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49th SME North American Manufacturing Research Conference, NAMRC 49

Preface

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Peer-review under responsibility of the Scientific Committee of the NAMRI/SME

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We are delighted and proud to present the collection of manufacturing research at the 49th North American Manufacturing Research Conference (NAMRC 49). NAMRC has a rich tradition, started by a group of distinguished manufacturing researchers, we called them Founders, in North America in 1973. After 49 years, NAMRC is recognized as a preeminent and longest-running international forum for presentations and dissemination of original basic and applied research in advanced manufacturing. Additionally, it is considered the most relevant international forum of researches of immediate industrial interest.

Manufacturing today is considered fundamental for Governments and Communities for their nations' development. Research and innovation are the main keys to empower manufacturing and to strengthen the economy of Nations and of the whole World. Such role and positioning of manufacturing research is globally represented in the quality and quantity of the 94 research papers proposed for NAMRC 49. NAMRC 49 was collocated with ASME Manufacturing Science and Engineering Conference (MSEC2021), and coordinated by the Conference Coordinating Committee (CCC) involving the host, NAMRI, ASME, and the host institution. The conference was held virtually and was hosted by the University of Cincinnati, OH, USA, June 22-25, 2021.

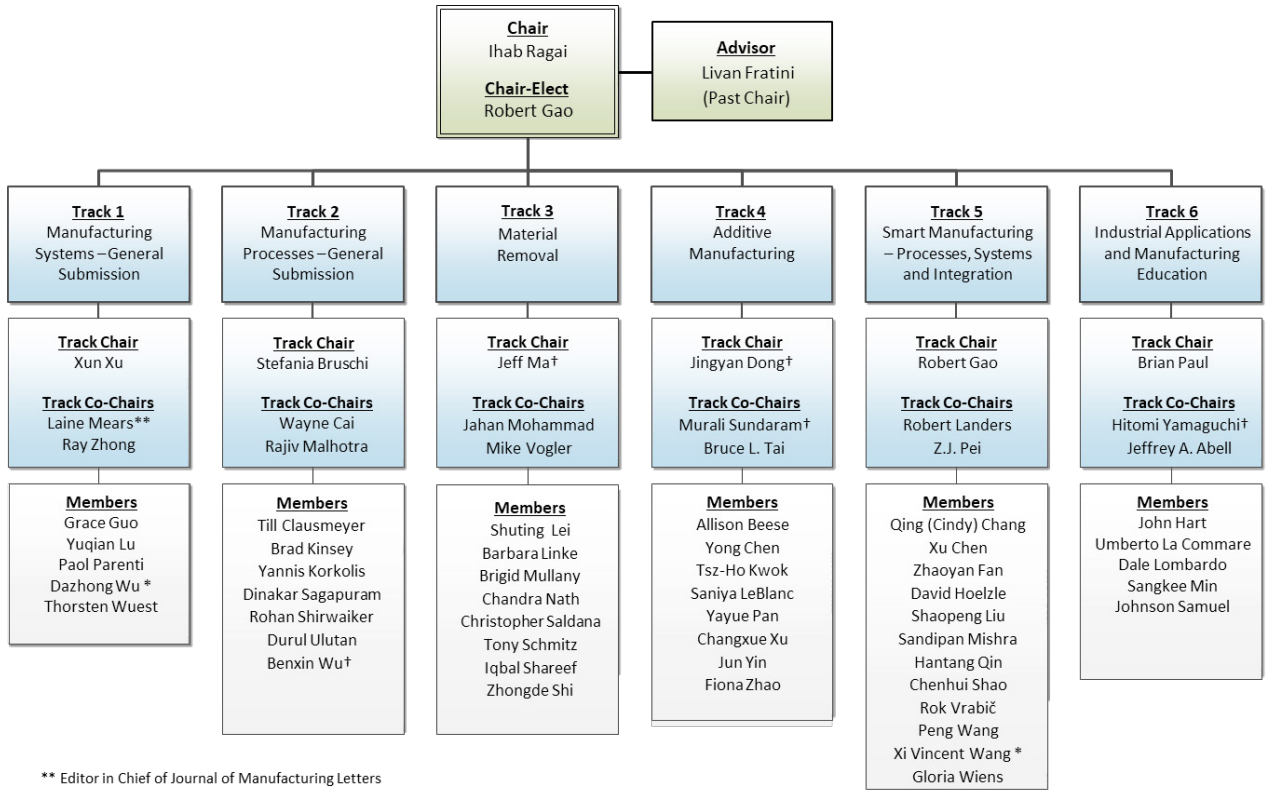
The Scientific Committee of the North American Manufacturing Research Institution of SME (NAMRI/SME) is the driving force in organizing NAMRC conference series and managing the quality publications of NAMRC papers.

The Proceedings of NAMRI/SME was published in Elsevier's *Procedia Manufacturing*, an open access venue for manufacturing conference proceedings, for the first time in 2015. The publication in *Procedia Manufacturing* has broadened the availability of NAMRC papers and helped the widespread dissemination of our manufacturing research findings. Top NAMRC papers are selected by the Scientific Committee and recommended for fast-tracking to SME's

Journal of Manufacturing Systems (JMS) and Journal of Manufacturing Processes (JMP), also published by Elsevier.

The association with *Procedia Manufacturing* shortens the lead-time of fast-tracking to JMS and JMP. In close collaboration with Professors Lihui Wang (JMS Editor) and Shiv Kapoor (JMP Editor), we have fast-tracked 3 and 1 papers from NAMRC 49 for publication in 2021 Journal of Manufacturing Systems (JMS) and Journal of Manufacturing Processes (JMP), respectively. To continue serving the manufacturing community and leverage the ties between all SME journals, starting NAMRC 50, NAMRC proceedings will be published in Special Issues of Journal of Manufacturing Letters.

The Scientific Committee of NAMRI/SME is solely responsible for NAMRC paper review and quality control. Six thematic tracks are fostered by the Scientific Committee for NAMRC 49, namely Manufacturing Systems, Manufacturing Processes, Material Removal, Additive Manufacturing, Smart Manufacturing – Processes, Systems and Integration, and Industrial Applications and Manufacturing Education, as illustrated in the organization chart in Fig. 1. Several members of the Scientific Committee also serve on JMS's or JMP's editorial board as Associate Editors who can safeguard the quality of fast-tracked NAMRC papers to the journals. The assistance and dedication of the Track Chairs, Co-Chairs and all Members are important to the Scientific Committee and crucial to the success of NAMRC 49. Their services and contributions are greatly appreciated. Finally, we would like to acknowledge the fast-tracking support of Professors Lihui Wang and Shiv Kapoor, the professional support of the NAMRI/SME Board of Directors SME staff Suzy Marzano. We also would like to recognize the publishing support of Timo Bazuin of Elsevier. With their support, we are confident and excited about the future of NAMRC conferences and our manufacturing research in general.



** Editor in Chief of Journal of Manufacturing Letters
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 † Associate Editor of Journal of Manufacturing Processes

Fig. 1. Organization of 2020-2021 NAMRI/SME Scientific Committee.

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