Short Course 1
“Material and Device Evolution for Artificial Intelligence”
Tuesday, March 13, 2018

Moderator: Masashi Aono, Keio Univ.

10:00 Energy Efficient Neural Algorithm Training and Execution with Analog Crossbar Accelerators
Matthew John Marinella, Sandia National Laboratories

11:15 Nonvolatile Memory for Deep Learning: from Materials to Algorithm
Doo Seok Jeong, Korea Institute of Science and Technology/Hanyang Univ.

12:30 Lunch Break
Moderator: Doo Seok Jeong, Hanyang Univ.

13:45 Neuromorphic Computing with Nanoscale Spin-Torque Oscillators
Mathieu Riou, CNRS/Thales Lab

15:00 Amoeba-Inspired Problem Solvers
Masashi Aono, Keio Univ.

16:15 Basics and Application of Quantum Annealing
Shu Tanaka, Waseda Univ.
Short Course 2
“Device and System Technology Trends Toward Rebooting Computing”
Tuesday, March 13, 2018

Moderator: Cheol Seong Hwang, Seoul National Univ.

10:00 Opportunities and Challenges in Energy-Efficient Computing
An Chen, IBM Research

11:15 Negative Capacitance Transistor for Steep Subthreshold Slope
Masaharu Kobayashi, The Univ. of Tokyo

12:30 Lunch Break

Moderator: Masaharu Kobayashi, The Univ. of Tokyo

13:45 Design of Photoresist for Scaling Down Lithographic Patterning Technology
Satoshi Fujimura, TOKYO OHKA KOGYO Co., Ltd.

15:00 Memristive Devices and Arrays for IoT Applications
Qiangfei Xia, Univ. of Massachusetts Amherst

16:15 Vertical Resistance Switching Memory for Data Storage and Cognitive Computing
Cheol Seong Hwang, Seoul National Univ.
Tutorial 1
“MEMS Design and Processing for SDGs”
Tuesday, March 13, 2018

Moderator: Yoshio Mita, The Univ. of Tokyo

8:45  CMOS-MEMS Circuit Technology of Integrated Smart Sensors
Matthieu Denoual, GREYC-ENSICAEN / LIMMS-CNRS-IIS

10:00  Piezoelectric MEMS and Their Energy Harvesting Applications
Isaku Kanno, Kobe Univ.

11:15  Micro/Nano Fabrications for Biophysics and Organ-on-a-Chip Applications
Ryuji Yokokawa, Kyoto Univ.

Tutorial 2
“Machine Learning as A Means of Your Research and Development”
Tuesday, March 13, 2018

Moderator: Hiro Akinaga, AIST

13:45  脳型人工知能ハードウェア開発の現状と課題
森江 隆 (九州工業大学)

15:00  エッジ・クラウドAIの動向と省電力AIエンジンのアーキテクチャについて
大渕 栄作 (株式会社ディジタルメディアプロフェッショナル)

16:15  適用例から学ぶ機械学習の応用
太田 英司 (MathWorks Japan)