



Advanced computational engineering and experimenting

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This special issue for the Progress in Additive Manufacturing (PiAM) journal contains specially selected, blind-reviewed papers that were presented in the special session on Additive Manufacturing—Process Conduct, Material Modelling, Application and Optimization of the 15th International Conference on Advanced Computational Engineering and Experimenting (ACE-X 2022) held in Florence, Italy from July 3rd–7th, 2022.

This year's annual selection encompasses the processing of a variety of polymers as well as fiber reinforced composites with polymer matrix and traditional metals. A special focus was placed on the functional integration, predominantly resonance dampening and optimized channels and or surface features for adhesive part bonding, but also the medical needs for prostheses were covered. In addition, and more inclined to the fabrication as such, process stability in recoater driven additive manufacturing was researched, both experimentally and numerically.

Professor Markus Merkel and Dr. Leonhard Hitzler are the Guest Editors of this Special Issue:

Markus Merkel is a full professor at Aalen University at the Department of Mechanical Engineering and Material Science. His main field of interest is the design and manufacturing of lightweight metal structures. As a regular attendee to all fourteen ACE-X-conferences, he initiated a special session related to Additive Manufacturing topics in 2015.

Leonhard Hitzler is a Post-Doctoral Researcher at the Institute of Material Science at the Technical University

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of Munich (Germany). He dedicates his research efforts to the deliberate alteration of macroscopic material properties through microstructural modification, predominantly by means of Additive Manufacturing.

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Prof. Dr.-Ing. Markus Merkel

Dr. Leonhard Hitzler

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