Posters

Rapid Fire Poster Session:
Wednesday 20th September 2023, 11:30 – 13:00

Poster Session:
Thursday 21st September 2023, 11:10 – 12:10

Poster No.	Paper No.	Applications and Design
P1.02	**AM23126**	**Influence of surface roughness parameters of additively manufactured die on the extrudates in polymer extrusion** A.H. Aimon[1], G.Tosello[1], D.B.Pedersen[1], M. Calaon[1] *[1]Technical University of Denmark (DTU), Department of Civil and Mechanical Engineering, Kgs. Lyngby, Denmark*

Poster No.	Paper No.	AM Process Physics & Optimization
P1.03	**AM23109**	**Adaptive masking for scaffold fabrication via high-resolution vat photopolymerization** Alberto Basso[1], Javier Lopez Navas[1], Marina Artemeva[1], Anna Danielak[1] and David Bue Pedersen[1] *[1]Department of Civil and Mechanical Engineering, Technical University of Denmark*
P1.04	**AM23117**	**Porosity in CoCr components as a function of energy density** A. Mex[1], S. Barrans[2], D. Großkreutz[1], P. Bills[2] *[1]Frankfurt University of Applied Sciences, Germany* *[2]University of Huddersfield, UK*
P1.05	**AM23118**	**Optimization of electron beam melting parameters for intricate vs. bulky geometries** M. Wiele[1], M. Abulawi[1], X. Zhao[1], Z. Lin[1], C. Hulme[2], S. Dadbakhsh[1] *[1]Production Engineering Department, KTH Royal Institute of Technology, Brinellvägen 68, Stockholm 11428, Sweden* *[2]Department of Materials Science and Engineering, KTH Royal Institute of Technology, Brinellvägen 23, Stockholm 10044, Sweden*
P1.06	**AM23127**	**Improving surface finish in SLM additive manufacturing components by implementing remelting techniques** A. Tawfik[1], C. Jackson[1], O. Armitage[1], R. Cawley[1], P. Bills[1], L. Blunt[1] *Future Metrology Hub, University of Huddersfield, UK*
P1.07	**AM23128**	**The effect of part orientation on achieving minimum lattice thickness in selective laser melting additive processing** A. Tawfik[1], P. Bills[1], L. Blunt[1]. *Future Metrology Hub, University of Huddersfield, UK*

P1.08	**AM23147**	**Light-box set-up for the development of resins for vat polymerization additive manufacturing** O. Degryse[1], J.-P. Zegwaart[2], L. De Vogelaer[1], P. Dubruel[2], S. Van Vlierberghe[2,3], E. Ferraris[1] *[1]Manufacturing Processes and Systems (MaPS), Department of Mechanical Engineering, KU Leuven, Jan Pieter de Nayerlaan 5, 2860 Sint Katelijne Waver, Belgium* *[2]Polymer Chemistry & Biomaterials Group, Centre of Macromolecular Chemistry (CMaC), Department of Organic and Macromolecular Chemistry, Ghent University, Krijgslaan 281, S4-bis, 9000 Ghent, Belgium* *[3]Brussels Photonics (B-PHOT), Department of Applied Physics and Photonics, Vrije Universiteit Brussel and Flanders Make, Pleinlaan 2, 1050 Brussels, Belgium*
P1.10	**AM23156**	**Optimization of vat design in open-architecture mask-projection vat photopolymeri-zation platform using Finite Element Analysis** Ignacy Marciniak[1], Anna Danielak[1], Alberto Basso[1], Javier López Navas[1], David Bue Pedersen *[1]Department of Civil and Mechanical Engineering, Technical University of Denmark*

Poster No.	Paper No.	AM Machine Design, Performance & Control
P1.11	**AM23121**	**Preliminary geometric tests of an open-source metal laser powder bed fusion system** Magnus Bolt Kjer[1], Christian Leslie Budden[1], Venkata Karthik Nadimpalli[1], and David Bue Pedersen[1] [1]*Technical University of Denmark, Institute of Civil and Mechanical Engineering, Denmark*
P1.12	**AM23123**	**Uncertainty Analysis of an augmented industrial robot** Mojtaba Ahmadieh Khanesar, Samanta Piano, David Branson *[1]Manufacturing Metrology Team, Faculty of Engineering, The University of Nottingham, NG8 1BB, Nottingham, UK*
P1.13	**AM23138**	**Legacy laser powder bed fusion systems and obsolescence: Upgrading control systems** Sebastian Aagaard[1], Magnus Bolt Kjer[1], David Bue Pedersen[1] *[1]Technical University of Denmark*

Poster No.	Paper No.	In-Process Metrology, Machine Learning & Data Fusion
P1.16	**AM23134**	**In-situ fringe projection profilometry and spatter monitoring data fusion to predict mechanical properties in laser powder bed fusion additive manufacturing** Haolin Zhang[1], Alexander N Caputo[2], Heyang Zhang[1], Md Mahmudul Hasan[1], Chaitanya Vallabh[1], Richard W Neu[2], Xiayun Zhao[1] *[1]Department of Mechanical Engineering and Materials Science, University of Pittsburgh* *Pittsburgh, Pennsylvania 15261, USA* *[2]George W. Woodruff School of Mechanical Engineering, Georgia Institute of Technology,* *Atlanta, Georgia 30332, USA*

Poster No.	Paper No.	Metrology & Characterization
P1.17	AM23124	**A single-click automated metrology demonstrator** Adam Thompson, Sofia Catalucci, Luke Todhunter, Francisco U Hernandez Ledezma, Mojtaba A Khanesar, Zhongyi Michael Zhang, Mingda Harvey Yang, David T Branson III and Samanta Piano *Manufacturing Metrology Team, Faculty of Engineering, The University of Nottingham, NG8 1BB, UK*
P1.18	AM23132	**Investigation of focal spot blurring and its deblurring to improve the metrological structural resolution of X-ray computed tomography in the surface metrology of additively manufactured parts** X. Chen [1,2], S. Lou[1], W. Zeng[1], X. Jiang[1], P.J. Scott[1] and W. Sun[2] *[1]Future Metrology Hub, University of Huddersfield, Huddersfield, HD13DH, UK* *[2]Materials and Mechanical Metrology, National Physical Laboratory, Teddington, TW11 0LW, UK*
P1.19	AM23148	**Application of discrete Legendre polynomials for geometrical measurements of additive manufacturing parts using computed tomography** R. Santander[1,2], H. Haitjema[1], M. Janssens[2], W. Dewulf [1] *[1]Department of Mechanical – KU Leuven* *[2]Materialise NV*
P1.20	AM23153	**Dimensional accuracy of additively manufactured graded lattice structures based on X-ray microcomputed tomography** Mahmoud Osman[1,2], Fabrice Bernier[3], Priti Wanjara[2], Javad Gholipour[2], Roger Pelletier[3], Marjan Molavi-Zarandi[3], Mathieu Brochu[1] [1] *Department of Mining and Materials Engineering, McGill University, Montréal, QC, H3A 0C5, Canada* [2] *National Research Council Canada, Montréal, QC, H3T 1J4, Canada* [3] *National Research Council Canada, Boucherville, QC, J4B 6Y4, Canada*