

## PREFACE

The Thirty-second Annual International Solid Freeform Fabrication (SFF) Symposium – An Additive Manufacturing Conference, was held on August 2-4, 2021. For the first, and hopefully the last, time, the meeting was held virtually. At the time of the conference, Texas and the United States was at the height of the initial Delta COVID-19 variant surge. There were 465 registrants from 16 countries, including 167 students. The total number of oral and poster presentations was 403. The meeting consisted of a Monday morning plenary, 56 parallel technical sessions and a poster session. The organizers provided opportunities for networking and live interaction. There were a number of advantages to the virtual format, including elimination of parallel session time conflicts and reduced meeting cost. However, the consensus was that the in-person meeting format is strongly preferred.

The recipient of the 2021 International Outstanding Young Researcher in Freeform and Additive Manufacturing Award was **Dr. Joy Gockel** from the Colorado School of Mines. **Dr. Ola Harrysson** from North Carolina State University won the International Freeform and Additive Manufacturing Excellence (FAME) Award.

There are 140 papers in this conference proceedings. Papers marked “REVIEWED” in the title area were peer reviewed by two external reviewers. The Table of Contents file and Author-Attendee file have links to all the papers. We have sequentially numbered the pages of the papers to facilitate citation. Manuscripts for this and all preceding SFF Symposia are available for free download at the conference website: <https://www.sffsymposium.org/>; select the “Proceedings Archive” pull-down menu item.

Thirteen materials-related papers were selected as best papers for inclusion in the journal *JOM* under the aegis of The Minerals, Metals & Materials Society (TMS). Five of these papers were substantially improved for the journal with the original also appearing in this proceedings. Eight were moved with only minor modification; these do not appear in the proceedings. The abstracts of these eight papers appear in the proceedings with a note referring the reader to the *JOM* full article. These thirteen outstanding papers are notated in the Proceedings Table of Contents and were published in the March 2022 issue of *JOM*.

The editors would like to thank the Organizing Committee, the session chairs, the attendees for their enthusiastic participation, and the speakers both for their significant contribution to the meeting and for the relatively prompt delivery of the manuscripts comprising this volume. We are grateful to TMS conference management staff for their significant contributions to the meeting planning and proceedings production, particularly Trudi Dunlap, Jennifer Booth and Kelcy Marini. We look forward to the continued close cooperation of the additive manufacturing community in organizing the Symposium. We also want to thank the National Science Foundation (CMMI-2005490) for supporting this meeting financially by providing 161 student registration fee waivers. The meeting was organized within the Mechanical Engineering Department and the Center for Additive Manufacturing and Design Innovation (CAMDI) at The University of Texas at Austin.

The 2022 SFF Symposium is planned to be in person on July 25-27, 2022 at the Hilton Austin Hotel in Austin, Texas USA. The conference website will become active in mid-January 2022.

The editors.