

PREFACE • OPEN ACCESS

Advances in Cryogenic Engineering: Proceedings of the Cryogenic Engineering Conference (CEC) 2015

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Preface

The 2015 joint Cryogenic Engineering and International Cryogenic Materials Conferences were held from June 28 through July 2 at the JW Marriott Starr Pass Resort & Spa in Tucson, Arizona. As at past conferences, the international scope of these meetings was strongly maintained with 26 countries being represented by 561 attendees who gathered to enjoy the joint technical programs, industrial exhibits, special events, and natural beauty of the surrounding Sonoran Desert.

The program for the joint conferences included a total of 363 presentations in the plenary, oral, and poster sessions. Four plenary talks gave in-depth discussions of the readiness of bulk superconductors for applications, the role of cryogenics in the development of the hydrogen bomb and vice versa, superconducting turboelectric aircraft propulsion and UPS's uses and plans for LNG fuel. Contributed papers covered a wide range of topics including large-scale and small-scale cryogenics, advances in superconductors and their applications. In total, 234 papers were submitted for publication of which 224 are published in these proceedings.

The CEC/ICMC Cryo Industrial Expo displayed the products and services of 38 industrial exhibitors and provided a congenial venue for a reception and refreshments throughout the week as well as the conference poster sessions.

Spectacular panoramic views of Saguaro National Park, the Sonoran Desert and the night time lights of Tucson set the stage for a memorable week in the American Southwest. Conference participants enjoyed scenic hikes and bike rides, exploring Old Town Tucson, hot and spicy southwestern cuisine, a nighttime lightning display and a hailstorm.

Conference Chairs for 2015 were Peter Kittel, Consultant, for CEC and Michael Sumption from The Ohio State University, Materials Science Department for ICMC. Program Chairs were Jonathan Demko from the LeTourneau University for CEC and Timothy Haugan from AFRL/RQRM for ICMC, assisted by the CEC Program Vice Chair, Jennifer Marquardt from Ball Aerospace & Technologies Corp. The Exhibit chair was Richard Dausman of Cryomech, Inc. who also served as Publicity Chair. Finally, Awards Chairs were Ray Radebaugh from the National Institute of Standards and Technology for CEC and David Cardwell from the University of Cambridge, United Kingdom, for ICMC.

On June 28, the Cryogenic Society of America presented three short courses: *Cryocooler Fundamentals and Space Applications*, a full day course given by Dr. Ray Radebaugh and Dr. Ron Ross, *Superconducting Radio Frequency Systems*, a half-day course by Dr. Rong-Li Geng; and *Practical Thermometry and Instrumentation*, a half-day course by Dr. Scott Courts. The courses were well attended and catered to both seasoned professionals and newcomers to cryogenics.

The able leadership of Paula Pair with the hardworking staff from Centennial Conferences provided outstanding conference management and operations. Thank you Paula and staff for a truly outstanding and memorable conference experience! Finally, to the attendees, authors, editors, and reviewers whose combined efforts have contributed to these proceedings, thanks very much to you all.

We look forward to the next CEC/ICMC in Madison, Wisconsin, July 9 – 13, 2017.

Peter Kittel
2015 CEC Conference Chairman

Michael Sumption
2015 ICMC Conference Chairman



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