

PREFACE

The Twenty-Third Annual International Solid Freeform Fabrication (SFF) Symposium – An Additive Manufacturing Conference, held at The University of Texas in Austin on August 6-8, 2011, was attended by 170 researchers from 13 countries. A two-morning special session on “Societal Impacts” emphasized the integration of additive manufacturing into culture and society. Terry Wohlers (Wohlers Associates) presented a keynote to start the session. Of special interest were a number of talks from China organized by Professor Wei Sun who currently holds joint appointments at Drexel University and Tsinghua University in Beijing. Other presentations summarized activity in the US and United Kingdom. Brent Stucker (University of Louisville) talked about international trends including standards development. Dr. Ian Gibson from the University of Singapore closed out the session with a 20-year perspective on the development of AM with a personal bent.

This year’s best oral presentation was entitled, “Observation and Numerical Simulation of Melt Pool Dynamic and Beam Powder Interaction During Selective Electron Beam Melting”, authored by **Thorsten Scharowsky, Andreas Bauereiß, Robert F. Singer and Carolin Körner** from the Friedrich Alexander Universität Erlangen. 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. Selected from 107 oral presentations, the associated manuscript appears on Page 815. The best poster presentation selected from 18 posters was given by **Andrew Johnson, Dr. Guy Bingham** and Dr. **Candice Majewski** from the University of Sheffield and Loughborough University. Titled, “Establishing the Performance Requirements for Stab Resistant Additive Manufactured Body Armour (AMBA)”, the article appears on Page 297 of this Proceedings.

The recipient of the International Outstanding Young Researcher in Freeform and Additive Manufacturing Award was **Dr. Christopher Williams**, an assistant professor with joint appointments in the Departments of Mechanical Engineering and Engineering Education at Virginia Tech in the United States. **Dr. Jean-Pierre Kruth** won the International Freeform and Additive Manufacturing Excellence (FAME) Award. He is a professor at the Katholieke Universitaet Leuven in Belgium.

The proceedings papers are stored individually on a flash drive in pdf format by first 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. Manuscripts for this and all preceding SFF Symposia are available for free download at the Lab for Freeform Fabrication website: <http://utwired.engr.utexas.edu/lff/symposium/proceedingsArchive/toc.cfm>. 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. 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-1230744) for supporting this meeting financially. The meeting was co-organized by The University of Connecticut at Storrs, and the Mechanical Engineering Department and the Lab for Freeform Fabrication at The University of Texas at Austin.

The editors.