V International Conference on Simulation for Additive Manufacturing, SIM-AM 2025
September 9-11, 2025, Pavia, Italy

POLYMER RAPID TOOLING PRODUCED WITH ADDITIVE MANUFACTURING TECHNOLOGIES MODELING AND BEHAVIOUR

LUCA GIORLEO*

*University of Brescia
Via Branze 38, Brescia, Italy
luca.giorleo@unibs.it

ABSTRACT

In today's marketplace, a substantial portion is propelled by the demand for highly personalized products with shortened production timelines. This shift towards customization has led to a move towards medium or small batch production, making traditional methods like casting and forming financially impractical due to the high initial costs for tool creation. On the other hand, manufacturing goods directly through additive manufacturing techniques can also be expensive if the production volume is in the hundreds, and this approach inherently results in longer production times due to its layer-by-layer construction method. Rapid tooling offers a hybrid solution, merging the creation of tools for traditional methods with additive manufacturing. This strategy may be the best option to achieve faster production times while maintaining the economic feasibility of conventional processes, even with reduced production volumes.

This Invited Session delves into current research in additive manufacturing technologies, tool materials, tool design, and industrial applications, emphasizing the potential of rapid tooling to revolutionize the metalworking industry.