Time table

November 16

- 8:30 – 8:50 Registration
- 9:00 – 9:30 Opening Remarks (M. Matsui), Award Ceremony (H. Akatsuka)
- 9:30 – 10:40 <Nishizawa Award Lecture>
  Prof. Toshiaki Makabe "Historical developments of the velocity distribution of electrons in time-varying low-temperature plasmas"
  Prof. David Barry Graves "Plasma-surface interactions: challenges that span applications"
- 10:40 – 11:20 Keynote <Invited>
  Dan Mocuta (imec)
  "Is there still plenty of room at the bottom? A perspective on technology scaling"
- 11:20 – 11:40 Break 20min
- 11:40 – 12:40 Session A Etching Technologies
  - A-1 Y. Ishii (Hitachi High Technologies America, Inc.) "Anisotropic Etching Control between SiGe and Si"
  - A-2 T. Ohmori (Hitachi, Ltd.) "Prediction and Optimization of Etching Profile Using Machine Learning"
  - A-3 L. Hsu (Lam Research Corp.) "Pulsing-mode plasma for ON spacer etch of DRAM process"
- 12:40 – 14:00 Lunch 12:40-14:00 (80min)
- 14:00 – 15:40 Session B Surface reactions for atomic layer controlled processes (ALD/CVD)
  - B-1 <Invited> Simon Elliott (Univ. College Cork) "Insights into self-limiting surface reactions from atomic-scale simulations"
  - B-2 <Invited> Dennis Hausmann (Lam Research Corp.) "Atomic Layer Deposition of Silicon Dielectrics: Precursors, Processes, and Plasmas"
  - B-3 Y. Miyano (Toshiba Memory Corp.) "Multi-scale modeling for SiO_2 plasma-enhanced atomic layer deposition at high-aspect-ratio hole patterns"
- 15:40 – 15:50 Break 20min
- 15:50 – 16:40 Session C Plasma Diagnostics & Monitoring
  - C-1 K. Hirota (Hitachi High Technologies Corp.) "Cleaning efficiency of AlFx residue on an etching reactor wall using in-situ FTIR"
  - C-2 T. Ueyama (Nagoya University) "Behaviors of electrons and fluorocarbon radicals in synchronized dc-imposed pulsed plasma"
- 16:40 – 16:50 Break 10min
- 16:50 – 18:00 Session D New Dry Process and Equipment
  - D-1 T. Seki (Kyoto University) "Fabrication of 3D structure by double-angled etching with reactive gas cluster injection"
  - D-2 M. Tomatsu (Nagoya University) "Carbon nanowall (CNW) electrochemical H_2O_2 sensor"
  - D-3 H. Hanafusa (Hiroshima University) "Extremely High-power-density Atmospheric Pressure Thermal-Plasma-Jet Generated by Nitrogen-boost Effect"
  - D-4 N. Kihara (Asahi Glass Co., LTD.) "Fluoropolymer membrane filters for a cell filtration"
- 18:30 – 20:30 Banquet

November 17

- 8:30 – 9:30 Registration
- 9:30 – 11:10 Session E Surface reactions for atomic layer controlled processes (ALE)
  - E-1 A. Hirata (Sony Semiconductor Solutions Corp.) "Cyclic etching of ITO using controlled modified-layer"
  - E-2 M. Matsui (Hitachi Ltd.) "Highly selective SiO_2 etching over Si_3N_4 using a cyclic process with BCl_3 and fluorocarbon gas chemistries"
  - E-3 S. Kumakura (Tokyo Electron Miyagi Ltd.) "Improvement of CD uniformity at the wafer edge by Quasi-ALE"
  - E-4 T. Ito (Osaka University) "Surface reactions of metal surfaces with adsorbed organic compounds by Ar+ ion irradiation"
  - E-5 Y. Okada (Osaka University) "Molecular dynamics simulations of atomic-layer etching (ALE) of SiO_2"
- 11:10 – 12:50 Poster 100min
- 12:50 – 13:50 Lunch 12:50-13:50 (60min)
- 13:50 – 15:20 Session F Etching technologies for latest devices having high-aspect-ratio of 50 or more (HAR)
  - F-1 <Invited> Yoon-Jae Kim (Samsung Electronics Co., Ltd.) "The Historical Trend of HARC Etch Technology and New Challenges"
  - F-2 <Invited> Aaron Wilson (Micron Technology, Inc.) "Dry Etch Scaling Challenges for High Aspect Ratio 3D NAND and DRAM Memory Technologies"
- 15:20 – 15:30 Break 20min
- 15:30 – 16:50 Session F Etching technologies for latest devices having high-aspect-ratio of 50 or more (HAR)
  - F-3 <Invited> Mark J. Kushner (Univ. of Michigan) "High and Moderate Aspect Ratio Etching: Insights from Modeling"
  - F-4 T. Iwase (Hitachi, Ltd.) "Direct composition analysis by TOF-SIMS for surface of deep etched holes in SiN/SiO_2 stacks"
  - F-5 T. Ichikawa (Toshiba Memory Corp.) "Topography simulation of 3D stacked memory etching for optimizing lithography patterns"
- 16:50 – 17:00 Break 10min
- 17:00 – 17:50 Session G Damage
  - G-1 T. Hamano (Kyoto University) "A comprehensive analysis of progressive behavior of plasma-induced damage formation in Si substrates"
  - G-2 Y. Yoshikawa (Kyoto University) "Prediction of electronic structure change induced by plasma processing: A first-principles study"
  - G-3 K. Ishikawa (Nagoya University) "Plasma-induced reactions and damage reduction in high temperature chlorine plasma etching of GaN"
- 18:00 – 18:10 Closing Remarks (M. Fukasawa)