

PREFACE

The Seventeenth Solid Freeform Fabrication (SFF) Symposium, held at The University of Texas in Austin on August 6-8, 2007, was attended by almost 100 national and international researchers from 8 countries. Papers addressed SFF issues in computer software, machine design, materials synthesis and processing, and integrated manufacturing. The diverse domestic and foreign attendees included industrial users, SFF machine manufacturers, university researchers and representatives from the government. The Symposium organizers look forward to its being a continuing forum for technical exchange among the expanding body of researchers involved in SFF.

The Symposium was again organized in a manner to allow the multi-disciplinary nature of the SFF research to be presented coherently, with various sessions emphasizing process development, design tools, modeling and control, process parameter optimization, applications and materials. We believe that documenting the changing state of SFF art as represented by these Proceedings will serve both those presently involved in this fruitful technical area as well as new researchers and users entering the field.

Two special themes for this year's conference included an industrial perspective and design. For the former, Terry Wohlers of Wohlers Associates presented an overview of the state of the art in industrial practice and was followed by a panel presentation on perspectives by Joe Beaman (University of Texas at Austin), Brent Stucker (Utah State University) and Neil Hopkinson (Loughborough University). The special session on Design was organized by Carolyn Seepersad. Presentations explored design tools, fundamental research and applications in biomedical, aerospace and automotive.

This year's best oral presentation was given by David Rosen of Georgia Institute of Technology. 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, "Design for Additive Manufacturing: A Method to Explore Unexplored Regions of the Design Space". Selected from 55 oral presentations, his presentation appears on Page 402 of this Proceedings. The best poster presentation selected from 6 posters was given by Omer Cansizoglu of North Carolina State University (co-authors Ola L.A. Harrysson, Denis J. Marcellin-Little, Denis R. Cormier, Harvey A. West II). The paper title was, "Tailored Structures to Reduce Stress Shielding in Hip Implants."

The proceedings papers are stored individually on the CD in pdf format by primary author last name, and Adobe® Acrobat® Reader™ installers for the Macintosh (OS 10.x) and PC (Windows XP) are included which may be used to view and search the pdf files. The Table of Contents file has links to all the papers. We have sequentially numbered the pages of the papers to facilitate citation. Some versions of Reader™ do not have search capabilities which are necessary to keyword search the SFF Symposium Proceedings. If you have problems with searching, you might consider installing the version of Reader™ from the CD. The Adobe website also has other versions of Acrobat Reader which may be downloaded free of charge (<http://www.adobe.com/>).

The editors would like to extend a warm "Thank You" to Rosalie Foster for her detailed handling of the logistics of the meeting and the Proceedings, 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 contributions, 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 SFF community in organizing the Symposium. We also want to thank the Office of Naval Research (N00014-07-1-0970) and the National Science Foundation (CMMI-0728118) for supporting this meeting financially. The meeting was co-organized by the University of Connecticut at Storrs, and the Mechanical Engineering Department, Laboratory for Freeform Fabrication and the Texas Materials Institute at The University of Texas at Austin.

The editors.