DPS2019 Timetable

8:00 8:10 8:20 8:30 8:40 8:50 9:00 9:10 9:20 9:30 9:40 9:50 10:00 10:10 10:20 10:30 10:40 10:50 11:00 11:10 11:20 11:30 11:40 11:50 12:00 12:10 12:20 12:30 12:40 12:50 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20 14:30 14:40 14:50 15:00 15:10 15:20 15:30 15:40 15:50 16:00 16:10 16:20 16:30 16:40 16:50 17:00 17:10 17:20 17:30 17:40 17:50 18:00 18:10 18:20 18:30 18:40 18:50 19:00 19:10 19:20 19:30 19:40 19:50 20:00 20:10 20:20 20:30

November 21 9:30-18:10

Registration

Opening Remark (M. Terahara),
Award Ceremony (H. Hayashi, S. Higashi) Speech by Prof. Yasuhiro Horiike

<Nisizawa Award Lectures>
Prof. Vincent M. Donnelly (University of Houston)
"Plasma Etching of Silicon: 45 Years and Still surprises"
Dr. Kazuo Nojiri (Nanotech Research)
"A look back on 45 years of my research in semiconductor industry – Message to young researchers"

Break **15min**

<Nisizawa Award Lectures>
Prof. Gottlieb S. Oehrlein (University of Maryland)
"Low Temperature Plasma-Materials Interactions and Plasma Etching"

A-1 <Invited>
Gregory N. Parsons (North Carolina State University)
"Atomic Scale Processing: Coupled Atomic Layer Deposition/Atomic Layer Etching Super-Cycles for Area-Selective Deposition"

Lunch
12:40-14:00 (80min)

A-2 Thorsten Lill (Lam Research Corp.)
"Isotropic Character of a Thermal Atomic Layer Etch Process with Patterned Wafers"

A-3 Akiko Hirata (Sony Semiconductor Solutions Corp.)
"On-wafer monitoring of ion energy distributions and precise ion energy control (< 100 eV) for damage reduction in atomic layer etching"

B-1 Asaki Kameda (Hiroshima Univ.)
"Measurement of the Thermo-Optic Coefficient and Verification of Absolute Temperature for Plasma Processing Application of Optical Interference Contactless Thermometer of Silicon Wafer"

B-2 Kazuya Nakane (Nagoya Univ.)
"Time-resolved diagnosis of afterglow phase in synchro-bias of negative direct current on pulsed plasmas"

Break **15min**

C-1 <Invited>
Jeffrey Shearer (IBM Corp.)
"Plasma Etching in the EUV Era"

C-2 Zheng Tao (IMEC)
"FEOL patterning challenges in scaled SRAM with vertical Surrounding Gate Transistors (SGT)"

C-3 Salma Younesy (STMicroelectronics)
"Cleaning chamber walls after ITO plasma etching process"

Break **15min**

D-1 Tomohiro Kuyama (Kyoto Univ.)
"Characterization of dynamic behaviors of defects in Si substrates created by H_2 plasma using conductance method"

D-2 Yoshinori Kodama (Sony Semiconductor Solutions Corp.)
"Diffusion mechanism of fluorine in plasma processing of III–V semiconductor compounds"

D-3 Takashi Hamano (Kyoto Univ.)
"Reconsideration of the effects of ion energy distribution function on plasma process-induced damage formation and its optimal control methodology"

20min

Banquet **120min**

Session A
Novel Atomic Layer Etching and Atomic Layer Deposition approaches for advanced plasma process applications. (ALD/ALE-1)

Session B
Plasma Diagnostics and Monitoring Systems

Session C
Etching Technologies

Session D
Plasma induced damage and Surface Reaction-1

November 22 9:00-18:10

8:00 8:10 8:20 8:30 8:40 8:50 9:00 9:10 9:20 9:30 9:40 9:50 10:00 10:10 10:20 10:30 10:40 10:50 11:00 11:10 11:20 11:30 11:40 11:50 12:00 12:10 12:20 12:30 12:40 12:50 13:00 13:10 13:20 13:30 13:40 13:50 14:00 14:10 14:20 14:30 14:40 14:50 15:00 15:10 15:20 15:30 15:40 15:50 16:00 16:10 16:20 16:30 16:40 16:50 17:00 17:10 17:20 17:30 17:40 17:50 18:00 18:10 18:20 18:30 18:40 18:50 19:00 19:10 19:20 19:30 19:40 19:50 20:00 20:10 20:20 20:30

Registration

E-1 Kunihiro Kamataki (Kyushu Univ.)
"Low Temperature Fabrication of High Nitriding Degree of SiN films by Multi-Hollow Discharge SiH4+N2 Plasma CVD"

E-2 Toru Sumihira (Kyoto Univ.)
"Characterization of surface sputtering resistance of boron nitride films under plasma exposure"

E-3 Shota Nunomura (AIST)
"Defect kinetics in c-Si during ultrathin a-Si:H layer growth by PECVD"

Break **10min**

F-1 Gaelle Antoun (GREMI, Orleans Univ. - CNRS)
"Influence of temperature on SiO_2 cryo-Atomic Layer Etching"

F-2 Simon Ruel (CEA-LETI)
"GaN damage evaluation after conventional plasma etching and anisotropic Atomic Layer Etching"

F-3 Tsubasa Imamura (KIOXIA Corp.)
"Cyclic C_4F_8 and O_2 plasma etching of TiO_2 for high aspect ratio 3D devices"

F-4 Rene Vervuurt (ASM Japan)
"ALE of SiC by Plasma Modification and F radical Etching Studied by in situ Surface Spectroscopy"

Break **15min**

G-1 <Invited> Toshiya Okazaki (Sony Semiconductor Manufacturing Corp.)
"Prediction of the Number of Defects in Image Sensors by VM using Equipment QC Data"

G-2 Hyakka Nakada (Hitachi Ltd.)
"Learning Data Collection for Profile Prediction in Si Etching with Self-Aligned Quadruple Patterning"

G-3 Soh Koike (KIOXIA Corp.)
"Bayesian optimization and topography simulation for high aspect ratio etching"

Lunch
12:45-13:45 (60min)

Poster **100min**
Core-time (1) 13:45 -14:35 † Odd number
Core-time (2) 14:35 -15:25 ‡ Even number

H-1 <Invited>
Hyoungcheol Kwon (SK hynix Inc.)
"3D Feature Profile Simulation : HARC Etch Limits and their Solutions"

H-2 <Invited>
Takehito Koshizawa (Applied Materials Inc.)
"Carbon Hard Mask Challenges for CVD and RIE"

H-3 Tomohiko Niizeki (Tokyo Electron Miyagi Ltd.)
"Novel high-aspect-ratio etch of amorphous carbon mask utilizing SiO_2 atomic layer passivation"

Break **15min**

I-1 Ryosuke Kizaki (Kyoto Univ.)
"Investigation of the effects of surface states on Si damaged layer formation during plasma processes"

I-2 Hojun Kang (Osaka Univ.)
"Surface modification of Y_2O_3 by F+ ion irradiation"

Closing Remark (M. Morikawa)

Session E
CVD / PVD

Session F
Novel Atomic Layer Etching and Atomic Layer Deposition approaches for advanced plasma process applications. (ALD/ALE-2)

Session G
How AI and Deep Learning are transforming the plasma process?

Session H
Advanced hardware and process development for overcoming High Aspect Ratio etching (AR>100)

Session I
Plasma induced damage and Surface Reaction-2