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# Scientific Program of SISS-20

28th Jun, 2018 (Thu.)

- **Opening Remarks: 10:00-10:10**

- **Atom Probe Tomography: 10:10-11:40**

O1-1. (10:10-10:50) -Plenary talk-
Advances and Challenges in SIMS and Atomprobe Metrology for Next Generation Semiconductors
Wilfried Vandervorst (IMEC, KU Leuven)

O1-2. (10:50-11:20) -Invited talk-
Atom-Probe Tomography of Nanoscale-Structured Materials via Targeted Preparation by Focused-Ion-Beam Techniques
Dieter Isheim (Northwestern University)

O1-3. (11:20-11:40)
Atom Probe Tomography Investigation of Silicon Self-diffusion in Isotopically Modulated Nanopillars
Ryotaro Kiga (Keio University)

- **Lunch: 11:40-13:00**

- **Organic: 13:00-14:20**

O1-4. (13:00-13:30) -Invited talk-
An Ion-storage Multi-Reflection Time-of-Flight Mass Spectrometer for High Sensitive SIMS Study
Haiyang Li (Dalian Institute of Chemical Physics, Chinese Academy of Sciences)

O1-5. (13:30-14:00) -Invited talk-
Depth Profiling and 3D Imaging Using the 3D OrbiSIMS - New Capabilities for the Analysis of Organic Materials
Rasmus Havelund (National Physical Laboratory)

O1-6. (14:00-14:20)
Sparse Modelling and Principal Component Analysis Application to TOF-SIMS Data of Three Polymers
Satoka Aoyagi (Seikei University)

- **Coffee break: 14:20-14:40**

- **Sponsored Session: 14:40-16:00**

O1-7. (14:40-15:00)
Advances in Cameca Atom Probe Tomography
Robert Ulfig (Cameca Instruments, Inc.)

O1-8. (15:00-15:20)
TOF-SIMS with MSMS, a Useful and Effective Tool for the Industrial World
Takahiko Suzuki (ULVAC-PHI, Inc.)

O1-9. (15:20-15:40)
Features and Usefulness of FILMER (FIB-TOF-SIMS & Laser-SNMS)
Akio Takano (TOYAMA Co., Ltd.)

O1-10. (15:40-16:00)
Recent Developments in TOF-SIMS Instrumentation from IONTOF
Markus Terhorst (IONTOF GmbH)

- **Short Presentation: 16:00-16:45**

P-1
ToF-SIMS Data Interpretation of Organic Samples Using Machine Learning
Wataru Ishikura (Seikei University)

P-2
Effects of Thermal Annealing on Structural and Magnetic Properties of Mn Ions Implanted AlInN/GaN Films
Abdul Majid Sandhu (University of Gujrat)

P-3
Quantitative Evaluation of Inorganic Boundary Films Formed in Engine Oil by TOF-SIMS Depth Profiling with Low Energy Cs Sputtering
Atsushi Murase (Toyota Central R&D Labs., Inc.)

P-4
Mass Separation of AuGe Alloy Using Rotating Electric Fields (Ⅱ)
Tokio Norikawa (Tokyo University of Science)

P-5
Investigation of Aliphatic Matrices for Bi Cluster TOF-SIMS
Rie Shishido (Tohoku University)

P-6
Sputtering Yields of Polymers Produced by Vacuum Electrospray Water Droplet Ion Beams
Satoshi Ninomiya (University of Yamanashi)

P-7

Matrix and Element Dependences of Useful Yield in Si and $SiO_2$ Matrices Using Laser-Ionization Sputtered Neutral Mass Spectrometry

Reiko Saito (Toshiba Memory Corporation)

P-8

Evaluation of Impurity Diffusion for Si Quantum Dot Multilayers

Reina Miyagawa (Nagoya Institute of Technology)

P-9

Segregation Behavior around $CH_3O$ Molecular Ion Implantation Related Extended Defects for CMOS Image Sensors

Satoshi Shigematsu (SUMCO Corporation)

P-10

Secondary Ion Behavior of Residual Gas Components during TOF-SIMS Depth Profiling with Low Sputtering Rate

Junichiro Sameshima (Toray Research Center, Inc.)

P-11

Development of a Novel Analysis Technique by TOF-SIMS for the Visualization of Cell Structure with High Spatial Resolution

Takuro Hasegawa (Kogakuin University)

P-12

Dialysis Analysis of Aerosol using TOF-SIMS

Masaki Fujisawa (Kogakuin University)

P-13

Analysis of Cesium Distribution in Water-Containing Plant by TOF-SIMS

Yuta Miyashita (Kogakuin University)

P-14

Effect of Coimplanted Carbon on Boron Behavior in Silicon: SIMS and Atom Probe Study

Yasuo Shimizu (Tohoku University)

P-15

Quantitative Depth Profiling of Hydrogen in Metals by Cryogenic Secondary Ion Mass Spectrometry

Leiliang Zheng (Toray Research Center, Inc.)

P-16

Improvement in the Detection Sensitivity of Secondary Ions by Na Absorption with the Mist Deposition Method on a PEG Surface

Taiki Matsuda (Kyoto University)

P-17

Protonation and ionization of 1,4-didodecylbenzene under Water Cluster Bombardment

Kousuke Moritani (University of Hyogo)

P-18

High-Speed SIMS Imaging Using a High Brightness Cluster Ion Source

Shuhei Yamada (Kyoto University)

P-19

Degradation Analysis of OLEDs Model Samples by Ar-GCIB-TOF-SIMS and TOF-SIMS with MS/MS System

Daichi Shirakura (Toray Research Center, Inc.)

P-20

Atom Probe Mass Analysis of Organic Material: Polyethylene Glycol

Masahiro Taniguchi (Kanazawa Institute of Technology)

P-21

Reaction Rates of Isomeric $C_2H_5O^+$ and $C_3H_7O^+$ Ions with Polyethylene Glycols and Polyethylene Glycols Ethers with Fourier Transformation/Ion Cyclotron Resonance Mass Spectrometry (FT/ICRMS)

Mohamed GAKU (RealTECH Geophysics)

P-22

Bevel Depth Profiling by High-Spatial-Resolution Laser-SNMS

Takahiro Kashiwagi (TOYAMA Co., Ltd.)

- **Poster Session: 16:55-17:55**

- **Reception: 17:55-19:30**

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29th Jun, 2018 (Fri.)

- **Bio 1: 9:00-10:30**

O2-1. (9:00-9:30) -Invited talk-

Mitigation of Ion Suppression for Quantitative Imaging in Cluster Secondary Ion Mass Spectrometry of Biological Systems

Joseph Ellis (University of Illinois)

O2-2. (9:30-10:00) -Invited talk-

The Cross Sectioning Method Protocols Using Focused Ion Beam

Ichiro Mihara (Kuraray CO., LTD.)

O2-3. (10:00-10:30) -Invited talk-

Micrometer Resolution Atmospheric Pressure Mass Spectrometric Imaging (AP-MSI) System for Live Tissue Analysis

Jae Young Kim (Daegu Gyeongbuk Institute of Science & Technology)

- **Coffee break: 10:30-10:45**

- **Mass Imaging: 10:45-11:45**

O2-4. (10:45-11:15) -Invited talk-

Imaging Mass Spectrometry Analysis of Photosynthetic Products in Plants

Miyuki Takeuchi (University of Tokyo)

O2-5. (11:15-11:45) -Invited talk-

Development of Coordinate Analysis with FIB-STXM-NanoSIMS-TEM: Applications to the Extraterrestrial Materials

Motoo Ito (Japan Agency for Marine-Earth Science and Technology)

- **Lunch: 11:45-13:05**

- **Bio 2: 13:05-14:15**

O2-6. (13:05-13:45) -Plenary talk-

Ambient Pressure SIMS Imaging with MeV Ions

Roger Webb (University of Surrey)

O2-7. (13:45-14:15) -Invited talk-

Correlated ToF-SIMS and Confocal Microscopy Imaging Visualizes the Recognition between Platinum-Damaged DNA and Proteins in Single Cells

Fuyi Wang (Institute of Chemistry, Chinese Academy of Sciences)

- **Inorganic: 14:15-15:05**

O2-8. (14:15-14:45) -Invited talk-

Dynamic Secondary Ion Mass Spectrometry: Present Status, Problems and Prospects

Yuji Kataoka (Fujitsu Laboratories Ltd.)

O2-9. (14:45-15:05)

Helium and Neon Isotope Analysis of Genesis DOS Sample with LIMAS

Kenichi Bajo (Hokkaido University)

- **Coffee break: 15:05-15:25**

- **Instrumentation & Application : 15:25-16:55**

O2-10. (15:25-15:55) -Invited talk-

Development of Cryogenic SIMS Technique for Biology and Cosmochemistry

Naoya Sakamoto (Hokkaido University)

O2-11. (15:55-16:15)

Dynamic SIMS for Characterization of Nuclear Materials

Paula Peres (CAMECA)

O2-12. (16:15-16:35)

Hybrid SIMS: A New Instrument for High Resolution Organic Imaging with Highest Mass-Resolving Power and MS/MS

Derk Rading (IONTOF GmbH)

O2-13. (16:35-16:55)

Secondary Molecular Ion Emission of Polymers with Various Molecular Weights under Large Cluster Ion Bombardment:
Enhancement with the Cationization Technique

Jiro Matsuo (Kyoto University)

- **Closing Remarks: 16:55-17:05**