

Cryocoolers 21

ICC Exceptional Service Awards

New for ICC21, the International Cryocooler Conference Board established an ICC Exceptional Service Award for exemplary long-term service to the ICC community. Sponsored by Sumitomo (SHI) Cryogenics of America, Inc., the award includes a plaque and monetary honorarium.

This year, the Board is honored to bestow two Awards: one to Dr. Ray Radebaugh (retired NIST), and one to Dr. Ronald Ross (retired Jet Propulsion Laboratory).



Dr. Radebaugh has been a leading researcher of cryogenics since the first ICC conference in 1980 and has been the Conference's Treasurer and Registered Agent since the establishment of the ICC as a non-profit Corporation in 1996. He Chaired the 3rd ICC in 1984, has served on ICC Committees and the Advisory Board for many years and has published numerous papers in past ICC conferences. A key recent activity has been teaching an annual Cryocooler Short Course for new entrants to the cryocooler community since 1997.



Dr. Ross has been a leading researcher of cryogenics since his first ICC conference in 1988 and has been the Conference's Proceedings Editor since he initiated the formal publication of the ICC proceedings as a publicly available *Cryocoolers X* book for ICC 8, which he Chaired in 1994. He has published numerous papers in past ICC conferences and has served as an ICC Committee and Board member for many years. As a key recent activity, he took over as WebMaster for ICC21 and played a central role in organizing the successful ICC21 Virtual conference.

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Best Student Paper Award

New also for ICC21, the International Cryocooler Conference Board established an ICC Best Student Paper Award for the best student paper submitted as a manuscript to the ICC21 Conference. The ICC Best Student Paper Award provides an incentive for students to participate and contribute quality papers to the ICC conferences and provides community recognition to assist them in pursuing their career goals in the field of cryogenics. Sponsored by Cryomech, Inc., the award includes a plaque and monetary honorarium.

The ICC Board is proud to announce the selection of the Best Student Paper submitted to the ICC21 conference as:

The Development of an Active Magnetic Regenerative Refrigerator (AMRR) for Sub-Kelvin Cooling of Space Science Instrumentation

by

C.M. Gunderson, G.F. Nellis, F.K. Miller

Formal presentation of the award to Mr. Gunderson will occur at the ICC22 Conference in Pennsylvania in June 2022.

Because of the tightness of the competition, the ICC Board is proud to also announce the selection of an ICC21 Best Student Paper Runner Up award as

Boundary Layer Losses in a Miniaturized Tapered Pulse Tube

by

Ali Ghavami, Carl Kirkconnell and S. Mostafa Ghiaasiaan

Formal presentation of the Runner-up Award to Mr. Ghavami will also occur at the ICC22 Conference in Pennsylvania in June 2022. He too will receive a plaque and honorarium.

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Acknowledgments

The International Cryocooler Conference Board wishes to express its appreciation to the Conference Organizing Committee, whose members dedicated many hours to organizing and managing the conduct of the 21st ICC Conference. This was a particularly challenging conference given the emergence of the 2020 corona-virus epidemic in March 2020, just after the conference's Call for Papers. Shortly thereafter, the scheduled on-site venue in Orlando, Florida was cancelled, as travel within the U.S. and world was shut down. As fall 2020 approached, the corona-virus was still at epidemic strength, and the decision was made to conduct ICC21 as a totally virtual conference on December 7-10, 2020 using our website and Zoom as communication media. We thank the 161 cryocooler followers and researchers from around the globe that participated in the virtual conference and the 71 authors who contributed slides and movies for viewing on the ICC website. Members of the conference Organizing Committee and Board included:

CONFERENCE CHAIR

Sastry Pamidi, *Florida State Univ.*

LOCAL ARRANGEMENTS

Chul Kim, *Florida State Univ.*

CONFERENCE PLANNING & WEBMASTER

Ron Ross, *Jet Propulsion Lab (Retired)*

TREASURER

Ray Radebaugh, *NIST, Retired*

CO-EDITORS

Ron Ross, *JPL, Retired*

Jeff Raab, *NGSS, Retired*

Saul Miller, *Aerospace Corp., Retired*

PROGRAM CHAIR

Carl Kirkconnell, *West Coast Solutions*

ICC BOARD

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Franklin Miller, *Univ. of Wisconsin*

Jeff Raab, *NGSS, Retired*

Ray Radebaugh, *NIST, Retired*

Ron Ross, *JPL, Retired*

Peter Shirron, *NASA GSFC*

Julien Tanchon, *Absolut Sys., France*

Ryan Taylor, *Ball Aerospace*

Marcel ter Brake, *Univ. of Twente*

Mark Zagarola, *Creare*

In addition to the above Organizing Committee members, a number of people deserve special mention for their extensive efforts in support of the conference. In particular, the Board is grateful to the various members of the Program Committee who reviewed the submitted abstracts and helped organize the Session Chairs who served as Panel Discussion Panelists and Paper Peer Reviewers. Special thanks also go to the Panel Discussion Panelists themselves and the Plenary Speakers who made this Virtual Conference not only possible, but a great success!