

# ASC 2018 Introduction

**T**HE Applied Superconductivity Conference, ASC 2018, was held October 28 – November 2, 2018 in Seattle, Washington. The final ASC 2018 program included 1657 submitted abstracts. 1357 presentations (486 contributed/invited talks, 856 posters/invited posters, and 9 plenary talks) were given during the five days of the conference. 702 manuscripts were submitted for peer review in the Special Issue of the IEEE TRANSACTIONS ON APPLIED SUPERCONDUCTIVITY; 568 have been accepted for publication. The peer review of manuscripts produced 2361 reports, which resulted, on average, in requiring at least 1 revision per manuscript. Approximately 63% of the manuscripts required more substantial revisions. The conference was attended by 1631 participants from 39 countries, 370 of whom were students. An exhibition took place during the conference with the participation of 63 companies from 15 countries.

In 2018, the conference highlighted the various ways in which superconductivity enables breakthroughs in medicine, energy, quantum information, cosmology, physics, transportation, and many other technological areas. In addition to the special and memorial sessions that have become regular features of the ASC, the conference included a plenary roundtable discussion on HTS magnets, and also introduced the field to up-and-coming researchers *via* the Young Scientist Plenary Session. The conference further featured not one, but two recent Nobel Laureates, with a Monday plenary from Barry Barish (California Institute of Technology) speaking on superconducting RF cavities and future particle accelerators, and a closing Friday plenary from Rainer Weiss (Massachusetts Institute of Technology) speaking on his work as head of the LIGO Scientific Collaboration.

The ASC Best Student Paper Contest was held again. The first-place winners and two runners-up in each category received monetary prizes. Additionally, there were three corporate prizes. The first, the Alexander Shikov Memorial Prize, was for the best paper in the “LTS and HTS Conductors” subcategory. The second and the third, the Viktor Keilin Memorial Prizes, were for the best papers on the “Development of Superconducting Materials for Large Scale Applications” in the Materials category and on the “Innovations in Magnet Science and Technology” in the Large Scale category.

Awards presented by the IEEE Council on Superconductivity at ASC 2018, described in more detail elsewhere in this volume, included the IEEE Max Swerdlow Award for Sustained Service to the Applied Superconductivity Community, the IEEE Award for Continuing and Significant Contributions to Applied Superconductivity (Large Scale and Small Scale Applications), the IEEE Council on Superconductivity Carl H. Rosner Entrepreneurship Award and the IEEE Dr. James Wong Award for Continuing and Significant Contributions to Applied Superconductor Materials Technology. In addition, the IEEE CSC Van Duzer Prizes for 2016 and 2017 were announced as well as the recipients of the IEEE CSC Graduate Study Fellowships in Applied Superconductivity for 2018. Furthermore, the Cryogenic Society of America presented The Roger W. Boom Award. The Institute of Physics also presented the Jan Evetts SUST Award for the best early career paper in Superconductor Science and Technology.

We wish to thank the members of the program committee for their tremendous efforts at putting together an excellent program. We also thank the entire editorial team (Lead Editors, Technical Editors, and the Editorial Staff) for a superb effort in managing the peer review process to very high standards, and putting together the published manuscripts from ASC 2018.

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