

PREFACE

The Twenty-Second Annual International Solid Freeform Fabrication (SFF) Symposium – An Additive Manufacturing Conference, held at The University of Texas in Austin on August 8-10, 2011, was attended by almost 160 researchers from 11 countries. The weather this year was notable, and participants got to experience history in the making. August was the hottest month recorded in Austin in over 100 years in the hottest summer of the hottest year. The *average* daily high temperature for the month was 104.8 °F (40.4 °C). There were only 2 days in August under 100 °F (37.8 °C), and an Austin daily record was set during the meeting on Aug. 9 (106 °F, 41.1 °C). Austin had 90 days in 2011 over 100 °F which shattered the old record of 69 days.

A special session on “Sustainability in Additive Manufacturing” was held Tuesday morning. The topics reflected the broad issues of the topic, including energy and resource efficiency, waste stream generation, thermal issues, recycling and process effects.

This year’s best oral presentation was given by **Kamran Mumtaz, Pratik Vora** and **Neil Hopkinson** from Loughborough University in the United Kingdom. Selection is based on the overall quality of the paper, the presentation and discussion at the meeting, the significance of the work and the manuscript submitted to the proceedings. The paper title was, "A Method to Eliminate Anchors/Supports from Directly Laser Melted Metal Powder Bed Processes". Selected from 76 oral presentations, this presentation appears on Page 55 of this Proceedings. The best poster presentation selected from 18 posters was given by **David Brackett, Ian Ashcroft** and **Richard Hague**, also from Loughborough University. The paper title was, "Topology Optimization for Additive Manufacturing", and the paper appears on Page 348.

The recipient of the International Outstanding Young Researcher in Freeform and Additive Manufacturing Award was **Dr. Candice Majewski**, a member of the Additive Manufacturing Research Group at Loughborough University, in the United Kingdom. **Dr. David Bourell**, Temple Foundation Professor and Director of the Lab for Freeform Fabrication at The University of Texas at Austin, won the International Freeform and Additive Manufacturing Excellence (FAME) Award.

The proceedings papers are stored individually on a flash drive in pdf format by primary author last name. 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.

The editors would like to extend a warm “Thank You” to Rosalie Foster for her detailed handling of the logistics of the meeting, as well as her excellent performance as registrar and problem solver during the meeting. Brandon Fusco is largely responsible for creation of the conference proceedings, for which we are grateful. We 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 look forward to the continued close cooperation of the additive manufacturing community in organizing the Symposium. We also want to thank the Office of Naval Research (N00014-10-1-0528) and the National Science Foundation (#CMMI- 1131662) for supporting this meeting financially. The meeting was co-organized by The University of Connecticut at Storrs, and the Mechanical Engineering Department and the Laboratory for Freeform Fabrication at The University of Texas at Austin.

The editors.