-ID 14)</i>	11:50 - 12:10 A Deep Learning Approach for Predicting Surface Topography in Laser Powder Bed Fusion (PBF-LB) Additive Manufacturing, <i>Shuo Shan, DTU (P-ID 42)</i>	11:50 - 12:10 Abstract. Parameter optimization of fiber laser cladding of IN-625 Superalloy on HSLA steel. <i>Hitesh Kumar, NTNU</i> . <i>Abstract available on the NOLAMP20 website.</i>
12:15 - 13:00	Lunch		
13:00 - 13:50	Keynote: Chu Lun Alex Leung, University College London (UCL)		
	Synchrotron X-ray Imaging – a powerful tool to unravel complex phenomena occurring during additive manufacturing. Chair person: Sankhya Mohanty, DTU		
13:50 - 14:10	Coffee Break and session change over		
	Session name: <i>Post-processing, Repair and Remanufacturing</i>	Session name: <i>Process control in Laser-based Manufacturing</i>	
	Chair: Li Yang, University of Louisville	Chair: Chu Lun Alex Leung, UCL	
14:10 - 15:30	14:10 - 14:30 Additive Repair of Cast Iron Materials using Coaxial Laser Wire Cladding, Ulf Jasnau, <i>OSCAR-PLT Gmbh (P-ID 9)</i>	14:00 - 14:30 Invited. Laser Integrated Manufacturing – A benchmark, Morten Kristiansen, Aalborg (P-ID 27)	
	14:30 - 14:50 Effects of Laser Polishing on Surface Roughness and Corrosion Properties on Laser Welds as Post-Treatment, <i>Inka Väisänen, UTU (P-ID18)</i> . Presented by Aki Piironen.	14:30 - 14:50 Stochastic analysis of multispectral data during laser beam welding of stainless steel with varying gap sizes, <i>Patrick Meyer, Fraunhofer ILT (P-ID 29)</i>	
	14:50 - 15:10 Effect of Laser Cleaning on EH36 Steel Surface Quality in Maritime Industry Applications, <i>Eter Tourunen, UTU (P-ID 20)</i> . Presented by Aki Piironen.	14:50 - 15:10 (Moved to 15:10-15:30). Heat flux measurement, a tool for laser beam welding process monitoring – preliminary study, <i>Andrey Mityakov, UTU (P-ID 38)</i> . Presented by Aki Piironen.	
	15:10 - 15:30 Advanced synchrotron micro characterization of laser post-processed plasma sprayed LLZO solid-state battery electrolyte, <i>Arman Hasani, UTU (P-ID 22)</i>	15:10 -15:30 (Moved to 14:50-15:10). Beam Shaping to Control Weld Pool Oscillations, <i>Sebastian Ejlskov Schrøder, Aalborg University (P-ID 34)</i> .	
16:00 - 17:00	Laboratory Tour at DTU Construct		
17:45 - 21:00	Dinner -1: Restaurant Charlottenlund Fort, Strandvejen 150, 2920 Charlottenlund. Busses to restaurant depart at 17:45 at the parking lot in front of the conference venue. Busses FROM the restaurant with distinct destinations to either CPH or DTU Lyngby.		

NOLAMP20	Day-2: Wednesday, 27th August		
08:00 - 08:30	Welcome and Coffee		
08:30 - 09:20	Keynote: Bianca Maria Colosimo, Politecnico di Milano		
	From Data to Insight: Leveraging AI for In-Situ Process Modeling, Monitoring, and Control in Additive Manufacturing. Chair person: David B Pedersen, DTU		
	Session name: Laser Powder Bed Fusion -2	Session name: Intelligent Additive Manufacturing	Session name: Laser Powder Bed Fusion -3
	Chair: Aki Piironen, UTU	Chair: Bianca Maria Colosimo, PoliMi	Chair: Iñigo Flores Ituarte, Tampere University
	Aud 71	Aud 72	Aud 74
09:20 - 10:30	09:30 - 09:50 Non-peer reviewed. An analytical approach correlating high-productivity L-PBF process parameters, surface roughness and fatigue strength , Giuseppe Macoretta , University of Pisa	09:20 - 09:50 Invited. Modelling of additive manufacturing with the finite element method; Industrial applications, Andreas Lundbäck , Luleå University of Technology	9:30 - 9:50 Comparative Corrosion Performance of additively and conventionally manufactured AISI 316L Stainless Steel in Molten FLiNaK Salt at 700 °C, Oliver Jensenius Schollert, DTU (P-ID 19)
	09:50 - 10:10 Non-peer reviewed. Microstructural evolution and optimization of additively manufactured high-carbon tool steels, Vania Marisol Rodriguez Herrejon , DTU	09:50 - 10:20 (Moved to Day 3 at 10:10 - 10:40) Invited. High-fidelity simulation of melt pool dynamics in powder bed fusion using laser beam shaping, Mohamad Bayat , DTU	9:50 - 10:10 Investigating the Effect of Laser Power and Scanning Strategy on Porosity in PBF-LB of 316L Stainless Steel, Mojtaba Miri Beidokhti, UTU (P-ID 21)
			10:10 - 10:30 Microstructural and geometric characteristics of interfaces in functionally graded 17-4PH stainless steel fabricated by laser powder bed fusion, Simon Bischof Mahnkopf, DTU (P-ID 24)
10:30 - 10:50	Coffee Break and previous sessions continue		
10:50 - 11:20	10:50 - 11:20 Invited. Metal Additive manufacturing using Powder Sheets (MAPS): technology review within the contest of the state of the art and future perspectives, Arnoldas Sasnauskas, Rocco Lupoi, The University of Dublin Trinity College (P-ID 1)	10:50 - 11:20 Invited. Cutting-Edge Advances in Laser Wire Directed Energy Deposition and Process Control, Fredrik Sikström , University West	
11:20-12:10	Keynote: Dermot Brabazon, Dublin City University (DCU)		
	Laser processing for nano and micro-scale structuring. Chair person: Jesper H. Hattel, DTU		
12:15 - 13:00	Lunch + coffee		
	Session name: Laser Welding		
	Chair: Alexander Kaplan, LTU		
13:00 - 14:00	13:00 - 13:20 Investigation of resistance and intermetallic layer formation in laser-welded joints between Copper and AM Aluminium for electrical connections, Aki Piironen, UTU (P-ID 26)	Workshop: coorganised with European Welding Federation: “Smart Laser Processing in Action: Monitoring, Digitalisation & Materials Innovation”	
	13:20 - 13:40 Reduction of transverse hot cracking in laser welds of aluminium sheets by residual compressive stresses induced by forming of near-surface embossings, Johannes Michel, University of Stuttgart (P-ID 11)		
	13:40 - 14:00 Effect of joint-edge quality on mechanical properties of the laser welded IN718, Saeid Parchegani, UTU (P-ID 12)		
14:00 - 14:10	Short break		
14:10 - 15:00	14:10 - 14:30 Viability of laser-based welding of T-joints made from 5xxx aluminium alloys, Ivan Bunaziv, SINTEF (P-ID 16)		
	14:30 -14:50 Influence of laser power on the melt pool shape of handheld laser beam welding of 1.5 mm thickness micro alloyed steel, Raphael Marquardt, Fraunhofer IPK (P-ID 15)		
15:00 - 15:15	Beverage to go		
15:15 - 16:00	Bus transport to activity		
16:00 - 18:00	Social Activity. Outdoor in Copenhagen. Bus transport to event. The event starts/end at restaurant.		
18:00-21:30	Dinner-2: IDA Conference Center, Kalvebod Brygge 31, 1560 København		

Workshop: coorganised with European Welding Federation: “Smart Laser Processing in Action: Monitoring, Digitalisation & Materials Innovation”

NOLAMP20	Day-3: Thursday, 28th August		
08:30 - 09:20	Keynote: Manyalibo Matthews, Lawrence Livermore National Laboratory (LLNL)		
	Laser-based Materials Processing for Inertial Confinement Fusion Systems. Chair person: Dorte J. Jensen, DTU		
	Session name: Novel Laser processing strategies	Session name: Simulation of laser-matter interactions	Session name: Industry talks -2
	Chair: Jörg Volpp, University West	Chair: Mohamad Bayat, DTU	Chair: Xiaobo Ren, SINTEF
	Aud 71	Aud 72	Aud 74
09:20 - 10:30	09:30 - 09:50 Effect of laser remelting on microstructure in stainless steel 17-4 PH fabricated by laser powder bed fusion, Zhihao Pan, DTU (P-ID 8)	09:30- 09:50 Numerical modelling of phase changes in laser materials processing using OpenFOAM, Ivan Bunaziv, SINTEF (P-ID 6)	09:30 - 09:50 DTI, Industry Talk. Conceptual Development of a Decision-Support Tool for Sustainable Laser Processing Strategies, Magdalena S Müller
	09:50 - 10:10 AM by scanned laser melting of binder-based metal powder sheets, Alexander Kaplan, Luleå University of Technology (P-ID 4)	09:50 - 10:10 Thermo-mechanical simulations for displacement prediction in Laser Direct Energy Deposition Wire, Sami Westman, LUT (P-ID 31)	09:50 - 10:10 Flow3D, Industry Talk. High-Fidelity Simulations of Laser Beam Shaping for Automotive Welding Applications, Tin Brdnik
	10:10 - 10:30 Laser Micro-Wire Cladding: From Fundamental Mechanisms to Application, Paul Gruber, Luleå University of Technology (P-ID 13)	10:10 - 10:30 (Moved to Day 2 at 09:50 - 10:20) Simulation-based prediction of the thermal process emission measured by pyrometry of 316L stainless steel, Tobias Baranzke, Aconity3D Gmbh (P-ID 33)	10:10 - 10:30 Precitec, Industry Talk. Additive Manufacturing on a Higher Level - Final Steps in DED Towards First Time Right, Markus Kogel-Hollacher . Abstract available on the NOLAMP20 website.
10:30 - 10:50	Coffee Break		
	Session name: New Materials and Measurement Techniques	Session name: Sensors in laser-based AM processes	
	Chair: Manyalibo Matthews, LLNL	Chair: Andreas Lundbäck, Luleå Tekniska Universitet	
10:50 - 12:20	10:50 - 11:10 Stagnating surface tension below boiling temperature during laser illumination, Jörg Volpp, University West (P-ID 3)	10:50 - 11:10 Evaluating in-situ melt pool monitoring for defects detection in laser powder bed fusion, Muhammad Hassan Maqsood, LUT (P-ID 28)	
	11:10 - 11:30 Investigating intrinsic material properties of additively manufactured materials via laser interferometry, Giuseppe Macoretta, Univeristy of Pisa (P-ID 23)	11:10 - 11:30 Fine detection of process state and secondary process emissions in laser powder-bed fusion (LPBF) by dual acoustic sensor acquisition and machine learning, Roland Axel Richter, Empa (P-ID 32)	
	11:30 - 11:50 Characterization of structural and magnetic phase transformations in Ni-Mn-Ga magnetic shape memory alloys built via laser powder bed fusion, Meysam Norouzi-Inallu, LUT (P-ID 5)	11:30 - 11:50 Data-driven benchmarking methodology for evaluating PBF-LB/M machines with RMSD Analysis, Usama Nadeem, UTU (P-ID 40) . Presented by Aki Piironen.	
	11:50 - 12:10 Influence of Surface Roughness on Reflectivity and Laser Ablation Resistance of Cold-Sprayed Copper Coatings, Saiful Wali Khan, IIT Ropar (P-ID 25)	11:50 - 12:20 Invited talk. Sensor-assisted Additive Manufacturing for the production of high-quality components, Franck Brückner, Fraunhofer Institute Dresden	
12:20 - 12:30	Presentation about NOLAMP21		
12:30 - 12:45	Concluding remarks and farewell by Venkata K Nadimpalli, DTU		
13:00 -	Lunch to go		