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Welding, Joining and Additive Manufacturing: Experiments, Materials and Modelling

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Message from the Guest Editors

Dear Colleagues,

The welding and joining of materials from the perspective of newly developed materials, dissimilar and/or different geometric configurations, the use of third materials and at a reduced scale compared to conventional joining technology is always challenging task. The principle of material deposition in welding technology, extending to layer-by-layer deposition in additive manufacturing by a controlled laser source, is being explored in new manufacturing sectors. Although there are huge challenges for the development of joining technologies for newly developed materials or the precision manufacturing of complex components in single manufacturing cycles, the industry is growing towards the miniaturization of the components. Hence, the joining or manufacturing of components without any metallurgical issues, process defects and adequate surface finish are critically important for product development.

The development of competitive manufacturing technologies enforcing ecofriendliness in laser-based joining and additive manufacturing processes is one of the main foci of this Special Issue.





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Message from the Editor-in-Chief

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