

# 2020 International Symposium on Superconductor Electronics

## Technical Program

Venue: Yokohama Port Opening Memorial Hall, Yokohama, Japan

### Thursday, January 16

**10:00–10:05**      **Opening Remarks**                      **N. Yoshikawa**

**10:05–11:40**      **Invited Talks**

10:05–10:40 (Invited) K. D. Irwin,<sup>1,2</sup> S. Chaudhuri,<sup>1</sup> H. Cho,<sup>2</sup> P. W. Graham,<sup>1</sup> S. E. Kuenstner,<sup>1</sup> D. Li,<sup>2</sup> A. Phipps,<sup>1</sup> C. J. Titus,<sup>1</sup> C. van Assendelft,<sup>1</sup> B. Young,<sup>3</sup> C. Yu<sup>1</sup> (<sup>1</sup>Stanford University, <sup>2</sup>SLAC National Accelerator Laboratory, <sup>3</sup>Santa Clara University)  
“RF Quantum Upconverters Based on SQUIDs for Quantum Acceleration of Searches for Axion Dark Matter below 1  $\mu\text{eV}$ ”

10:40–11:15 (Invited) J. Beyer (Physikalisch-Technische Bundesanstalt)  
“LTS DC-SQUID Sensors for Precision Measurements in Metrology and Fundamental Physics at Sub-Kelvin Temperatures”

11:15–11:40 (Invited) M. Ukibe, G. Fujii (National Institute of Advanced Industrial Science and Technology)  
“A Great Progress of a SEM-EDS Analyzer by Means of a Utilization of Superconducting-Tunnel-Junctions (STJs) Array X-Ray Detectors”

**11:40–13:00**      **Lunch**

**13:00–13:30**      **Poster Presentation and Exhibition**

**13:30–15:30**      **Joint Session with SSV 2020 I**

13:30–14:05 (Invited) J. M. Shainline, S. M. Buckley, A. McCaughan, J. Chiles, A. Tait, B. Primavera, S. Khan, R. P. Mirin, S. W. Nam (National Institute of Standards and Technology)  
“Superconducting Optoelectronic Systems for Neuromorphic Supercomputing”

14:05–14:40 (Invited) R. Freeman, S. R. Whiteley, T. Mido, J. Kawa, K. Singhal (Synopsys, Inc.)

“A Next Generation of TCAD and EDA Tools for Digital Superconducting Electronics”

14:40–15:05 (Invited) A. Fujimaki,<sup>1</sup> M. Tanaka,<sup>1</sup> N. Yoshikawa<sup>2</sup> (<sup>1</sup>Nagoya University, <sup>2</sup>Yokohama National University)

“Challenges to Thermal Limit, Quantum Limit, and High Throughput Based on SFQ Circuits”

15:05–15:30 (Invited) Z. Wang (CAS Center for Excellence in Superconducting Electronics, Shanghai Institute of Microsystem and Information Technology, University of Chinese Academy of Sciences)

“Development of Large Scale Superconducting Integrated Circuits Based on Nb and NbN Technology”

**15:30–15:50 Coffee Break**

**15:50–17:15 Joint Session with SSV 2020 II**

15:50–16:25 (Invited) M. Volkmann, F. Altomare, M. Amin, M. Babcock, C. B. Aznar, A. Berkley, W. Bernoudy, K. Boothby, M. Boschnak, P. Bunyk, H. Christiani, S. Ejtemaee, C. Enderud, B. Evert, P. F. Perez, M. Gullen, M. Hager, R. Harris, J. Hilton, E. Hoskinson, A. Huang, B. Jelstad, M. Johnson, K. Jooya, A. King, E. Ladizinsky, T. Lanting, R. Li, A. MacDonald, C. McGeoch, T. M. Fernandez, R. Molavi, R. Neufeld, M. Norouzpour, T. Oh, I. Ozfidan, P. Paddon, I. Perminov, G. Poulin-Lamarre, T. Prescott, J. Raymond, M. R. Filho, C. Rich, H. S. Esfahani, Y. Sato, B. Sheldan, A. Smirnov, L. Swenson, N. Tsai, J. Whittaker, J. Yao, A. Yarovoy (D-Wave Systems)

“Improvements on a Next-Generation Quantum Processing Unit”

16:25–16:50 (Invited) J. Tsai (Tokyo University of Science, RIKEN)

“New Architectures for Superconducting Quantum Computer”

16:50–17:15 (Invited) S. Saito (NTT Corporation)

“Electron Spin Resonance Measurements using Superconducting Quantum Circuits”

**18:00–20:00 Banquet**