

Preface

The 31st Annual Technical Conference of the American Society for Composites (ASC) was held in conjunction with the annual ASTM Committee D30 meeting at the Williamsburg Lodge Hotel from September 19 to 22, 2016.

The conference provided a forum for the composites community to present the latest developments in the field as well as to discuss the challenges and future outlook associated with composite materials and structures. A total of 280 technical papers were presented in 83 sessions. The conference also featured two panel sessions, three plenary talks, two keynote presentations and one topic overview presentation. Two ASTM D30 Committee meetings were held in parallel with the conference on the morning of September 21st, and 8 more D30 meetings were held on September 22nd. During the afternoon of September 21st, an optional “VIP Tour” of NASA Langley Research Center was offered in which approximately 80 people participated.

The plenary speakers and their presentations were: Dr. Brian Cox of Arachne Consulting, *Stochastic Virtual Tests for Multiple Scales*; Dr. Tia Benson Tolle, Director, Advanced Materials, Boeing Commercial Aircraft, *Composites in the Mainstream*; and Dr. Jack Gillespie, University of Delaware and the 2016 Recipient of the ASTM D30 Wayne W. Stinchcomb Memorial Award, *Carbon/Thermoplastic Composites for Automotive Applications*. In addition, astronaut Dr. Nancy Currie-Gregg gave a presentation entitled *Engineering Challenges in Human Spaceflight* at the ASC Dinner Banquet on September 21st.

A special symposium was organized in memory of Jeffery Schaff, a longtime contributor to the field of composite materials, who lost a valiant battle against appendix cancer on December 15, 2014. Jeffery was a wonderful person who will be greatly missed.

The success of this conference is due to the strong contributions of many individuals, including topic organizers, advisors, editorial assistants and conference organizers. The names of these individuals are provided below.

We would also like to thank and recognize the conference sponsors: Syracuse University, The University of Utah, ASTM Committee D30, the International Association for the Engineering Modelling, Analysis and Simulation Community (NAFEMS), the Composites Design and Manufacturing Hub (cdmHUB), DEStech Publications, Inc., and the National Institute of Aerospace.

Conference Chairs:

Barry D. Davidson, Syracuse University

James G. Ratcliff, NASA Langley Research Center

Michael W. Czabaj, University of Utah

September 2016

Topic Organizers, Advisors and Contributors:

Abhendra Singh, Air Force Institute of Technology
Adnan Ashfaq, University of Texas at Arlington
Andrew Makeev, University of Texas at Arlington
Bhawesh Kumar, Dow Chemical
Brad Lucht, Honeywell
Caihua Cao, Boeing Commercial Airplanes
Cara Leckey, NASA LaRC
Charles E Bakis, The Pennsylvania State University
Chiara Bisagni, Delft University of Technology
Craig Olhorst, NASA Langley Research Center
Daniel Adams, University of Utah
Danielle Zeng, Ford Motor Co.
David Mollenhauer, Air Force Research Laboratory
Dayakar Penumadu, University of Tennessee
Dianyun Zhang, University of Connecticut
Dy Le, U.S. Army Research Laboratory
Evan Pineda, NASA Glenn Research Center
Gaurav Nilakantan, Teledyne Scientific Company
Greg Odegard, Michigan Tech
Gretchen Murri, NASA Langley Research Center
Hamid Dalir, Syracuse University
Hyonny Kim, University of California, San Diego
Jandro Abot, The Catholic University of America
Jonathan Goodsell, Purdue University
Kishore Pochiraju, Stevens Institute of Technology
Kristopher Wise, NASA Langley Research Center
K.T. Tan, University of Akron
Liangkai Ma, Dow Chemical
Lyle Deobald, Boeing Commercial Airplanes
Mark Hilburger, NASA Langley Research Center
Mark Pankow, NC State University
Mia Siochi, NASA Langley Research Center
Mihaela Banu, University of Michigan
Nelson De Carvalho, NASA Langley Research Center
Norman Knight, NASA Langley Research Center
Pavana Prabhakar, The University of Texas at El Paso
Rani Sullivan, Mississippi State University
Ray Fertig, University of Wyoming
Rick Young, NASA Langley Research Center
Riyad Aboutaha, Syracuse University
Robert Haynes, US Army Research Laboratory

Robin Ford, National Institute of Aerospace
Ronald Krueger, National Institute of Aerospace
Sam Huang, Stony Brook University
Sanjib Chowdhury, University of Delaware
Satchi Venkataraman, San Diego State University
T.K. O'Brien, NASA Langley Research Center
Thomas Lacy, Mississippi State University
Venkat Aitharaju, General Motors
Wenbin Yu, Purdue University