









Program

Day 1 - Thursday, 15 September 2022

	Time		Room
	09:00	Registration and welcome coffee	
	10:00	UNITE - Welcome and introduction	C60
	10:10	INSPIRE - Keynote by Lorenz Herrmann (Empa) (web.speakup.info code: 20079)	C60
	10:45	2 parallel sessions	
		Session 1: Laser-based Additive Manufacturing	
		<ul style="list-style-type: none"> 10:45 ENTER – Introductory talk to session 10:55 IGNITE and CONNECT talks 	C44
		Session 2: Robots and Automation / Process Control	
		<ul style="list-style-type: none"> 10:45 ENTER – Introductory talk to session 10:55 IGNITE and CONNECT talks 	C6
	11:45	EXCHANGE - Discussions with the session speakers	Atrium
	12:15	Lunch break	Atrium
	13:30	INSPIRE - Keynote by Erinch Sahan (DEAL) (web.speakup.info code: 25294)	C60
	14:05	DISCUSS - Small group discussions about key issues	various
	14:55	2 parallel sessions	
		Session 3: Coating and Printing	
		<ul style="list-style-type: none"> 14:55 ENTER – Introductory talk to session 15:05 IGNITE and CONNECT talks 	C44
		Session 4: Modelling and Simulation / Product Design	
		<ul style="list-style-type: none"> 14:55 ENTER – Introductory talk to session 15:05 IGNITE and CONNECT talks 	C6
	15:55	EXCHANGE - Discussions with the session speakers	Atrium
	16:30	CONCLUDE - What have we learned, what next? Award ceremony	C60
	17:00	End of conference	
	17:15	ENJOY – Conference Dinner at PrestigeBowling Dübendorf <i>Chartered bus leaves in front of the building (Sonneggstrasse)</i>	

Day 2 – Friday, 16 September 2022 – INDUSTRY WORKSHOP

	Time		Room
	08:00	Registration	
	08:30	Pitch Swiss businesses present a technical challenge they seek a new perspective on	C60
	09:30	Discussion Small group discussions with guiding questions	
		→ Maxon Challenge	D45
		→ Melexis Challenge	D11
		→ Precipart Challenge	E11
	11:00	Coffee break	
	11:30	Conclusion Summary and feedback from industry representatives	C60
	12:00	End of workshop	

Day 1 - Morning session program (10:55 – 11:45)

EXCHANGE Table Nr.	Laser-based Additive Manufacturing	
	Room: C44 Chair: Matthias Hoebel (FHNW)	
1	Advanced characterisation of additive manufacturing samples through Bragg edge imaging	IGNITE Florencia Malamud (PSI)
2	Operando tomography during laser-based powder bed fusion	IGNITE Fabrizio Verga - presenting on behalf of Malgorzata Makowska (PSI/inspire)
3	Layer-to-layer Closed-loop Control Application for Laser Powder Bed Fusion	CONNECT Baris Kavas (ETHZ)
4	Laser Additive Manufacturing of Tungsten on Steel Substrates for Fusion Reactors Applications	CONNECT Natan Garrivier (EPFL)
5	Joining Dissimilar Metals of Titanium and Stainless Steel 316L Using Directed Energy Deposition	IGNITE Di Cui (Empa)
6	Optimization of post-built annealing of Ni Alloy718 processed by powder bed fusion	IGNITE Jan Capek (PSI)
7	Alumina self healing composite enables powder bed fusion of ceramics	IGNITE Fabrizio Verga (inspire)
8	Additive manufacturing of functionally graded immiscible multi-materials: Surpassing the frontiers of structural materials development	IGNITE Indranil Basu (ETHZ)
9	Powder Cross-contamination in Multi-material Laser Powder Bed Fusion	CONNECT Caroline Pereira Martendal (ETHZ)
10	Laser Powder Bed Fusion of Metal Matrix Composite for Space Applications	IGNITE Gaëtan Bernard (CSEM)
11	Design of High-Strength Aluminum Alloys for Additive Manufacturing	IGNITE Chiara Monti (ETHZ/inspire)

EXCHANGE Table Nr.	Robots and Automation / Process Control	
	Room: C6 Chair: Nabil Ouerhani (HE-Arc)	
12	CAD data in robot programming	CONNECT Norman Urs Baier (BFH)
13	Learning from Demonstration for Collaborative Robots	IGNITE Loïck Jeanneret (HE-Arc)
14	Skill based Robotic Task Modelling and Execution	CONNECT Congyu Zhang Sprenger (BFH)
15	Flexible task planner	CONNECT Thomas Ribeaud (BFH)
16	State Estimation for Safety Critical Systems with Incomplete Knowledge of the System Dynamics	CONNECT Simon Muntwiler (ETHZ)
17	Industrial fabrication of CNT transistors	IGNITE Natanael Lanz (ETHZ)
18	Expanding on X,Y & Z : Design and build of an 8 Axis 3D printing system.	CONNECT Fergal Coulter (ETHZ)
19	Fabrication of carbon micro mold for high temperature imprinting	CONNECT Muhammad Refatul Haq (PSI)
20	Shaping porous monoliths by pressing metal-organic frameworks (MOFs)	CONNECT Vikram Karve (HE-Valais)
21	Metal surface functionalization by ablation with ultra short pulsed laser machines	CONNECT Anneke Orlandini (SUPSI)
22	High dielectric permittivity elastomer that respond to, generate, and store electricity	IGNITE Dorina Maria Opris (Empa)
23	Characterization of QCL Frequency Combs under Strong Injection Locking	CONNECT Alessio Cargioli (ETHZ)

Day 1 - Afternoon session program (15:05 – 15:55)

EXCHANGE Table Nr.	Coating and Printing	
	Room: C44 Chair: Jakob Heier (Empa)	
1	Synthesis and characterization of the ternary nitride semiconductor Zn₂VN₃: combinatorial screening of Zn-V-N phase space	IGNITE Siarhei Zhuk (Empa)
2	Laser Patterned Flexible 4T Perovskite-Cu(In,Ga)Se₂ Tandem Mini-module with over 19% efficiency	CONNECT Radha Krishnan Kothandaraman (Empa)
3	Slot-die coating for perovskite solar cells	CONNECT Severin Siegrist (Empa)
4	Exceeding 30% Solar Cell Efficiency with Low-Cost, Earth-Abundant Perovskite-Silicon Tandem Solar Cells	IGNITE Christian Wolff (EPFL)
5	Challenges for the preparation of combinatorial libraries based on vapor-based and solution-based coating	CONNECT Alexander Wiczorek (Empa)
6	A Universal Approach for Room-temperature Printing and Coating of Two-dimensional Materials	IGNITE Sina Abdolhosseinzadeh (Empa)
7	Inks for direct ink writing of dielectric elastomer transducers	CONNECT Patrick Marcel Danner (Empa)
8	Photoreversible Resins For Digitally Printed Protective Films	CONNECT Morris Wolf (Empa)
9	High-Resolution and Highly-Scaled Gravure Printing	CONNECT Mohammad Jafarpour (EPFL/Empa)
10	Projection stereolithography for biocompatible microfluidics	IGNITE Florent Boudoire (CSEM SA)
11	Multiphoton photopolymerization using upconversion nanoparticles for tunable high-resolution printing	IGNITE Qianyi Zhang (EPFL)

EXCHANGE Table Nr.	Modelling and Simulation / Product Design	
	Room: C6 Chair: Mamzi Afrasiabi (ETHZ)	
12	Modeling Residual Stresses in Additive Manufacturing with μSpectre	CONNECT Ekin Kubilay (EPFL)
13	Towards mesoscale modelling of laser Additive Manufacturing	CONNECT Giandomenico Lupo (EMPA)
14	Data-driven thermal modelling in Additive Manufacturing	IGNITE Iason Sideris (ETHZ/CSEM)
15	Towards Digital Twin for Metal Additive Manufacturing Systems: Physics Informed Neural Networks for Real-time Simulation	IGNITE Ehsan Hosseini (Empa)
16	Computational Method for Evaluating Fracture-Fixation Stability of Complex Bone Fractures	IGNITE Simon Comtesse (ETHZ)
17	Recycling of nickel-based superalloy turbine blades in additive manufacturing	CONNECT Carina van der Linde (ETHZ)
18	Additive Fabrication of Microsupercapacitors with Record High Electrochemical Performance	IGNITE Amin Hodaie (EPFL)
19	4D printing of reusable buckling-induced architected Fe-SMAs for energy dissipation	IGNITE Ali Jafarabadi (Empa)
20	4D printing of next generation mechanisms for space applications	IGNITE Vaclav Pejchal (CSEM)
21	Enhancement of reaction times for variable stiffness cardiac catheters	CONNECT Yegor Piskarev (EPFL)
22	Antibacterial and High Efficient Air Filter Media Consisting of Silver-coated Glass Wool Fibers by Dopamine-mediated in-situ Deposition Method	IGNITE Yizhou Zhang - presenting on behalf of Zhaoxia Sun (ETHZ)

DISCUSS – Topics, groups, locations

Upscaling of new technology	
Moderator: Matthias Hoebel (FHNW)	
Room: D45	
Sina Abdolhosseinzadeh	Jakob Benz
Hilal Can	Urs Hofmann
Aigoul Schreier	Daniel Rosenfeld
Kaoutar Radi	

Modelling and simulation for research in advanced manufacturing	
Moderator: Léa Deillon (ETHZ)	
Room: D45	
Congyu Zhang Sprenger	Iason Sideris
Giandomenico Lupo	Thierry Hessler
Ekin Kubilay	Andaç Özsoy
Simon Comtesse	

Access to analytics and testing facilities	
Moderator: Sebastian Siol (Empa)	
Room: D11	
Gaëtan Bernard	Fabrizio Verga
Fan Fu	Jan Capek
Pierangelo Gröning	Anneke Orlandini
Babak Mazinani	

Collaborations across research institutions	
Moderator: Manuel Kugler (SATW)	
Room: D11	
Bernhard Weisse	Julien Gateau
Federico Ciotti	Silvan Bruhin
Fergal Coulter	Muhammad Refatul Haq
Xavier Aeby	

Benefits and challenges of using AI tools in advanced manufacturing	
Moderator: Ehsan Hosseini (Empa)	
Room: E11	
Thomas Ribeaud	Yunong Lin
Yegor Piskarev	Loïck Jeanneret
Simon Muntwiler	Enrico Tosoratti

Benefits and challenges of using AI tools in advanced manufacturing	
Moderator: Nabil Ouerhani (HE-Arc)	
Room: D1	
Fatemeh Farsijani	Andre Butzerin
Norman Urs Baier	Natanael Lanz
Patrick Beutler	Michael Tucker

Research freedom versus impact on the industry and society	
Moderator: Lars Sommerhäuser (Empa)	
Room: D1	
Florent Boudoire	Qianyi Zhang
Radha Krishnan Kothandaraman	Ashwani Kumar
Natan Garrivier	Morris Wolff

Research freedom versus impact on the industry and society	
Moderator: Lorenz Herrmann (Empa)	
Room: E51.1	
Vaclav Pejchal	Mamzi Afrasiabi
Siarhei Zhuk	Andras Borosy
Johannes Vögerl	Florencia Malamud

Collaborations across research institutions	
Moderator: Stephan Fahlbusch (Empa)	
Room: E51.1	
Caroline Pereira Martendal	Indranil Basu
Ali Jafarabadi	Yizhou Zhang
Alexander Wiczorek	Vikram Karve

Collaborations across research institutions	
Moderator: Bruno Studach (EPFL)	
Room: E39	
Di Cui	Sergei Egorov
Patrick Marcel Danner	Andrea Kossinna
Reza Esmaeilzadeh	Raphael Gloor
Christian Wolff	

Interdisciplinary research	
Moderator: Jakob Heier (Empa)	
Room: E39	
Johnpaul Kurisinkal Pious	Saim Raza
Dorina Maria Opris	Kiran Michael
Amin Hodaei	Chiara Monti

Interdisciplinary research	
Moderator: Lukas Weiss (inspire AG)	
Room: E11	
Maryam Mohri	Carina van der Linde
Severin Siegrist	Baris Kavaz
Mohammad Jafarpour	Alessio Cargioli
Claire Navarre	