



AM SMART | CONFERENCE 2026

International Conference on Additive
Manufacturing of Smart Materials

14-16 September | Enschede, the Netherlands

EVENT PROGRAM

Program subject to change.

EVENT PROGRAM

MONDAY – 14 September

08:00			
09:00			
10:00	Registration opens		
11:00	AMC Tour Location: FIP Building / Duration: 30 min / Multiple timeslots *Optional event, register via Calendly link		
12:30 - 13:30	Lunch at U Parkhotel		
14:00	OPENING SESSION + KEYNOTE BY Prof. Amir Zadpoor Chaired Professor of Biomaterials & Tissue Biomechanics, TU Delft ROOM C1-2 “Meta-biomaterials - Overview, medical applications, and meta-implants”		
15:00 - 17:30	Shape Memory Alloys 1 CHAIRS: MOHAMMAD ELAHINIA DERMOT BRABAZON ROOM C1-2	Design for AM CHAIRS: TOM VAKENER VENKAT KALPATHY VENKITESWARAN ROOM C3	AM Applications 1 CHAIRS: ALI ZOLFAGHARIAN MOHAMMAD MIRZAALI ROOM C4
	PRESENTERS* Microstructure Design of Fe-Ni-Co-Al-Ti-B Shape Memory Alloys via Additive Manufacturing INVITED SPEAKER: PHILIPP KROOSS Additively Manufactured NiTi Hexagonal Honeycombs for Elastocaloric Cooling: Design, Fabrication, and Preliminary Performance Evaluation PRESENTER: IGNATIUS ANDRE SETIAWAN Shape Memory Alloy-Actuated Morphing for Green Aviation PRESENTER: MARCO RUGGIA Additive Manufacturing of Specifically Designed Multi-Principal Alloy Exhibiting Shape-Memory Behavior PRESENTER: LUCIA DEL-RÍO Effect of Heat Treatment on Microstructure and Mechanical Properties of the Wire Arc Additively manufactured Fe-based Shape Memory alloy PRESENTER: MARYAM MOHRI Lithography-based Metal Manufacturing of Nickel Titanium PRESENTER: LUCAS VOGEL	PRESENTERS* Design and process optimization of LPBF Fabricated Aluminium Lattices for Thermal Applications PRESENTER: HARSHITA GUPTA Agile Additive Manufacturing of orthoses by unlocking medium-series production with SLS and MJF technology PRESENTER: ANDRZEJ ZAKRĘCKI A Cylindrical TPMS Design Strategy for Tailored Bending and Torsion Performance PRESENTER: HOSSEIN TALEBI CT-Driven Design of Patient-Specific Graded Lattice Implants for Stress Shielding Reduction via Additive Manufacturing PRESENTER: NUMAN KHAN Emerging sustainable materials for direct-write manufacturing with new form factors PRESENTER: SHWETA AGARWALA Design and Development of a Large-Stroke Wire-Form Shape Memory Alloy Actuator PRESENTER: ALI ELTAIR	PRESENTERS* Additive Manufacturing of Thermoplastic Elastomer Structures for Soft Robotics and Biomedical Applications PRESENTER: MOHAMMAD EBRAHIM IMANIAN Towards Additive Reinforcement of FFF 3D Printed Parts PRESENTER: DANIEL KIRKMAN Plasma treatment method for improving polypropylene adhesion to thermoplastic polyurethane in print-in-place multi-material structures PRESENTER: CAROL ROBERT DERLA Internal Cavity Architecture as a Design Parameter for Magnetorheological Tunability in PDMS/CIP Magnetorheological Elastomers PRESENTER: ANNA BANDONI Additive Food Manufacturing: Materials, Machinery & Mechanics PRESENTER: LU ZHANG Multiscale reversible transforming metamaterials PRESENTER: CHIEBUKA TIMOTHY CHRISTOPHER Residual Stress Analysis in PBF-LB Parts by means of Energy Dispersive X-ray Diffraction PRESENTER: TATIANA MISHUROVA
18:00	End of activities		

***Each presentation is scheduled for 20 minutes.** You may present for a maximum of 15 minutes, which will leave 5 minutes for Q&A. You may opt to present for a shorter period to allow more time for Q&A.

EVENT PROGRAM

TUESDAY – 15 September (Morning)

08:00

Registration

09:00

KEYNOTE BY Prof. Thomas Niendorf,
Head of Metallic Materials Group, Institute of Materials Engineering, University of Kassel

ROOM
C1-2

“Shape Memory Alloys in Additive Manufacturing - Alloy Design, Microstructure and Functional Properties”

Special presentation

10:00

Coffee/tea break

10:15

Computational Modelling

CHAIRS:
SHABNAM ARBAB CHIRANI
MOHAMMAD ELAHINIA

ROOM
C1-2

PRESENTERS*

Fatigue Study of Superelastic NiTi Alloy Lattice Structures obtained via Additive Manufacturing using Finite Element Simulations

PRESENTER: LUC SAINT-SULPICE

Integration of in-situ monitoring data and geometric inspection tools for validating numerical simulations in additive manufacturing

PRESENTER: LUCAS F. SOARES

Development of a Cellular Automata Model for Grain Evolution in Laser Powder Bed Fusion

PRESENTER: QIAN ZHAO

Physics-Informed Neural Networks for Modelling the Behaviour of NiTi Lattice-Based Structures

PRESENTER: MEHRAN BAHRAMYAN

Additive Manufacturing of TPMS Structures for Elastocaloric Applications: From Simulation to Data-Efficient Process Design

PRESENTER: MICHAEL FRIES

Process-Structure-Property Relationships, Constitutive Modelling, and Fracture Analysis of FDM-Printed Onyx-FR Components under Varying Layer Height and Raster Angle

PRESENTER: AZADEH J. JAZAYERI

AM Applications 2

CHAIRS:
ABDOLLAH SABOORI
TOM VANEKER

ROOM
C3

PRESENTERS*

Additive Manufacturing Research at Nottingham Trent University

INVITED SPEAKER: RICHARD BIBB

Material extrusion using multi-axis robot-assisted printing: experimental investigation of bead shape for improved deposition

PRESENTER: CHLOÉ LINDINGRE

The Effect Of Interlayer Dwell Time on Distortion in 316L Stainless Steel Thin Walls Fabricated by Directed Energy Deposition

PRESENTER: SUKAYNA FAKHER

Custom Made CPAP Masks using Cocoon Moulding and Parametric Design

PRESENTER: JOCHEM NIJS

Laser Powder Bed Fusion (LPBF) of unsupported horizontally overhanging structures

PRESENTER: WESSEL W. WITS

Exploring the manufacturability of strut-based lattice structures through LPBF to enhance their dimensional precision

PRESENTER: FARHANUZZAMAN KHAN

AM Applications for Safety and Security

CHAIRS:
CONSTANTINOS GOULAS
EVANGELOS TSIROGIANNIS

ROOM
C5

PRESENTERS*

Introduction of TiNi shape memory alloy into Ti-based layered material additively manufactured with electron beam and wire

PRESENTER: VIRA FILATOVA

Determination of Johnson-Cook Plasticity and Damage Parameters for LPBF-Manufactured F75 (CoCrMo) Alloy

PRESENTER: U MUT ÇALIŞKAN

Multi-Rate Mechanical Response of Polymer-Based Lidinoid TPMS Structures: Direct Impact, SHPB Testing, and In-Situ Micro-CT

PRESENTER: TURKER TURKOGLU

Dynamic Response of Functionally Graded LPBF Ti-6Al-4V: Influence of Process Parameters

PRESENTER: GUHER PELIN TOKER

Solidification Cracking in Electron Beam Melted Refractory Tungsten

PRESENTER: KONDABABU KADALI

Triadic Gyroidal Lattice (TGL): Design and Additive Manufacturing of a Novel Smart Structure for Thermal Signature Reduction - A Comparative Study

PRESENTER: EVANGELOS TSIROGIANNIS

Recycled Polyamide based propellant for Hybrid Rocket Motors

PRESENTER: FRANCOIS DU RAND

12:30

Conference group photo (outside U Parkhotel building)

12:40 -
13:30

Lunch provided at U Parkhotel

CONTINUE IN NEXT PAGE.

*Each presentation is scheduled for 20 minutes. You may present for a maximum of 15 minutes, which will leave 5 minutes for Q&A. You may opt to present for a shorter period to allow more time for Q&A.

EVENT PROGRAM

TUESDAY – 15 September (Afternoon)

13:30	KEYNOTE BY Prof. Paulo Jorge Da Silva Bartolo <i>Executive Director, Singapore Centre for 3D Printing (SC3DP), Professor, School of Mechanical & Aerospace Engineering</i>				ROOM C1-2	
	“Design and fabrication of smart structures through Additive Manufacturing”					
14:10	Shape Memory Polymers <i>CHAIRS:</i> VENKAT KALPATHY VENKITESWARAN MOHAMMAD MEHRAI	ROOM C1-2	Shape Memory Alloys 2 <i>CHAIRS:</i> THOMAS NIENDORF JOSE M. SAN JUAN	ROOM C3	AM Applications 3 <i>CHAIRS:</i> EFRAIN CARREÑO-MORELLI MOHAMMAD MIRZAALI	ROOM C5
	PRESENTERS* <i>Nonplanar Additive Manufacturing: From Conformal 4D Printing to Morphing Meta-Structures</i> INVITED SPEAKER: ALI ZOLFAGHARIAN <i>Multi-Material 4D printing of Soft Magneto-Responsive Structures</i> PRESENTER: AVA GHALAYANIESFAHANI <i>Material effects on warping of support-free horizontal overhangs in FDM</i> PRESENTER: JANIS A. ANDERSONS		PRESENTERS* <i>Reconstruction of martensite variant microstructures in grains of LPBF fabricated NiTiHf actuator alloy thermally cycled under external stresses</i> INVITED SPEAKER: PETR ŠITTNER <i>Additive Manufacturing Processing and Functional Performance of Cu–Al–Ni Shape Memory Alloys</i> PRESENTER: MIKEL PÉREZ-CERRATO <i>Investigation of High-Cycle Performance of Two-Way Shape Memory Effect in NiTi Alloys via Post-training Heat Treatment</i> PRESENTER: MUHAMMAD FAKHRY HATTA		PRESENTERS* <i>From Structure to Function: Advancing Additive Manufacturing</i> INVITED SPEAKER: RICHARD HAGUE <i>Autonomous Sensing Architected Cellular Composites: Experimental Insights and Multiscale Prediction</i> PRESENTER: KUMAR SHANMUGMAN <i>Developing Pneumatic Soft Interconnected Network (SIN) Actuator for Dual-Curvature Skin-Like Deformation</i> PRESENTER: JOHN NOEE	
15:15	Coffee/tea break					
15:30 - 17:00	PRESENTERS* <i>Hybrid 3D printing enhances adhesion between silicone and rigid thermoplastic</i> PRESENTER: GIANNI STANO <i>Oxygen-Regulated UV Crosslinking as a Programmable Strategy for Swelling-Driven Shape Morphing in Extrusion-Based 4D Bioprinting</i> PRESENTER: RENZHI HU <i>In-situ alloying with shaped laser beams for microstructure engineering</i> PRESENTER: MOHAMMADREZA JANDAGHI <i>3D-printed Magnetic-Thermal Responsive Robotic Capsule for Aneurysm Treatment</i> PRESENTER: VENKAT KALPATHY VENKITESWARAN		PRESENTERS* <i>The printability and thermomechanical behaviour of NiTiCu via laser powder bed fusion</i> PRESENTER: ESLAM S. ABDELHADY <i>Effect of Volume Fraction on the Static and Cyclic Response of LPBF-Fabricated Ni-Rich NiTi Gyroid Lattices</i> PRESENTER: GUHER PELIN TOKER <i>On the Integration Between Shape Memory Effect and Superelasticity in NiTi Multi-Material Structures Fabricated by Laser Powder Bed Fusion</i> INVITED SPEAKER: CARLO ALBERTO BIFFI		PRESENTERS* <i>Processing of Fe-based, Cu-based and NiTi SMAs by Solvent-on-Granules 3D-Printing</i> INVITED SPEAKER: EFRAIN CARREÑO-MORELLI <i>In Situ Electrical Impedance Tomography for Damage Mapping in Multifunctional Architected Lattices</i> PRESENTER: AKASH DEEP <i>Mechanics-guided optimization of hybrid periodic architectures</i> PRESENTER: LUCA LIU <i>Core Technologies of Ultra-Thin Thin Film Encapsulation (UT-TFE) for Advanced Foldable AMOLED</i> PRESENTER: MUNPYO HONG	
17:50	Transport departure from U Parkhotel to dinner location					
18:30 - 21:30	Conference Networking Dinner Location: Wapen van Beckum (Beckumerkerkweg 20, 7554 PV Hengelo, Netherlands) <i>*Optional event requiring ticket</i>					
22:00	Transport departure from dinner location to U Parkhotel					
	End of activities					

***Each presentation is scheduled for 20 minutes.** You may present for a maximum of 15 minutes, which will leave 5 minutes for Q&A. You may opt to present for a shorter period to allow more time for Q&A.

EVENT PROGRAM

WEDNESDAY – 16 September (Morning)

08:00

Registration

09:00

KEYNOTE BY Prof. Dermot Brabazon

Full Professor, Dublin City University, Director of Advanced Processing Technology Research Centre & AMS-CDT

ROOM
C1-2

“Digitisation of Additive Manufacturing for Microstructure and Property Control for Nitinol”

9:40

Coffee/tea break

10:00

Shape Memory Alloys 3

CHAIRS:
AUSONIO TUISSI
THOMAS NIENDORF

ROOM
C1-2

PRESENTERS*

Improving the Reliability and Productivity of Additive Manufacturing of Cu–Al–Ni Shape Memory Alloys by Microalloying at the Melt-Pool

INVITED SPEAKER: JOSE M. SAN JUAN

Metal 4D Printing of Copper-Based Shape Memory Alloys for Thermally Activated Actuators.

PRESENTER: GARCIA CAMBANI

Piezo resistive behavior of TPU/Carbon Black TPMS Structures processed using Selective Laser Sintering

PRESENTER: PAVAN KUMAR PENUMAKALA

Effect of Post-Processing Heat Treatments on the Microstructure and Tensile Actuation of LPBF-Fabricated NiTiHf

PRESENTER: ORSOLYA MOLNÁROVA

High entropy shape memory alloys additive manufacturing: first attempt, problems and perspectives

PRESENTER: GEORGIY FIRSTOV

Multimaterial Laser Powder Bed Fusion of Ti6Al4V and NiTi Shape Memory Alloy Using CuCrZr as an Interlayer

PRESENTER: HADI MOUTABLALEH

Effects of heat treatments on the thermomechanical behavior and microstructure of nitinol produced by laser powder bed fusion

PRESENTER: MARIA BEATRICE ABRAMI

AM Applications 4

CHAIRS:
ABDOLLAH SABOORI
VENKAT KALPATHY VENKITESWARAN

ROOM
C3

PRESENTERS*

3D-Printed lower-leg sportswear for biomechanical health monitoring

PRESENTER: CAROL ROBERT DERLA

Evaluating the Potential of Direct Silicone 3D Printing Across Medical and Industrial Use Cases

PRESENTER: EMMY KERSSSEN

Post-deposition magnetization programming of 3D-printed ferromagnetic microgel-in-hydrogel composites

PRESENTER: MIRA EL AKKAWI

Shear Deformation Behaviour and Compression Load Capacity of Additively Manufactured PEEK Lattice Core Sandwich Structure

PRESENTER: SRINIVASA PRAKASH REGALLA

Laser powder bed fusion of copper-graphene composites for heat transfer applications – insights into the copper-graphene interface

PRESENTER: HYUNJONG LEE

AM Process 1

CHAIRS:
DERMOT BARABAZON
EFRAIN CARREÑO-MORELLI

ROOM
C4

PRESENTERS*

Rotating Multi-Spot Optics for Increased Track Width in DED-LB/M

PRESENTER: BENEDIKT HASKE

Effect of Process-Induced Defects on the Mechanical Behaviour of Inclined BCC Lattices Manufactured by LPBF

PRESENTER: NIMA MOSLEMY

Effect of Post-Processing Heat Treatment on the Microstructure and Mechanical Properties of SS316L-IN625 Bimetallic Deposits by Coaxial Laser Wire Directed Energy Deposition

PRESENTER: DEBANJAN DAS

Friction-based Solid-State Additive Manufacturing for the Closed-Loop Utilization of Aluminum Machining Chips

PRESENTER: KIRILL KALASHNIKOV

Investigation of Microstructural Evolution and Corrosion Resistance in Hybrid DED-Manufactured Parts

PRESENTER: SUKAYNA FAKHER

Tunable Thermal Energy Storage Using Smart Gel-Based SAT Phase Change Materials

PRESENTER: HAMED SHAKERI

Enhancing the Functional Performance of L-PBF Ti-6242: The Synergy Between Process Optimization and Surface Post-Treatments

PRESENTER: MAHTA KHORRAMIAN

12:30 -
13:30

Lunch provided at U Parkhotel

CONTINUE IN NEXT PAGE.

*Each presentation is scheduled for 20 minutes. You may present for a maximum of 15 minutes, which will leave 5 minutes for Q&A. You may opt to present for a shorter period to allow more time for Q&A.

EVENT PROGRAM

WEDNESDAY – 16 September (Afternoon)

13:30	KEYNOTE BY Dr. Mohammad Elahinia <i>Dean of the College of Engineering, University of Toledo</i>		ROOM C1-2
	“Designing the Future: Functionally Graded NiTi Alloys for Smart AM Systems ”		
14:10	AM Applications 5 CHAIRS: MOHAMMAD ELAHINIA MOHAMMAD MEHRALI	ROOM C1-2	AM Process 2 CHAIRS: TOM VANEKER MOHAMMAD MIRZAALI
	PRESENTERS* <i>Creating personalized products through 3D Food and Pharma printing</i> PRESENTER: KJELD VAN BOMMEL <i>Developing fiber reinforced thermoplastic filaments for continuous fiber additive manufacturing</i> PRESENTER: FIDEL VALEGA MACKENZIE <i>Parametric healthcare: Designing a custom 3D printed laryngectomy tube</i> PRESENTER: JELMER VEENSTRA		PRESENTERS* <i>3D and 4D printing of architected biomaterials for bone regenerative medicine</i> INVITED SPEAKER: EBRAHIM YARALI <i>Qualification Framework for Metal Additive Manufacturing: Heat Treatment optimization, and Performance Validation for Pre-Production</i> PRESENTER: SABRINE ZIRI <i>Modelling Strategies for the Determination of the Deformation Behaviour of Additively Processed Metallic Lattices</i> PRESENTER: BENAY UZER
15:15	Coffee/tea break		
15:30 - 17:00	PRESENTERS* <i>Microstructural and Interfacial Characterization of Mg–4Zn–0.4Ca Cast-Infiltrated PBF-LB Ti-6Al-4V Gyroid Composites</i> PRESENTER: MAHMOUD KHEDR <i>Embedding Architecturally Anisotropic Gyroid lattices in Polyjet Elastomers: Manufacturing Feasibility and Mechanical Limitations</i> PRESENTER: FAY RHIANNA CLAYBROOK <i>Foil-Laminated Stereolithography for High-Resolution 3D Printed Microelectronics</i> PRESENTER: DARRAGH R. WALSH <i>Cold Spray Additive Manufacturing of NiCr–Tribaloy deposits on Nimonic 80A for High Temperature Wear application</i> PRESENTER: DR. K R RAMKUMAR		PRESENTERS* <i>Additive manufacturing of multi-element thermoelectric material using laser powder bed fusion process</i> PRESENTER: VIVEK RANA <i>Overcoming the strength–ductility trade-off in LPBF-processed immiscible Fe–Cu through coherent nanoscale Cu precipitation</i> PRESENTER: AHMAD ZAFARI <i>Additive Manufacturing of Bio-Inspired Surface Lattice Designs for Enhanced Interfacial Strength in Polymer-Metal Hybrid Joints</i> PRESENTER: SANGJUN JEON <i>Additive Manufacturing of NiTi Micropillar Arrays on Silicon toward Adaptive Thermal-Management Surfaces</i> PRESENTER: DAVOUD JAFARI
17:00	Closing & Student Awards		
17:30	End of activities		

*Each presentation is scheduled for 20 minutes. You may present for a maximum of 15 minutes, which will leave 5 minutes for Q&A. You may opt to present for a shorter period to allow more time for Q&A.