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# Guest editorial: Trends in advanced materials and processes for industrial solicitations

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In the era of recent advancements and developments in the broad arena of product manufacturing and product development, the development and fruitful processing of the advanced engineering materials such as shape memory alloys, high-entropy alloys, biomaterials and advanced ceramics have emerged as an issue of utmost importance. Now-a-days, the modern industries are using these newly originated superior and excellent materials for facilitating the numerous requirements in real-time practical works. Along with the development of these advanced and typical materials, the researchers around the globe are also working to offer the alternatives and solutions towards the effective processing and joining of these materials as the conventional methods are not so productive to report these requirements.

The overall aim of this special issue is to target over the various recent advancements in newest and advanced manufacturing practices that offer several fruitful solutions while processing latest and difficult-to-machine materials used in different industrial sectors will also be focused. The ongoing researches in the domain of three-dimensional printing, advance manufacturing processes, hybrid machining, surface engineering, welding technology, casting processes, etc. have been summarized at common platform from the distinct authors around the globe. This issue may provide readers, researchers and academics with in-depth knowledge of present scenarios and future improvements in advanced materials and processing techniques along with the futuristic transformations.

This special issue consists of various manuscripts having its roots in the core of advanced materials and production engineering. This special issue provides deep insights to its readers about the current scenarios and future advancements in the domain of production engineering under context of optimum value. Modeling, optimization and their applicability in the various areas of production and manufacturing engineering like rotary ultrasonic drilling, shielded metal arc welding, functionally graded materials, laser-assisted ECM, nature-inspired algorithms for advanced and hybrid machining, wear analysis, FDM-based additive manufacturing, stir casting process for composite development, electric discharge machining for smart materials and welding have been compiled in this issue for offering the readers a better fundamental platform to explore these research domain precisely.

The Guest Editors hope that the special issue topics with the theme of “Trends in Advanced Materials & Processes for Industrial Solicitations” make the articles a coherent set that represents a good exposure of the highest quality work. Further, the guest editors hope that the contributions in this special issue provide the future reader an insight into the broad domain of advanced materials and smart processing methods in real-life applications. Last but not the least, the Guest Editors would like to express and deliver their heartiest thanks to Editor-in-Chief, Prof Yuzhuang Sun, and Editorial Assistants, Hongya Niu and Ruchita Dattaram Chavan, and the entire Emerald Publishing Group for their immense support and valuable contributions to this special issue.

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