Editorial Foreword to Issue No. 41

July 31, 2017 (E41-1). After founding the Superconductivity News Forum and serving many years as Editor-in-Chief and Co-editor for Electronics, Alex Braginski passed on the task of Editor-in-Chief to me in April 2016 and agreed to continue to work as Co-editor for Electronics until we could find a successor for him. This very difficult task has now been accomplished, as we have found a competent successor for Alex in Scott Holmes, who has agreed to officially take over the position as Co-editor for Electronics starting in August 2017 and has already contributed to the current Issue 41, which is Alex's last Issue. We all wish Alex the very best and intend to stimulate the growth of his brainchild, the Superconductivity News Forum, in the years to come. We will undoubtedly continue to seek his counsel.

Below this Editorial, you will find Alex's farewell letter, and Scott's letter introducing himself to the readership of SNF.

This Issue No. 41 is devoted primarily to keynote and invited presentations at ISEC 2017. No manuscripts intended for *IEEE Transactions on Applied Superconductivity* (TASC) have been submitted at this international conference, only extended abstracts (EA). Some of these were in reality only normal short abstracts. Invited presentations either include an EA or are annotated to make these better comprehensible to readers who did not hear a given presentation. It is possible that additional invited presentations given at ISEC 2017 will be submitted to and included in the October Issue of SNF (No. 42). The deadline for submissions to the July Issue was quite early, restricting the time required for the mandatory reviews.

The ISEC conferences are known as the most important conferences for digital and analog Superconductive Electronics. The ISEC 2017 organized in Sorrento, Italy, was no exception: the keynote talks gave a competent overview of all activities in the field and introduced a number of new and exciting possibilities for further development. You will find slide presentations of 5 of the 6 keynote talks including Robin Cantor, Paul Dresselhaus, Daniel Esteve, Akira Fujimaki, and Robert Hadfield, two include abstracts and three include extended abstracts. The presentation of Daniel Esteve is annotated – annotated versions of the remaining talks will replace the current presentations once they become available.

Of the six invited presentations, three are devoted to detectors, two to digital electronics, and one to biomagnetism.

Gregory Goltsman, of Moscow State Pedagogical University, Russia, this year's laureate of IEEE prize in superconducting Electronics (for seminal work on superconducting nanowire single photon detectors, SNSPD), offered an up-to-date overview of SNSPD application to coherent detection, including both single-photon counting with a high on-chip detector efficiency and heterodyne detection with high spectral resolution. Lixing You of SIMIT, Shanghai, China, presented his groups' novel approach of coupling SNSPDs to a single-mode fiber, and Masataka Ohkubo of AIST, Tsukuba, Japan, talked about progress in integrated superconducting tunnel junction detector arrays for analytical applications such as X-ray absorption fine structure

materials spectroscopy (XAFS), mass spectroscopy and materials analysis in scanning electron microscopy.

Norman Birge of Michigan State University, Lansing, USA, presented on ferromagnetic junctions for dense SFQ computing memory overviewed recent progress in devices switchable between the "0" and "π" states, previously not available in this form. Ryosuke Sato, Yokohama National University, Japan, discussed the Yokohama Group work on SFQ complex event detector. This is probably the first presentation in English on this potentially important topic.

Hui Dong of the University of California, Berkeley, USA, and SIMIT, presented *ex vivo* and *in vivo* (on pig brains) collaborative work of Chinese, Korean and US groups investigating T_1 and T_2 dispersion profiles in ultra-low-field MRI (ULF-MRI). Their new results suggest the possibility of using this approach for imaging stroke and traumatic brain injury in a way much safer for patients than the $T_{1\rho}$ method used in conventional high-field MRI.

For this first, and quick, publication of contributions from this year's CEC-ICMC conference at Madison, only one plenary and two invited presentations could be submitted in time, because of the extremely short time period we could allow for submission. Only one of the presentations is annotated, for the other two, the annotated versions will be uploaded later. Nateri Madavan presents in his plenary a challenging look into the future of all electric aircraft, its electric propulsion technology as well as its promising cryogenic electrical technologies. Elaborate ways of tailoring critical currents by a controllable generation of strong and isotropic Artificial Pinning Centers in YBCO films are presented by Judy Wu, as an important strategy towards performance-cost balanced HTS technology for commercialization. Stuart Wimbush then demonstrates that there is a need for a targeted high-temperature superconductor wire characterization and selection if an optimal design is to be achieved for electric propulsion applications.

A final note of explanation to our readers: the new and not fully completed version of this website was accidentally briefly published on the web. It was quickly switched back to the original version. The new version will become available as soon as it is fully tested.