



Editorial

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As I write this Editorial for our Progress in Additive Manufacturing issue for 06/2023, I am seated down next to the window in my room, overlooking the Messe Frankfurt showgrounds. Those of you who have travelled far and wide would have guessed it. Yes, I am here in Frankfurt for FormNext which claims to host over 840 exhibitors specializing in additive manufacturing machines, materials, software, services and applications. By the time I return back to my office, this issue would have gone out to print—all 40 papers for our bumper issue. Some interesting review articles include techniques for vapour polishing of fused deposition modelling parts, internal and external surface finishing technologies for additively manufactured metallic alloys components, large-format additive manufacturing of polymer extrusion-based deposition systems, direct ink writing progression and challenges, construction 3D printing, design and manufacturing of support structures for powder-bed fusion, and additive manufacturing with 2D MXene. There are two short communication articles that include standardization efforts of ISO/TC 261 “additive manufacturing” 21st and 22nd plenary meeting. Our full research articles include investigating the effect of process parameters for fused filament fabrication, opportunities of additive manufacturing in the creative industries, mechanical investigations on secondary recycled ABS, feasibility of using bio-mimicking fish scale textures in LPBF for water drag-reducing surfaces, additive manufacturing for the automotive industry and life-cycle environmental implications, hybrid laser metal deposition of a Fe–Cr–Mo–V–Mn tool steel for hot stamping, influence of boronizing on the wear behaviour of additively manufactured Inconel 625 alloy, fatigue life assessment of wire arc additively manufactured steel parts, enhancement of mechanical properties via post-heat treatment of AISI 630 parts, accuracy evaluation of thin wall features fabricated by fused deposition modelling, effect of post-heat treatment

on microstructure and tribological performance of AISI 410L coatings processed by laser-directed energy deposition, effect of varying unit cell size on energy absorption behaviour of TPMS PETG lattice structures, incorporation of silver nanoparticles into polyamide powder, optimization of surface roughness, build time and mechanical properties, effect of post-printing heat treatment on microstructure, corrosion and wet wear behaviour of CoCrW alloy produced by Laser-based Powder Bed Fusion, laser beam heat treatment in large-scale additive manufacturing, application of interlaminar shear strength and finite element modelling for failure analysis of continuous fibre-reinforced composites, development of high strength acrylonitrile styrene acrylate (ASA) structures using fused filament fabrication, direct 3D printing of a two-part silicone resin to fabricate highly stretchable structures, effect of particle shape on rheology and printability of highly filled reactive inks for direct ink writing, geometric characterization of orthogonally printed layers in material extrusion, support-free laser-based powder bed fusion of metals using pulsed exposure strategies, effects of powder properties on BaTiO₃ ceramic resins by stereolithography, experimental and numerical investigations on fatigue characteristics of FFF-printed acrylonitrile styrene acrylate parts, layered fibre orientation optimization for continuous fibre-reinforced polymer additive manufacturing, utilizing STEP-NC data interface model for 3D printing, transition mechanism of melt depth in vacuum during Laser-based Powder Bed Fusion, and design and mathematical modelling of polymeric phases to control microporosity. With such a diverse and interesting selection of papers, I hope this last issue for the year will serve as a good read for the coming winter break. Here is wishing all readers a Merry Christmas and a blessed New Year. Sending our best wishes from the Editorial Team, Progress in Additive Manufacturing Journal.

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