

4DMDA

Conference 2022



Conference Schedule

Day 1

September 1, 2022

Session 1: 4D Biomaterials and Structures			
Presentation Time (London Time)	Presentation #	Title	Presenting Author
08:45	Conference Opening		
08:50	Keynote 1 4DMDA22-1	Possibilities and limitations of 4D biofabrication	Lenoid Ionov
09:20	4DMDA22-2	Mechanical analysis and additive manufacturing of 3D-Printed lattice materials for bone scaffolds	James Hulme, Amir Hosein Sakhaei , Mahmood Shafiee
09:40	4DMDA22-3	3D imaging of in vitro cell ingrowth on electrospun architectures using X-Ray microtomography	Atchara Chinnakorn , Yanwarute Soingoen, OrataiWeeranantan apan, Phakkhananan Pakawanit, Wiwat Nuansing
10:00	4DMDA22-4	Preparation and characterization of a PLGA-DSTNs composite material to fabricate 3D-printed scaffolds for bone tissue engineering	Samira Malekmohammadi , Mahdi Bodaghi
10:20	4DMDA22-5	Photo-crosslinked poly(caprolactone)-based systems for two-way reversible actuation	Stefano Pandini , Nicoletta Inverardi, Chiara Pasini, Maurizio Toselli, Massimo Messori, Giulia Scalet,

			Ferdinando Auricchio
10:40	4DMDA22-6	3D printed PCL/Sphene scaffolds for bone tissue engineering	Monireh Kouhi , Mohammad Khodaei, Omid Savabi, Mahdi Bodaghi
11:00	4DMDA22-7	Developing hybrid scaffolds through 3D printing and electrospinning techniques for bone tissue engineering	Sanam Mohandesnezhad , Mahmoud Azami
11:20	4DMDA22-8	3D bioprinting of Sodium Alginate/PVA/MBGNs biocomposite scaffolds for skin tissue engineering	Sheraz Ahmed , Rabia Hussain, Ahmad Khan, Abdul Wadood, Muhammad Atiq Ur Rehman
11:40 - 11:50	COFFEE BREAK		
Session 2: Composite Materials and Structures in Additive Manufacturing			
Presentation Time (London Time)	Presentation #	Title	Presenting Author
12:20	4DMDA22-10	Conductive polymeric filaments for AM: Can we rely on their performance?	Ana C. Pinho, Ana P. Piedade
12:40	4DMDA22-11	Improving the mechanical properties of additive manufactured ABS parts by using glass fibre fabrics	D.K.K. Cavalcanti , H.F.M. de Queiroz, J.S.S. Neto, M.D. Banea
13:00	4DMDA22-12	Multifunctional additive manufacturing from 3D to 4D	Ge Qi
13:20	4DMDA22-13	Passive optimization in a low-frequency square periodic metamaterial and diamond-shaped hole	Hamid Jafari , Ramin Sedaghati
13:40	4DMDA22-14	4D Textiles: bending of structures with local adherence	Hannah Kelbel , Xingwen Pan
14:00	4DMDA22-15	Analytical-numerical Simulation of 4D-structures printed with FDM	Hendrik Thölking , Ferdinand Cerbe, Michael Sinapius

14:20	4DMDA22-16	Parametric visco-hyperelastic constitutive modeling of functionally graded 3D printed polymers	Iman Valizadeha, Oliver Weeger
14:40	4DMDA22-17	Design and optimization of a novel three-dimensional auxetic structure scaffold	Masoud Shirzad, Dageon Oh, Gyeongmi Lee, Seung Yun Nam
15:00	4DMDA22-18	A comparative study of different infill percentage of the 3D printing in polylactic acid	Mojtaba Karamimoghadam, M. Lalegani Dezaki, A. Zolfagharian, M. Bodaghi
15:20	4DMDA22-19	Inelastic finite deformation beam modelling and simulation of additively manufactured lattice structures	Oliver Weeger, Iman Valizadeh, Yash Mistry, Dhruv Bhate
15:40	4DMDA22-20	Classical laminate theory for flexural strength prediction of FDM 3D printed PLAs	Shilpesh R. Rajpurohit, Harshit K. Dave, Mahdi Bodaghi
16:00	4DMDA22-21	Effect of temperature and moisture on deformation of un-symmetric laminates- Basis for applications of 4D printing of composites	Suong V. Hoa, Victor Raju
16:20	Keynote 2 4DMDA22-9	Hybridizing direct ink write and digit light processing for multi-material 4D printing	Jerry H Qi

Day 2

September 2, 2022

Session 3: 4D Printing in Robotics, Sensors, and Actuators			
Presentation Time (London Time)	Presentation #	Title	Presenting Authors
08:50	Keynote 3 4DMDA22-22	Biomimicry and 4D printing for innovative composites	Antoine Le Duigou
09:20	4DMDA22-23	4D Printing approach of bioinspired musculoskeletal systems	Yonas Tadesse
09:40	4DMDA22-24	Additively manufactured ultra-low loss microwave dielectric ceramics with tailorable properties	Avishek Ghosh
10:00	4DMDA22-25	Particle filtering device with tunable apertures; design and fabrication	Hafiz M. A. Alia , Meisam Abdi, S. Abolfazl Zahedi, Yong Sun
10:20	4DMDA22-26	4D-printed reversible shape changing components with solvent- and thermo-responsive materials	Laura Delcuse Robert , Hadrien Belkebir, Frédéric Demoly
10:40	4DMDA22-27	AMASE - Additively manufactured soft sensors for rehabilitation and robotics	Lisa-Marie Faller, Anirshu Devroy , Gregor Fritz, Mohammad Alshawabkeh
11:00	4DMDA22-28	Development of 4D printed large-stroke microgrippers	Man Qi Goi, Yousif Saad Alshebly, Marwan Nafea
11:20	4DMDA22-29	Modelling, simulation, and experiments of 4D printed twisting actuator	Muhammadzahid Pathan , Rajeshwari Devaramani, Somashekara M Adinarayanappa
11:40	4DMDA22-30	4D printing design of pre-strained bi-stable soft robotic gripper using response surface method (RSM)	Ali Zolfaghariana, Mohammad Lakhi, Sadegh Ranjbar , Mahdi Bodaghi

12:00	4DMDA22-31	Towards the control of water diffusion inside smart biomimetic actuators	Thomas Fruleux, Castro M.1, Correa D., Matsuzaki R., Le Duigou A.
12:20 - 12:30	COFFEE BREAK		
Session 4: Smart Materials in Additive Manufacturing			
Presentation Time (London Time)	Presentation #	Title	Presenting Author
12:30	Keynote 4 4DMDA22-32	4D printed programmable structures: from experiments to modeling	Giulia Scalet
13:00	4DMDA22-33	Topological design of 2D metamaterial structures with zero Poisson's ratio using SEMDOT	Yun-Fei Fu, Kai Longc, Ali Zolfagharian, Bernard Rolfe
13:20	4DMDA22-34	4D printing: Experimental comparison between different programming strategies for FDM/ FFF processed SMP	Bijaya Bikram Samal, Anita Jena, Shailendra Kumar Varshney, Cheruvu Siva Kumar
13:40	4DMDA22-35	Advantages of producing shape memory Cu-11Al-5Ni-4Fe wt% alloy using LPBF	Carolina Guerra, J. A. Ramos-Grez, I. La Fe, M. Walczak
14:00	4DMDA22-36	4D Printed programmable microstructures: from macro- to microscale	Christoph A. Spiegel, Eva Blasco
14:20	4DMDA22-37	Towards covalent adaptable microstructures by combination of two-photon laser printing and alkoxyamine chemistry	Christoph A. Spiegel, Eva Blasco
14:40	4DMDA22-38	Methodology for FDM 4D printing with thermo-responsive SMPs	Ferdinand Cerbe, Prof. Michael Sinapius, Markus Böl
15:00	4DMDA22-39	Magneto-active polymers as 4D printing soft materials	Mokaram Hosein
15:20	4DMDA22-40	Design and fabrication of SMA-based 4D printed FWMAV: a performance study	Aryaman J Singh, Siddharth Wala, Rakshith B Sreesha, Saiyadali H

			Ladakhan, Somashekara M Adinaranayanappa
15:40	Keynote 5 4DMDA22-41	4D Textiles – Design standardization of textiles based additively made adaptive structures	Thomas Gries
16:00	Conference Wrap Up		

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