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GUEST EDITORIAL

Special Issue Focus: Additive Manufacturing

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Additive manufacturing's (AM) unique capabilities empower this new technology with potential that is capable of revolutionizing the manufacturing industry and the way many parts and components are produced. It has the capability to make shapes and geometries impossible to obtain by any other conventional technologies, as well as to produce refined microstructures resulting from rapid cooling, which provide for products' characteristics unattainable by conventional methods of manufacture. Although various AM methods have been tested in a laboratory environment for a number of years, only recently are they being accepted and implemented by the manufacturing industry. A considerable interest in AM technologies is reflected in the increase in research activities at universities as well as government and industrial laboratories, and in a large number of conferences and publications.

The Materials Science & Technology Conference has held AM Symposia for almost ten years. The first symposium dedicated to AM technologies attracted about twenty presentations. In recent years, the AM Symposia at MS&T were typically a forum for more than 200 presentations. This issue of JMEP includes a selection of papers that were presented at the AM Symposia at MS&T'17. The submitted papers for this issue by no means represent all topics addressed at the MS&T'17 Conference, but rather they demonstrate a breadth of problems that the research community needs to study and resolve before the effects of various process variables on the AM products can be better understood.

I would like to use this opportunity to thank the JMEP Editorial Board for giving an opportunity to the speakers at the AM Symposia at MS&T'17 to publish the results of their research and make them available to a broader AM community. I would also like to express appreciation and special thanks to the authors of the papers for taking time from their busy schedules, and for their willingness to work with the editorial process and prepare their articles for publication. These papers and technical data provide valuable contributions to a better understanding of the challenges and process capabilities, process optimization, and product microstructure, properties, and performance.

I would also like to give special thanks to the MS&T Programing Committee, AM Symposia organizers, and the technical session chairs for their contribution to the continuing success of the AM Symposia.

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