

SIMS 23 2022 Program Overview

Room /Time	Great Lakes A2-A3	Great Lakes B	Great Lakes C	Great Lakes Promenade & A1
SuA	SC-SuP: SIMS School - IUVSTA Short Courses			
MoM		PS1-MoM: Plenary Session I SS-MoM2: Industrial Applications I		
MoM2			SS-MoM3: Energy Storage I	
MoA		SS-MoA1: Bio Materials SS+DI-MoA3: Industrial Applications II	SS-MoA2: Energy Storage II SS-MoA4: Geosciences	
TuM		PS2-TuM: Plenary Session II		
TuM2	SS-TuM1: Cells and Tissue I	RA+BS+FM+SS-TuM2: Beams, Theory Optimization and Methods	FM+SS-TuM3: Microelectronics	
TuA	BS+FM+SS-TuA1: Cells and Tissue II SS-TuA4: Cells and Tissue IV	BS+FM+SS-TuA2: Cells and Tissue III VS-TuA: Vendor Session	SS-TuA3: Microelectronics	
TuP				POSTER SESSIONS
WeM		FM-WeM1: Fundamentals - Secondary Ion Formation I FM-WeM3: Fundamentals - Secondary Ion Formation II	RA-WeM2: Cluster and Novel Ion Sources SS+RA-WeM4: High Resolution and MS/MS Methods I	
ThM		DI-ThM1: Data and Data Processing RA-ThM3: HR Imaging and Spectrometry	SS-ThM2: Environmental SS-ThM4: Polymers	
ThA		FM-ThA1: High Resolution and MS/MS Methods II SS+BS+FM-ThA3: High Resolution and MS/MS Methods III	BS+SS-ThA2: Polymers & Multi-Technique BS+SS-ThA4: Multi-Technique	

Sunday Afternoon, September 18, 2022

SIMS School: IUVSTA Short Courses Room Great Lakes A2-A3 - Session SC-SuP SIMS School - IUVSTA Short Courses	
11:30am	Welcome, Introductions & Thank Yous
11:40am	INVITED: SC-SuP-2 Fundamentals of SIMS - Views from Ground Zero and Beyond, <i>Arnaud Delcorte</i> , Université Catholique de Louvain, Belgium
12:40pm	INVITED: SC-SuP-8 SIMS Analysis of Biological Materials, <i>Michael J. Taylor</i> , Pacific Northwest National Laboratory
1:40pm	INVITED: SC-SuP-14 SIMS Inorganic Depth Profiling, <i>Jerry Hunter</i> , University of Wisconsin
2:40pm	BREAK
3:00pm	INVITED: SC-SuP-22 Multivariate Analysis Methods for Secondary Ion Mass Spectrometry and Related Techniques, <i>Jean-Paul Barnes</i> , CEA-Leti, France
4:00pm	INVITED: SC-SuP-28 SIMS Analysis of Organic Materials with Industrial Applications, <i>Michaeleen Pacholski</i> , Dow Chemical Company

Monday Morning, September 19, 2022

Room Great Lakes B		
8:30am	Welcome, Introductions & Thank You	Plenary Session Session PS1-MoM Plenary Session I Moderator: Jerry Hunter, University of Wisconsin
8:40am	INVITED: PS1-MoM-2 Plenary Lecture: Oxygen Isotope Analysis in Carbonates: Accuracy vs. Precision, John Valley, N. Kita, K. Kitajima, University of Wisconsin-Madison	
9:40am	BREAK	
10:00am	INVITED: SS-MoM2-10 The Characteristics of Multi-material Depth Profiles with Low-Energy Atomic and Diatomic Ion Beams and Cluster Ion Beams of Ar and O ₂ , Albert Fahey, M. Zhang, Corning Inc.	SIMS Solutions in Materials and Life Sciences Session SS-MoM2 Industrial Applications I Moderators: Derk Rading, IONTOF GmbH, Germany, Alan Spool, Western Digital Corporation
10:40am	SS-MoM2-14 Analysis of Alkali and Trace Species in Silicate Glasses, Timothy Dimond, A. Fahey, C. Mahoney, C. Cushman, Corning Inc.	
11:00am	SS-MoM2-16 TOF-SIMS Surface Hydroxyl Measurements on Multicomponent Glasses, Cody Cushman, N. Smith, J. Banerjee, C. Mahoney, A. Fahey, T. Dimond, Corning Incorporated; M. Linford, Brigham Young University	
11:20am	SS-MoM2-18 Dynamic SIMS Imaging of Impurities in Cold Spray Copper Coating, Jonas Hedberg, Surface Science Western, Western University, London, Ontario, Canada; F. Filice, X. Li, Department of Chemistry, Western University, London, Ontario, Canada; S. Ramamurthy, Surface Science Western, Western University, London, Ontario, Canada; J. Noël, Department of Chemistry, Western University, London, Ontario, Canada; M. Behazin, P. Keech, Nuclear Waste Management Organization, Toronto, Ontario,	
11:40am	SS-MoM2-20 Surface Characterization of High Entropy Alloys with Sea Water and Sulfuric Acid Corrosion Test Using Hard X-Ray Photoelectron Spectroscopy and Time-of-Flight Secondary Ion Mass Spectroscopy, Hsun-Yun Chang, ULVAC-PHI, Inc., Taiwan; W. Lin, Department of Photonics, National Sun Yat-sen University, Taiwan; G. Fisher, Physical Electronics; S. Iida, ULVAC-PHI, Inc., Japan	
12:00pm	SS-MoM2-22 Understanding the Retention and Distribution of Anti-Microbial Compounds on Solid Surfaces, Michael Clark, Jr., Dow, Core R&D Analytical Science; D. Miller, A. Jayaraman, Dow, Core R&D Formulation, Automation & Material Science; A. Karikari, C. Schultz, Dow Home and Personal Care; B. Cressman, Dow, Core R&D Analytical Science	

Monday Morning, September 19, 2022

SIMS Solutions in Materials and Life Sciences Room Great Lakes C - Session SS-MoM3 Energy Storage I Moderator: Andrew Giordani, Procter & Gamble Company	
10:00am	SS-MoM3-1 SIMS Study of Interfacial Degradation in Lithium Thiophosphate-Based Composite Cathodes for All-Solid-State Lithium-ion Batteries, Felix Walther, J. Sann, J. Janek, M. Rohnke , Institute of Physical Chemistry, Justus Liebig University Giessen, Germany
10:20am	SS-MoM3-3 The Effect of Electric Double Layer on Formation of Solid-Electrolyte Interphase in Li Ion Batteries, Zihua Zhu, C. Wang , PNNL
10:40am	SS-MoM3-5 Novel Strategy for the Cycling Analysis of Polymer-based Electrolyte for all-solid-state Lithium Ion Batteries using ToF-SIMS, C.M. Loudy , Université de Pau et des Pays de l'Adour, France; G. Godillot, C. Navarro , ARKEMA France, Groupement de Recherches de Lacq, France; A. Bonnet , ARKEMA France, Usine de Pierre Bénite, France; L. Rubatat , Université de Pau et des Pays de l'Adour, France; J. Allouche, H. Martinez, Cecile Courrèges , Université de Pau et des Pays de l'Adour, France
11:00am	SS-MoM3-7 Investigation of the Li ⁺ /H ⁺ Exchange Process on Washed Cathode Active Material Using ToF-SIMS, Anja Henss , Justus-Liebig University, Heinrich Buff Ring 17, Germany
11:20am	SS-MoM3-9 In Situ Investigation of Lithium Metal–Solid Electrolyte Anode Interfaces with ToF-SIMS, Svenja-Katharina Otto, L. Riegger , Justus-Liebig-Universität Giessen, Germany; S. Kayser , IONTOF GmbH, Germany; A. Henss, J. Janek , Justus-Liebig-Universität Giessen, Germany
11:40am	
12:00pm	

Monday Afternoon, September 19, 2022

Room Great Lakes B	
2:00pm	<p>INVITED: SS+DI-MoA3-1 Keynote Industrial Talk: Correlative Microscopy and Data Analysis for Semiconductor Technology Applications, <i>Jean-Paul Barnes</i>, C. Guyot, P. Hirchenhahn, N. Gauthier, M. Moreno, T. Maindron, Y. Mazel, E. Nolot, CEA-Leti, France; A. Priebe, EMPA (Swiss Federal Laboratories for Materials Science and Technology), Switzerland; B. Gautier, CNRS, France; A. Tempez, S. Legendre, HORIBA France; G. Fisher, Physical Electronics USA</p>
	<p>SIMS Solutions in Materials and Life Sciences Session SS+DI-MoA3 Industrial Applications II Moderators: Cody Cushman, Corning Incorporated, Teruaki Kikuchi, SONY Semiconductor Manufacturing, Japan</p>
2:40pm	<p>SS+DI-MoA3-5 Basic Evaluation and Impurity Analysis in OLED Devices with New Ion Guns for Dynamic-SIMS, <i>Tomomi Ohashi</i>, S. Inayoshi, ULVAC, Inc., Japan; D. Sakai, T. Miyayama, ULVAC PHI, Inc., Japan</p>
3:00pm	<p>SS+DI-MoA3-7 Sample Processing by Bi-FIB for TOF-SIMS Imaging of Buried Interfaces, <i>Shin-ichi Iida</i>, ULVAC-PHI, Inc., Japan; G. Fisher, Physical Electronics; T. Miyayama, ULVAC-PHI, Inc., Japan</p>
3:20pm	<p>SS+DI-MoA3-9 HDR of SIMS Data, <i>Henrik Arlinghaus</i>, D. Rading, E. Niehuis, IONTOF GmbH, Germany</p>
3:40pm	<p>BREAK</p>
4:00pm	<p>INVITED: SS-MoA1-13 Spatially Mapping Single Cells in Diseased Tissue with Multiplexed Ion Beam Imaging, <i>Jay Tarolli</i>, Ionpath</p>
	<p>SIMS Solutions in Materials and Life Sciences Session SS-MoA1 Bio Materials Moderator: Gregory Fisher, Physical Electronics USA</p>
4:40pm	<p>SS-MoA1-17 Single Cell Metabolomics using the 3D OrbiSIMS for Novel Biomaterials Development, <i>Morgan Alexander</i>, University of Nottingham, UK</p>
5:00pm	<p>SS-MoA1-19 Investigation of Changes in the Cell Envelope of E. coli Mutants with a Deficient Conjugation Efficiency Using TOF-Sims., <i>Alfred Fransson</i>, K. Nilsson, M. Palm, A. Farewell, J. Fletcher, University of Gothenburg, Sweden</p>
5:20pm	<p>SS-MoA1-21 Collimated Beam Imaging with MeV TOF-SIMS, <i>Marko Brajkovic</i>, I. Bogdanovic Radovic, M. Barac, Z. Siketic, Ruder Boskovic Institute, Croatia</p>

Monday Afternoon, September 19, 2022

Room Great Lakes C		
2:00pm		SIMS Solutions in Materials and Life Sciences Session SS-MoA2 Energy Storage II Moderator: Andrew Giordani, Procter & Gamble Company
2:20pm	SS-MoA2-3 Study of Lithium-Ion Battery Degradation from the Subsurface of Electrodes, <i>X. Yao</i> , Advanced Technology Institute, University of Surrey, UK; Tomáš Šamořil , <i>J. Dluhoř</i> , TESCAN ORSAY HOLDING, Czechia; <i>J. Watts</i> , Department of Mechanical Engineering Sciences, University of Surrey, UK; <i>Z. Du</i> , Energy and Transportation Science Division, Oak Ridge National Laboratory; <i>B. Song</i> , Neutron Scattering Division, Oak Ridge National Laboratory; <i>R. Silva</i> , Advanced Technology Institute, University of Surrey, UK; <i>T. Sui</i> , Department of Mechanical Engineering Sciences, University of Surrey, UK; <i>Y. Zhao</i> , National Physical Laboratory, UK; <i>D. Miller</i> ,	
2:40pm	SS-MoA2-5 Quantification of Transport Function in Solid Ionic Conductors from Concentration Depth Profiles, Martin Schäfer , <i>J. Wiemer, J. Bernzen, V. Gunawan, K. Rein</i> , Philipps Universität, Germany; <i>K. Weitzel</i> , Philipps-Universität	
3:00pm	SS-MoA2-7 High Five: UHV SIMS with Plasma Primary & Simultaneous Positive and Negative Secondary Ion Detection, <i>S. Fearn</i> , Imperial College London, UK; <i>R. Chater</i> , Imperial College of Science, Technology and Medicine, UK; Graham Cooke , Hidden Analytical Ltd., UK; <i>N. Smith</i> , Oregon Physics	
3:20pm	SS-MoA2-9 Indigenous Organic Molecular Biosignatures are Detectable via ToF-SIMS of a Kerogen-rich Jurassic Clay, <i>M. Pasterski</i> , University of Illinois Chicago; <i>M. Lorenz, A. Ievlev</i> , Oak Ridge National Laboratory; <i>R. Wickramasinghe, Luke Hanley, F. Kenig</i> , University of Illinois Chicago	
3:40pm	BREAK	
4:00pm	INVITED: SS-MoA4-13 Depth Profiling of Solar Wind Helium by Secondary Neutral Mass Spectrometry, Hisayoshi Yurimoto , Hokkaido University, Japan	SIMS Solutions in Materials and Life Sciences Session SS-MoA4 Geosciences Moderator: Mostafa Fayek, University of Manitoba, Canada
4:40pm	SS-MoA4-17 SIMS Measurements of Trace Hydrogen and Fluorine in Nominally Anhydrous Minerals: Implications for Primary and Secondary Processes on the Moon, Jed Mosenfelder , University of Minnesota; <i>A. von der Handt</i> , University of British Columbia, Canada; <i>M. Hirschmann</i> , University of Minnesota	
5:00pm	SS-MoA4-19 Multi-Collector Configuration Considerations for Age-Dating Measurements of Particles by Large Geometry Secondary Ion Mass Spectrometry, Todd Williamson , <i>E. Groopman, D. Simons</i> , National Institute of Standards and Technology (NIST)	
5:20pm	SS-MoA4-21 Construction of New Biomolecular Architectures Using Large Argon Clusters, Benjamin Tomasetti , Université Catholique de Louvain, Belgium; <i>V. Delmez</i> , université catholique de Louvain, Belgium; <i>C. Lauzin</i> , université Catholique de Louvain, Belgium; <i>A. Delcorte</i> , Université Catholique de Louvain, Belgium	

Tuesday Morning, September 20, 2022

<p>Plenary Session Room Great Lakes B - Session PS2-TuM Plenary Session II Moderator: Anna Belu, Medtronic, Inc.</p>	
8:30am	Welcome, Introductions & Thank You
8:40am	INVITED: PS2-TuM-2 Plenary Lecture: The Role of Surface Collisions in Native Mass Spectrometry/Structural Biology, Vicki Wysocki , Ohio State University
9:40am	BREAK

Tuesday Morning, September 20, 2022

	Fundamentals Room Great Lakes C - Session FM+SS-TuM3 Microelectronics Moderator: Marinus Hopstaken, IBM T.J. Watson Research Center Paul van der Heide, IMEC, Belgium	Recent Advances in SIMS Room Great Lakes B - Session RA+BS+FM+SS-TuM2 Beams, Theory Optimization and Methods Moderator: Gregory Fisher, Physical Electronics USA
10:00am	INVITED: FM+SS-TuM3-1 Keynote Industrial Talk: SIMS Quantification: Do You Remember When a Factor of Two was Good Enough?, Charles Magee , 314 Pennington-Rocky Hill Road	INVITED: RA+BS+FM+SS-TuM2-1 Chemical Structure of Organic Molecules Sputtered with Cluster Ions, Jiro Matsuo , Kyoto University, Japan
10:40am	FM+SS-TuM3-5 ToF-SIMS Characterization of Chitosan as Water Developable 193 nm Photolithography Resist for Green Micro-Nanopatterning, P. Durin , Univ Lyon, Ecole Centrale de Lyon, CNRS, France; O. Sysova , Université de Haute-Alsace, CNRS, Université de Strasbourg, France; Y. Guan, C. Gablin , Univ Lyon, CNRS, Université Claude Bernard Lyon 1, France; A. Benamrouche , Univ Lyon, Ecole Centrale de Lyon, CNRS, INSA Lyon, Université Claude Bernard Lyon 1, France; S. Hajjar-Garreau , Université de Haute-Alsace, CNRS, Université de Strasbourg, France; A. Teolis, S. Trombato , Univ Lyon, CNRS, Université Claude Bernard Lyon 1, Université Jean Monnet, France; T. Delair , Univ Lyon, CNRS, Université Claude Bernard Lyon 1, Université Jean Monnet, France; I. Servin, R. Tiron, A. Bazin , Univ. Grenoble Alpes, CEA, LETI, France; D. Berling, O. Soppera , Université de Haute-Alsace, CNRS, Université de Strasbourg, France; T. Géhin , Univ Lyon, Ecole Centrale de Lyon, CNRS, Université Claude Bernard Lyon 1, France; E. Laurenceau , Univ Lyon, Ecole Centrale de Lyon, Université Claude Bernard Lyon 1, France; J. Leclercq, Y. Chevolut , Univ Lyon, Ecole Centrale de Lyon, CNRS, Université Claude Bernard Lyon 1, France; Didier Léonard , Univ Lyon, CNRS, Université Claude Bernard	RA+BS+FM+SS-TuM2-5 Cluster-Induced Desorption/Ionization of Polystyrene – Detailed Information on Material Properties Based on a Soft Desorption Process, P. Schneider, F. Verloh , Justus Liebig University Giessen, Germany; Michael Dürr , Justus Liebig University Giessen, Germany
11:00am	FM+SS-TuM3-7 NP-SIMS for Evaluating the Molecular Homogeneity of Photoresists, Michael Eller, J. Cruz , California State University Northridge; D. Verkhoturov, S. Verkhoturov, E. Schweikert , Texas A&M University	RA+BS+FM+SS-TuM2-7 Ibeam: Large Argon Cluster Ion Beams as a Versatile Vacuum-Based Tool for the Fabrication of Protein Thin Films, Vincent Delmez, B. Tomasetti, C. Poleunis , Université Catholique de Louvain, Belgium; C. Lauzin, C. Dupont-Gillain , université Catholique de Louvain, Belgium; A. Delcorte , Université Catholique de Louvain, Belgium
11:20am	FM+SS-TuM3-9 Dynamic SIMS Analytical Methods for Optimized Detection Limits of Atmospheric Species, Seoyoun Choi, L. Créon, P. Peres , CAMECA, France; S. Miwa , CAMECA, Japan; J. Ren, R. Liu , CAMECA, France	RA+BS+FM+SS-TuM2-9 Optimisation of MeV TOF SIMS Technique for Hybrid Targets Imaging and Inorganic Material Depth Profiling, M. Barac , Ruder Boskovic Institute, Jozef Stefan International Postgraduate School (Slovenia), Croatia; M. Brajkovic, Zdravko Siketic , Ruder Boskovic Institute, Croatia; J. Kovac , Jozef Stefan Institute, Slovenia; I. Bogdanovic Radovic , Ruder Boskovic Institute, Croatia; I. Srut Rakic , Institute of Physics, Croatia; J. Ekar , Jozef Stefan Institute, Slovenia
11:40am	FM+SS-TuM3-11 Co-Sputtering EXLIE SIMS to Achieve Non-Fully Oxidizing Conditions, Alexandre Merkulov, C. Noel, A. Franquet, V. Spampinato, P. van der Heide , IMEC, Belgium	RA+BS+FM+SS-TuM2-11 Reactive Molecular Dynamics Simulations of Lysozyme Desorption Under Ar Cluster Impact, Samuel Bertolini, A. Delcorte , Université Catholique de Louvain, Belgium
12:00pm	FM+SS-TuM3-13 AKONIS: Automation for Easier Use of SIMS, Anne-Sophie Robbes, O. Dulac, K. Soulard, S. Choi, R. Liu, B. Salle , CAMECA, France; M. Pietrucha , CAMECA Instruments Inc.	RA+BS+FM+SS-TuM2-13 Hybrid SIMS: New Adaptive Ion Injection System (AIIS) for Improved Repeatability of Quantitative Orbitrap™ SIMS Measurements, Sven Kayser, J. Zake, D. Rading, A. Pirk, H. Arlinghaus , IONTOF GmbH, Germany; A. Franquet, V. Spampinato , IMEC, Belgium

Tuesday Morning, September 20, 2022

<p>SIMS Solutions in Materials and Life Sciences Room Great Lakes A2-A3 - Session SS-TuM1 Cells and Tissue I Moderators: Gregory Fisher, Physical Electronics USA, Sebastiaan Van Nuffel, Maastricht University, Netherlands</p>		
10:00am	<p>INVITED: SS-TuM1-1 Biological Explorations with NanoSIMS: From Cells to Humans, Matthew Steinhauser, University of Pittsburgh</p>	
10:40am	<p>SS-TuM1-5 Using Multimodal Mass Spectrometry Imaging to Iron Out the Mechanisms of Ferroptosis in Epithelial Ovarian Cancer, Michael J. Taylor, <i>J. Lukowski</i>, Pacific Northwest National Laboratory; <i>L. Tesfay</i>, University of Connecticut Health; <i>J. Cliff</i>, Pacific Northwest National Laboratory; <i>S. Torti</i>, University of Connecticut Health; <i>C. Anderton</i>, Pacific Northwest National Laboratory</p>	
11:00am	<p>SS-TuM1-7 GCIB-SIMS of Lipid Trafficking and Turn-Over in Cancer Cells and Spheroids, <i>K. Dimovska Nilsson</i>, <i>M. Leiva</i>, <i>G. Landberg</i>, John Fletcher, University of Gothenburg, Sweden</p>	
11:20am	<p>SS-TuM1-9 Correlative Microscopy of SIMS, Helium Ion Microscopy and XPS, Jake Sheriff, <i>I. Fletcher</i>, Newcastle University, UK; <i>P. Cumpson</i>, University of New South Wales, Australia, UK</p>	
11:40am	<p>SS-TuM1-11 Direct Observation of Drug Localization to Corneocytes Versus Lipid Matrix in Stratum Corneum – Differences between Caffeine and a Jasmonic Acid Derivative, Peter Sjövall, RISE Research Institutes of Sweden; <i>S. Gregoire</i>, L'Oréal Research and Innovation, France; <i>L. Skedung</i>, RISE Research Institutes of Sweden; <i>G. Luengo</i>, L'Oréal Research and</p>	
12:00pm		

Tuesday Afternoon, September 20, 2022

Room Great Lakes A2-A3		
2:00pm	SS-TuA4-1 Probing the Human Epidermis from a Materials Science Point of View, <i>Xavier Delvaux</i> , University of Namur, LISE Research unit, Namur Institute of Structured Matter, Belgium; <i>Y. Poumay</i> , University of Namur, Namur Research Institute for Life Sciences, Belgium; <i>L. Houssiau</i> , University of Namur, LISE Research unit, Namur Institute of Structured Matter, Belgium	SIMS Solutions in Materials and Life Sciences Session SS-TuA4 Cells and Tissue IV Moderators: Gregory Fisher , Physical Electronics USA, Sebastiaan Van Nuffel , Maastricht University, Netherlands
2:20pm	INVITED: SS-TuA4-3 Ambient Mass Spectrometry Imaging of Lipid Molecules from Live Cells and Tissues Using Nanomaterials, <i>J. Kim</i> , Kyungpook National University, Korea (Republic of); <i>H. Lim</i> , DaeWon Moon , Daegu Gyeongbuk Institute of Science and Technology (DGIST), Korea (Republic of)	
3:00pm	SS-TuA4-7 SiLC-MS (Single-Live-Cell Mass Spectrometry) Analysis in the Context of Drug Discovery, <i>Carla Newman</i> , GSK, UK	
3:20pm	SS-TuA4-9 TOF-SIMS Study of Pharmacological Active Components in Cordyceps Sinensis, <i>Q. Zhan</i> , School of Chemical and Environment Engineering, China University of Mining and Technology, China; <i>M. Xia</i> , Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China; <i>S. Sun</i> , <i>L. Cai</i> , Department of Chemistry, Tsinghua University, China; <i>H. Liang</i> , School of Chemical and Environment Engineering, China University of Mining and Technology, China; Zhanping Li , Key Laboratory of Organic Optoelectronics and Molecular Engineering of Ministry of Education, Department of Chemistry, Tsinghua University, China	
3:40pm	BREAK	
4:00pm	INVITED: BS+FM+SS-TuA1-13 Answering Biomedical Questions Using Integrative ToF-SIMS Imaging, Sebastiaan Van Nuffel , Maastricht University, Netherlands	Beyond SIMS Session BS+FM+SS-TuA1 Cells and Tissue II Moderators: Peter Sjövall , RISE Research Institutes of Sweden, Michael J. Taylor , Pacific Northwest National Laboratory
4:40pm	BS+FM+SS-TuA1-17 In Situ Matrix Enhanced Secondary Ion Mass Spectrometry for Tissue Analysis, <i>Thomas Daphnis</i> , <i>B. Tomasetti</i> , <i>D. Vincent</i> , <i>A. Delcorte</i> , <i>C. Dupont</i> , UCLouvain, Belgium	
5:00pm	BS+FM+SS-TuA1-19 Evaluating Topical Product Sensitivity and Distribution Using a Multi-Modal Imaging Approach, <i>Jean-Luc Vorng</i> , <i>D. Tsikritsis</i> , National Physical Laboratory, UK; <i>P. Zarnpi</i> , <i>V. Tyagi</i> , University of Bath, U.K.; <i>A. Dexter</i> , <i>I. Gilmore</i> , <i>N. Belsey</i> , National Physical Laboratory, UK; <i>R. Guy</i> , University of Bath, U.K.	
5:20pm		

Tuesday Afternoon, September 20, 2022

Room Great Lakes B		
2:00pm	VS-TuA-1 Physical Electronics Vendor Presentation: Innovation and Leadership in Chemical & Molecular Analysis Instrumentation, <i>Gregory L. Fisher</i> , Physical Electronics	Vendor Session Session VS-TuA Vendor Session
2:30pm	VS-TuA-4 IONTOF Vendor Presentation: Latest News and Developments from IONTOF, <i>Sven Kayser, M. Kleine-Boymann</i> , IONTOF GmbH, Germany	
3:00pm	VS-TuA-7 CAMECA Vendor Presentation: Continuous Improvements in SIMS Technologies, <i>Adrien Guillaume, O. Dulac, A. Thomen, A. Robbes, S. Choi, P. Peres, N. Lahoutifard-Henry, L. Créon</i> , CAMECA	
3:20pm		
3:30pm		
3:40pm	BREAK	
4:00pm	BS+FM+SS-TuA2-13 Nanoprojectile-SIMS in the Event-by-Event Bombardment-Detection Mode, <i>M. Eller</i> , California State University, Northridge; <i>S. Verkhoturov, D. Verkhoturov, Emile A. Schweikert</i> , Texas A&M University	
4:20pm	BS+FM+SS-TuA2-15 2D/3D Ion Imaging Methods using CAMECA Dynamic SIMS Instruments, <i>Laura Créon, S. Choi, P. Peres, S. Miwa, J. Ren, R. Liu</i> , CAMECA, France	
4:40pm	BS+FM+SS-TuA2-17 High-Resolution Peak Analysis in TOF SIMS: Resolving Satellite Peaks and sub-Peak Structures, <i>Amy Walker, L. Gelb</i> , University of Texas at Dallas	
5:00pm	BS+FM+SS-TuA2-19 Innovative Approach to Safeguard Saffron Authenticity Using TOF-SIMS and Multivariate Analysis, <i>Alice Bejjani, O. el Ayoubi</i> , Lebanese Atomic Energy Commission, National Council for Scientific Research, Lebanon; <i>E. de Angelis, R. Pilolli, L. Monaci</i> , Institute of Science of Food Production, National Research Council of Italy	
5:20pm		

Tuesday Afternoon, September 20, 2022

Room Great Lakes C		SIMS Solutions in Materials and Life Sciences Session SS-TuA3 Microelectronics Moderator: Temel Buyuklimanli, EAG Laboratories, Jang Jung Lee, TSMC, Taiwan
2:00pm	SS-TuA3-1 New Horizons for SIMS in the CMOS industry, <i>Paul van der Heide, V. Spampinato, A. Franquet</i> , IMEC, Belgium	
2:20pm	SS-TuA3-3 Self-Focusing SIMS to Enable Boron Quantification in Small Silicon Fins, <i>Valentina Spampinato, R. Morris, W. Vandervorst, P. van der Heide, A. Franquet</i> , IMEC, Belgium	
2:40pm	SS-TuA3-5 Can SIMS Still Be a Relevant and Accurate Technique for Dopant Quantification and Bulk Composition of Latest Advanced Nanoelectronic Devices?, <i>Alexis Franquet, V. Spampinato, W. Vandervorst, P. van der Heide</i> , IMEC, Belgium	
3:00pm	SS-TuA3-7 Characterization of GaN HEMT Structures by Combined SIMS & HAXPES Approach, <i>Tarek Spelta, M. Veillerot, E. Martinez, P. Fernandes Paes Pinto Rocha, L. Vauche</i> , CEA/LETI-University Grenoble Alpes, France; <i>B. Salem</i> , CNRS-LTM, Université Grenoble Alpes, France; <i>B. Hyot</i> , CEA/LETI-University Grenoble Alpes, France	
3:20pm	SS-TuA3-9 The Implementation of ToF-SIMS in the Development of State of the Art Ohmic Contacts to GaN, <i>Tatyana Kravchuk</i> , Technion, Israel; <i>Z. Fogarassy</i> , Institute for Technical Physics and Material Science, Centre for Energy Research, Budapest, Hungary; <i>A. Rácz</i> , Institute for Technology Physics and Material Science, Centre for Energy Research, Budapest, Hungary; <i>A. Wójcicka, M. Borysiewicz</i> , Institute of Microelectronics and Photonics, Warsaw, Poland; <i>S. Grzanka</i> , Top-GaN Ltd., Warsaw, Poland; <i>P. Perlin</i> , Institute of High Pressure Physics PAS, Warsaw, Poland	
3:40pm	BREAK	
4:00pm	SS-TuA3-13 Transfer of Zirconium Oxide Nanotubes onto Zirconia-Based Ceramic Implants, <i>Swathi Naidu Vakamulla Raghu</i> , University of Siegen, Germany	
4:20pm	SS-TuA3-15 Quantification of Sims Measurements by Using Ion Implanted Metallic Standards, <i>Guiomar D. Soria, M. González</i> , CIEMAT, Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas, Spain; <i>M. Crespillo, G. Garcia</i> , CMAM, Centre for Micro Analysis of Materials, Spain	
4:40pm	SS-TuA3-17 Ion Implantation Applications for In-Line SIMS Metrology, <i>Lawrence Rooney, S. Okada</i> , Nova	
5:00pm	SS-TuA3-19 Molybdenum Oxide Substrate Used in “Storing Matter” SIMS Technique – Determination of Relative Sensitivity Factors of 20 Elements, <i>Piotr Konarski, J. Ażgin</i> , Łukasiewicz Research Network - Tele and Radio Research Institute, Poland; <i>M. Kasik</i> , MK2 Technologies, Inc.; <i>H. Brongersma</i> , Eindhoven University of Technology, Netherlands	
5:20pm	SS-TuA3-21 Cs ^{M+} Cluster Method in Dynamic SIMS: A Versatile and Practical Approach for Thin Film Electronic Materials, <i>Marinus Hopstaken, S. Molis</i> , IBM T.J. Watson Research Center	

Beyond SIMS

Room Great Lakes Promenade & A1 - Session BS-TuP

Beyond SIMS Poster Session

5:40pm

BS-TuP-1 Exploring the Role of Fe-C-Al Sites for the Low Temperature CO Oxidation over Fe-oxide/Al₂O₃ via ToF-SIMS, *Byeong Jun Cha*, Korea Basic Science Institute, Korea (Republic of); *Y. Kim*, Sungkyunkwan University (SKKU), Korea (Republic of); *C. Choi, M. Choi*, Korea Basic Science Institute, Korea (Republic of)

BS-TuP-3 Evaluation of Multi-Depth Modifications of Metal-Oxide Nanotubes, *Swathi Naidu Vakamulla Raghu*, University of Siegen, Germany

BS-TuP-5 In Situ Liquid Secondary Ion Mass Spectrometry - a Unique Tool for in Situ Molecular Analysis of Various Liquids and Solid-Liquid Interfaces, *Zihua Zhu*, PNNL

BS-TuP-7 Surface Modification of Steel, Molybdenum and Tungsten by the Use of Two Techniques: Electron Beam Scanning and Electric Discharge Machining – SIMS and GDMS Maps, *Piotr Konarski, J. Azgin, A. Zawada*, lukasiewicz Research Network - Tele and Radio Research Institute, Poland; *S. Feng*, Department of Mechanical Engineering, National Taipei University of Technology, Taiwan; *C. Chien*, Chien's Scientific Company, Taiwan; *D. Sheu*, Department of Mechanical Engineering, National Taipei University of Technology, Taiwan

BS-TuP-9 High-throughput Therapeutic Drug Monitoring of Immunosuppressive Drugs using Tungsten Disulfide-based Laser Desorption Ionization, *Sunho Joh, H. Na, J. Son, A. Lee*, Korea Research Institute of Standards and Science (KRISS), Korea (Republic of); *C. Ahn*, Yonsei University, Korea, Korea (Democratic People's Republic of); *D. Ji, Yonsei University, Korea; J. Wi*, Hanbat National University, Korea (Republic of); *M. Jeong*, Hanyang University, Korea; *S. Lee*, Yonsei University, Korea; *T. Lee*, Korea Research Institute of Standards and Science (KRISS), Korea (Republic of)

BS-TuP-11 ToF-SIMS Imaging of Organic and Minerals Matters in Primitive Meteorites, *Manale Noun*, Lebanese Atomic Energy Commission, NCSR, Lebanon; *Y. Arribard*, Institut d'Astrophysique Spatiale, Université Paris-Saclay, France; *S. Della-Negra*, IJLab, CNRS/IN2P3, Université Paris-Saclay, France; *R. Brunetto*, Institut d'Astrophysique Spatiale, Université Paris-Saclay, France; *D. Baklouti*, Institut d'Astrophysique Spatiale, Université Paris-Saclay, France, France

BS-TuP-13 Time of Flight Secondary Ion Mass Spectrometry (ToF SIMS) Analysis of Porous Transport Layers for Proton Exchange Membrane Water Electrolyzers, *Genevieve Stelmachovich, M. Walker*, Colorado School of Mines; *D. Cullen*, Oak Ridge National Laboratory; *S. Ware, T. Schuler, G. Bender*, National Renewable Energy Laboratory; *A. Paxson*, Plug Power; *S. Pylpenko*, Colorado School of Mines

Dealing with Data and Interpretation

Room Great Lakes Promenade & A1 - Session DI-TuP

Dealing with Data and Interpretation Poster Session

5:40pm

DI-TuP-1 Statistical Analysis of ToF-SIMS Images: Seeking Patterns in the Noise, *Alan Spool*, Western Digital Corporation

DI-TuP-3 Characterisation of Noise in the Orbisims and Scaling Method for More Effective Multivariate Data Analysis, *Michael R. Keenan*, Independent; *G. Trindade*, National Physical Laboratory, UK; *A. Pirkl*, IONTOF GmbH, Germany; *J. Zhang*, National Physical Laboratory, UK; *H. Arlinghaus*, IONTOF GmbH, Germany; *L. Matjacic*, National Physical Laboratory, UK; *C. Newell*, The Francis Crick Institute, UK; *R. Havelund*, National Physical Laboratory, UK; *K. Ayzikov*, Thermo Fisher Scientific, Germany; *A. Gould*, The Francis Crick Institute, UK; *J. Bunch*, National Physical Laboratory, UK; *A. Makarov*, Thermo Fisher Scientific, Germany; *I. Gilmore*, National Physical Laboratory, UK

DI-TuP-5 4D Surface Reconstruction to Link Microstructural Topography with Sims Information, *Jean-Nicolas Audinot, A. Ost*, Luxembourg Institute of Science and Technology (LIST), Luxembourg; *T. Wirtz*, Luxembourg Institute of Science and Technology (LIST), Luxembourg

DI-TuP-7 Comparison Study of Mouse Brain Tissue by Using ToF-SIMS with Static Limit and Hybrid SIMS Beyond Static Limit (Dynamic Mode), *Hyun Kyong Shon, J. Son*, Korea Research Institute of Standards and Science (KRISS), Korea (Republic of); *J. Moon*, Korea Research Institute of Bioscience and Biotechnology(KRIBB), Korea (Republic of); *J. Jim*, Korea Basic Science Institute(KBSI), Korea (Republic of); *T. Lee*, Korea Research Institute of Standards and Science (KRISS), Korea (Republic of)

DI-TuP-9 Depth Correction of 3D NanoSIMS Images Show Intracellular Lipid and Cholesterol Distributions While Capturing the Effects of Differential Sputter Rate, *Melanie Brunet, B. Gorman, M. Kraft*, University of Illinois Urbana-Champaign

DI-TuP-11 Microplastic Products Discrimination with ToF-SIMS Using the Clustering Self-Organizing Maps (SOM), *Jin Gyeong Son, H. Shon*, Korea Research Institute of Standards and Science (KRISS), Republic of Korea; *J. Kim*, Airiss, Republic of Korea; *T. Lee*, Korea Research Institute of Standards and Science (KRISS), Republic of Korea

Fundamentals

Room Great Lakes Promenade & A1 - Session FM-TuP

Fundamentals Poster Session

5:40pm

FM-TuP-1 To Fix or Not Fix Biofilms to Study Microbial Soil Aggregation, *Y. Zhang*, Huazhong Agricultural University, China; *J. Son*, Pacific Northwest National Laboratory; *Xiao-Ying Yu*, Oak Ridge National Laboratory

FM-TuP-3 Matrix Enhancement in Time-of-Flight Secondary Ion Mass Spectrometry, *T. Adolphs, Y. Pohkrel, R. Peterson, H. Arlinghaus, Bonnie J Tyler*, University of Münster, Germany

FM-TuP-5 Oxygen Detection Limit with Magnetic Sector Dynamic SIMS, *Alexandre Merkulov*, IMEC, Belgium

FM-TuP-7 Depth Profiling Study in TAPC Monolayer Using Laser Desorption Ionization and Home-Built Ar-GCIB, *Ji Young Baek*, Korea Basic Science Institute, Korea (Republic of); *C. Choi*, Korea Basic Science Institute, Korea (Republic of); *M. Choi*, Korea Basic Science Institute, Korea (Republic of)

FM-TuP-9 Novel Approaches for Measuring Cork Material: Measurements and Applications, *Natalie Sievers*, PNNL

FM-TuP-11 AFM Observation of Topography Development on Si Surface During O₂⁺ Ion Beam Sputtering as a Function of Ion Energy, Angle of Incidence and Dose, *Masayuki Hatada, T. Miyamoto*, Toray Research Center, Inc., Japan

FM-TuP-13 Why Do I Always Fall to Pieces? Understanding Beam-Based Lipid Bond Breakage Through Molecular Dynamics and Density Functional Theory Calculations, *Michael Taylor*, The Pacific Northwest National Laboratory; *W. Kew, A. Anderson, M. Engelhard, C. Anderton*, The Pacific Northwest National Laboratory

Recent Advances in SIMS

Room Great Lakes Promenade & A1 - Session RA6-TuP

Recent Advances in SIMS Poster Session

5:40pm

RA6-TuP-1 Experimental and Theoretical Analysis of Tricyclic Antidepressants Using 213 Nm Picosecond Laser Desorption Postionization Mass Spectrometry, *T. Zagorac*, University of Illinois Chicago; *H. López Pena*, Virginia Commonwealth University; *J. Gross*, University of Illinois Chicago; *K. Moore Tibbetts*, Virginia Commonwealth University; *Luke Hanley*, University of Illinois Chicago

RA6-TuP-3 Analysis of Organic Principal Component Distribution Using Orbitrap/TOF Hybrid SIMS, *Y. Jeong, J. Lee, H. Moon, J. Sung*, Korea Basic Science Institute, Korea (Republic of); *Suh*, Pusan National University, Korea (Republic of); *Jong Sung Jin*, Korea Basic Science Institute, Korea (Republic of)

RA6-TuP-7 Epi SiGe Application using METRION® in-line SIMS System, *Lawrence Rooney, S. Okada*, Nova

RA6-TuP-9 Detection of Contaminants in Positive and Negative Ion Mode Using in-Line SIMS with an Oxygen Primary Ion Beam, *Julia Hoffman, S. Okada*, Nova

SIMS Solutions in Materials and Life Sciences

Room Great Lakes Promenade & A1 - Session SS-TuP

SIMS Solutions in Materials and Life Sciences Poster Session

5:40pm

SS-TuP-1 Cluster-Induced Desorption/Ionization Mass Spectrometry of Highlighter Ink: Unambiguous Identification of Dyes and Degradation Processes Based on Fragmentation-Free Desorption, *K. Bomhardt, P. Schneider, M. Rohnke*, Justus Liebig University Giessen, Germany; *C. Gebhardt*, Bruker Daltonik GmbH, Germany; *Michael Dürr*, Justus Liebig University Giessen, Germany

SS-TuP-3 3d ToF-SIMS Imaging of Ciprofloxacin in Biofilms at Physiologically Relevant Concentrations with Cell Level Spatial Resolution, *A. Akbari, R. Peterson, H. Arlinghaus, Bonnie J Tyler*, University of Münster, Germany

SS-TuP-5 Orbisims Imaging of the Developing *Drosophila* Brain, **Yuhong Jin**, C. Newell, The Francis Crick Institute, UK; I. Gilmore, National Physical Laboratory, UK; A. Gould, The Francis Crick Institute, UK

SS-TuP-9 Advance Understanding of Soil Organic Matter-Mineral Interactions Using Time-of-Flight Secondary Ion Mass Spectrometry, **Zihua Zhu**, P. Jiang, X. Zhang, Q. Zhao, Pacific Northwest National Laboratory; M. Bowman, PNNL; E. Graham, X. Chen, Pacific Northwest National Laboratory

SS-TuP-11 Massive Cluster SIMS for Analysis of Nanoparticles and Their Interfaces, **Michael Eller**, California State University Northridge; J. Sandoval, S. Verkhoturov, E. Schweikert, Texas A&M University

SS-TuP-13 Measurement of Metabolite Relative Ion Yields from Frozen-hydrated and Freeze-dried Tissue and Application of Cryo-OrbiSIMS to Tissue Imaging, **Anya C.S. Eyres**, NiCE-MSI, National Physical Laboratory, UK; J. Zhang, NiCE-MSI, National Physical Laboratory, UK; C. Newell, Y. Jin, The Francis Crick Institute, UK; C. Nikula, NiCE-MSI, National Physical Laboratory, UK; A. Gould, The Francis Crick Institute, UK; J. Bunch, NiCE-MSI, National Physical Laboratory, Imperial College London, Rosalind Franklin Institute, UK; I. Gilmore, NiCE-MSI, National Physical Laboratory, UK

SS-TuP-15 OrbiSIMS Localises Interfacial Degradation in Blue Phosphorescent OLEDs, **G. Trindade**, National Physical Laboratory, UK; S. Sul, Samsung Electronics Co., Ltd., UK; J. Kim, Samsung Electronics, Ltd., UK; R. Haveland, National Physical Laboratory, UK; S. Park, Samsung Electronics Co., Ltd., UK; **Lidija Matjacic**, I. Gilmore, National Physical Laboratory, UK

SS-TuP-17 Secondary Ion Mass Spectrometry Imaging of Wet/Live Cell Membranes in Solution Using Single-Layer Graphene, **Heejin Lim**, Center for Scientific Instrumentation, Korea Basic Science Institute (KBSI), Korea (Republic of); S. Lee, Y. Park, H. Jin, D. Seo, Y. Jang, D. Moon, DGIST, Korea (Republic of)

SS-TuP-19 Mass Spectrometry Imaging of Lipid Changes on 6-Hydroxydopamine-Induced Parkinson's Disease Mouse Model Using TOF-SIMS, **Sun Young Lee**, H. Shon, J. Son, T. Lee, Korea Research Institute of Standards and Science (KRISS), Republic of Korea

SS-TuP-21 ToF- and Orbitrap-SIMS Analysis of Hybrid Solid Electrolytes - Comparing Fragment Patterns and Ionization Efficiency of PEO:LiTFSI, **Timo Weintraut**, J. Becker, A. Hens, Institute of Physical Chemistry, Justus Liebig University Giessen, Germany

Wednesday Morning, September 21, 2022

Room Great Lakes B	
8:40am	<p>INVITED: FM-WeM1-1 Improving Uranium Particle Analysis by SIMS using O₃; <i>Evan Groopman, T. Williamson, D. Simons</i>, National Institute of Standards and Technology (NIST)</p>
9:20am	<p>FM-WeM1-5 Surface Properties of Ionic Liquids: A Mass Spectrometric View Based on Soft Cluster-Induced Desorption, <i>Karolin Bomhardt, P. Schneider, T. Glaser, M. Dürr</i>, Justus-Liebig-University Giessen, Germany</p>
9:40am	
10:00am	BREAK
10:20am	<p>FM-WeM3-11 Ion Suppression Effect of Atrazine in SIMS and MALDI Imaging in Earthworm Samples and its Correlation to Gas Phase Basicity, <i>T. Weintraut, S. Heiles, A. Henss, Marcus Rohnke</i>, Justus Liebig University Giessen, Germany</p>
10:40am	<p>FM-WeM3-13 Ion Emission of Molecules from Graphene and Carbon Nanotube Substrates via Large Cluster Impacts: Mechanisms of Ionization, <i>Stanislav Verkhoturov, D. Verkhoturov</i>, Department of Chemistry, Texas A&M University; <i>M. Goluński, S. Hrabar, Z. Postawa</i>, Department of Physics, Jagiellonian University, Kraków, Poland; <i>A. Kolmakov</i>, National Institute of Standards and Technology, Gaithersburg; <i>E. Schweikert</i>, Department of Chemistry, Texas A&M University</p>
11:00am	<p>FM-WeM3-15 Oxygen Enhancement of Sputtered Ion Yields: Anomalous Behavior of Electropositive Impurities (Al and B) in Cu(O) Matrices, <i>Peter Williams, K. Franzreb</i>, Arizona State University</p>
11:20am	<p>FM-WeM3-17 Strategy for the Construction of Accurate 3D NanoSIMS Depth Profiling Images of Cells Despite Lateral Variations in Sputter Rate, <i>M. Brunet, B. Gorman, Mary Kraft</i>, University of Illinois Urbana-Champaign</p>
11:40am	<p>FM-WeM3-19 Cs⁺ SIMS using a Low Temperature Ion Source (LoTIS), <i>Brenton Knuffman, A. Schwarzkopf, A. Steele</i>, zeroK NanoTech</p>
12:00pm	<p>FM-WeM3-21 Development and Characterization of a Drug Dosed Biomimetic Reference Material for a Sims Vamas Inter-Laboratory Study to Study Sensitivity and Linearity, <i>Jean-Luc Vorng, A. Eyres</i>, National Physical Laboratory, U.K.; <i>C. Newman, A. West</i>, GlaxoSmithKline, UK; <i>I. Gilmore</i>, National Physical Laboratory, UK</p>

Fundamentals
Session FM-WeM1
Fundamentals - Secondary Ion Formation I
Moderator:
Andrew Giordani, Procter & Gamble Company

Fundamentals
Session FM-WeM3
Fundamentals - Secondary Ion Formation II
Moderator:
Andrew Giordani, Procter & Gamble Company

Wednesday Morning, September 21, 2022

Room Great Lakes C		
8:40am	RA-WeM2-1 Study of Mixed-gas Cluster Ion Beam for TOF SIMS, <i>Myoung Choul Choi</i> , Korea Basic Science Institute, Korea (Republic of)	Recent Advances in SIMS Session RA-WeM2 Cluster and Novel Ion Sources Moderator: Arnaud Delcorte , Université Catholique de Louvain, Belgium, Christine Mahoney , Corning Research and Development Corporation
9:00am	RA-WeM2-3 Properties of Vacuum Electrospray Droplet Ion Beams Produced by Capillaries with Different Inner Diameters, <i>Satoshi Ninomiya, S. Tsuneki</i> , University of Yamanashi, Japan; <i>L. Chen</i> , University of Yamanashi, Malaysia; <i>K. Hiraoka</i> , University of Yamanashi, Japan	
9:20am	RA-WeM2-5 Effects of Reactive Gas Cluster Ion Beams on Yields and Matrix Effects in SIMS, <i>Matija Lagator, I. Berrueta Razo</i> , The University of Manchester, UK; <i>N. Lockyer</i> , University of Manchester, UK	
9:40am	RA-WeM2-7 Development of a High Throughput Microscope-Mode Secondary Ion Imaging Mass Spectrometer, <i>Maria Elena Castellani, N. Smith, Y. Jia, M. Burt</i> , Oxford University, UK; <i>J. Bunch</i> , National Physical Laboratory, U.K.; <i>Z. Takats</i> , Imperial College London, UK; <i>M. Brouard</i> , Oxford University, UK; <i>F. Green</i> , Rosalind Franklin Institute, UK	
10:00am	BREAK	
10:20am	SS+RA-WeM4-11 A Novel Method for Measuring Young's Modulus Using Water Cluster SIMS, <i>Naoko Sano, A. Bellew</i> , Ionoptika Ltd., UK	SIMS Solutions in Materials and Life Sciences Session SS+RA-WeM4 High Resolution and MS/MS Methods I Moderators: Gregory Fisher , Physical Electronics USA, Andrew Giordani , Procter & Gamble Company
10:40am	INVITED: SS+RA-WeM4-13 Toward the Analysis of Hydrated Biological Specimens Using Atom Probe Tomography, <i>Daniel Perea</i> , Pacific Northwest National Laboratory	
11:20am	SS+RA-WeM4-17 Identification of Organic Molecules Produced from a Surface using Laser and QIT-ToF-SIMS, <i>Chang Min Choi, J. Baek, J. Eo, M. Choi</i> , Korea Basic Science Institute, Korea (Republic of)	
11:40am	SS+RA-WeM4-19 Cryo-ToF-SIMS and OrbiSIMS investigations of Sr ²⁺ Diffusion in Bone Marrow, <i>Christine Kern, A. Pauli, R. Jamous, T. El Khassawna, M. Rohnke</i> , Justus Liebig University Giessen, Germany	
12:00pm	SS+RA-WeM4-21 Diagenetic Degradation of Organic Molecules in Fossils Characterized by ToF-SIMS, <i>Peter Sjövall</i> , RISE Research Institutes of Sweden; <i>M. Jarenmark, J. Lindgren</i> , Lund University, Sweden	

Thursday Morning, September 22, 2022

Room Great Lakes B		
8:40am	DI-ThM1-1 Denoising of ToF-Sims Images via Inverse Maximum Signal Factors Analysis, <i>Bonnie J. Tyler, H. Arlinghaus</i> , University of Münster, Germany	Dealing with Data and Interpretation Session DI-ThM1 Data and Data Processing Moderators: Christine Mahoney , Corning Research and Development Corporation Bonnie J. Tyler , University of Münster, Germany
9:00am	DI-ThM1-3 High-Speed 3D ToF-SIMS Analysis of Unknown Samples, <i>Michal Ryszka, A. Bellew, K. McHardy, N. Sano, A. Stickland, P. Blenkinsopp</i> , Ionoptika Ltd, UK	
9:20am	DI-ThM1-5 Towards Comprehensive Analysis of Complex Biological Samples in 3D OrbiSIMS, <i>Anna Kotowska, M. Edney</i> , University of Nottingham, UK; <i>A. Shard</i> , National Physical Laboratory, UK; <i>J. Aylott, M. Alexander, D. Scurr</i> , School of Pharmacy, The University of Nottingham, UK	
9:40am	DI-ThM1-7 Time-of-Flight Sims Investigation of Isobaric Oligopeptides, <i>Alessandro Auditore</i> , Università di Catania, Italy; <i>N. Grasso</i> , Università di Catania; <i>N. Tuccitto, A. Licciardello</i> , Università di Catania, Italy	
10:00am	BREAK	
10:20am	RA-ThM3-11 Highest Resolution Sims Imaging Performed on Focused Ion Beam - Based Platforms, <i>Jean-Nicolas Audinot, O. De Castro, P. Philipp, A. Biesemeier, H. Hoang, T. Wirtz</i> , Luxembourg Institute of Science and Technology (LIST), Luxembourg	Recent Advances in SIMS Session RA-ThM3 HR Imaging and Spectrometry Moderators: Laura Creon , CAMECA, France, Albert Fahey , Corning Incorporated
10:40am	RA-ThM3-13 Integrated Spatial Multiomics using Successive (H ₂ O) _n -GCIB-SIMS and C ₆₀ -SIMS Imaging to Delineate Tissue Heterogeneity at Single-cell Resolution, <i>Hua Tian</i> , Pennsylvania State University	
11:00am	RA-ThM3-15 Preliminary Development of Microscope Mode Secondary Ion Mass Spectrometry Imaging, <i>Felicia Green</i> , Rosalind Franklin Institute, UK; <i>M. Castellani, A. Eyres, Y. Jia, M. Brouard</i> , Oxford University, UK; <i>J. Bunch, Z. Takats</i> , Rosalind Franklin Institute, UK; <i>S. Thompson, P. Blenkinsopp</i> , Ionoptika Ltd, UK	
11:20am	RA-ThM3-17 Implementation of an OTOF-SIMS on a FIB/SEM UHV Workstation for Correlative Imaging at High Spatial Resolution and High Mass Resolution, <i>Jean Almoríc Almoríc</i> , Orsay Physics, France; <i>T. Genieys</i> , CIMAP, France; <i>A. Houel</i> , Orsay Physics, France	
11:40am	RA-ThM3-19 Polyamide Chemical Bonding with Titanium and Aluminum Probed with ToF-SIMS and XPS, <i>P. Hirchenhahn, Laurent Housiau</i> , University of Namur, Belgium	
12:00pm		

Thursday Morning, September 22, 2022

Room Great Lakes C	
8:40am	<p>SS-ThM2-1 Liquid ToF-SIMS Revealing the Oil, Water, and Surfactant Interfacial Evolution, <i>Xiao-Ying Yu</i>, Oak Ridge National Laboratory; <i>Y. Shen</i>, Ocean University of China; <i>J. Son, Z. Zhu</i>, Pacific Northwest National Laboratory</p>
9:00am	<p>SS-ThM2-3 Investigation of Bacteria/Model Hybrid Core-Shell Nanoparticles Interactions by an Innovative Combination of Surface Analysis and Mass Spectrometry Techni, <i>S. Fernández-Castillo Suárez</i>, <i>Cecile Courreges</i>, <i>J. Jiménez Lamana</i>, <i>S. Godin</i>, <i>S. Nolivos</i>, <i>R. Grimaud</i>, <i>J. Szpunar</i>, <i>J. Allouche</i>, Université de Pau et des Pays de l'Adour, E2S UPPA, CNRS, IPREM, France</p>
9:20am	<p>SS-ThM2-5 Surface and Functional Characterization of Nanostructured Thin Films for Environmental Remediation, <i>Enrica Maria Malannata</i>, <i>A. Auditore</i>, <i>A. Licciardello</i>, Università di Catania, Italy</p>
9:40am	
10:00am	BREAK
10:20am	<p>INVITED: SS-ThM4-11 Advances in Polymer Science by ToF-SIMS Depth Profiling, <i>Tanguy Terlier</i>, <i>D. Lee</i>, Rice University; <i>C. Bottoms</i>, University of Tennessee Knoxville; <i>A. Masud</i>, <i>A. Karim</i>, University of Houston; <i>G. Stein</i>, University of Tennessee Knoxville; <i>R. Verduzco</i>, Rice University</p>
11:00am	<p>INVITED: SS-ThM4-15 Keynote Industrial Talk: Characterizing Bonding of Perfluoropolyether Lubricants to Magnetic Recording Disks by ToF-Sims, <i>Alan Spool</i>, Western Digital Corporation</p>
11:40am	<p>SS-ThM4-19 Depth Profiling in Thick Polymer Films with Ar and O₂ Gas Cluster Ion Beam Sources, <i>Christine Mahoney</i>, <i>K. Adib</i>, <i>R. Yongsunthon</i>, Corning Research and Development Corporation; <i>B. Burger</i>, Corning Varioptic, France</p>
12:00pm	<p>SS-ThM4-21 Gas Cluster Ion Scattering: A Local Probe of the Ferroelectric to Paraelectric Transition in P(VDF-ran-TrFE) Copolymers, <i>M. Chundak</i>, <i>C. Poleunis</i>, <i>A. Jonas</i>, <i>Arnaud Delcorte</i>, Université Catholique de Louvain, Belgium</p>

**SIMS Solutions in Materials and Life Sciences
Session SS-ThM2
Environmental
Moderators:
Felicia Green**, Rosalind Franklin Institute, UK,
Zihua Zhu, Pacific Northwest National Laboratory

**SIMS Solutions in Materials and Life Sciences
Session SS-ThM4
Polymers
Moderators:
Satoshi Ninomiya**, University of Yamanashi, Japan,
Michaeleen Pacholski, Dow Chemical Company

Thursday Afternoon, September 22, 2022

Room Great Lakes B	
2:00pm	<p>FM-ThA1-1 Orbitrap™ MS/MS and TOF MS/MS: A Comparison of Two New Approaches for Peak Identification in Organic SIMS Applications, <i>J. Zakel, Derk Rading, S. Kayser, A. Pirkl, W. Paul, R. Moellers</i>, IONTOF GmbH, Germany</p>
2:20pm	<p>FM-ThA1-3 Characterization of Surface Bonding and Molecular Structure from Click-Chemistry to Biogenesis Using Tandem Mass Spectrometry Imaging, <i>Gregory L. Fisher</i>, Physical Electronics</p>
2:40pm	<p>INVITED: FM-ThA1-5 How to Measure and Image Large Biomolecules by Using Ar-GCIB and Bi-Cluster ToF-SIMS: Delayed Extraction, External Calibrants and Enzyme-Amplified Signal Enhancement, <i>Tae Geol Lee</i>, Korea Research Institute of Standards and Science (KRISS), University of Science and Technology (UST), Korea (Republic of); <i>H. Shon, H. Na</i>, Korea Research Institute of Standards and Science (KRISS), Korea (Republic of); <i>M. Thi Le</i>, Korea Research Institute of Standards and Science (KRISS), University of Science and Technology (UST), Korea (Republic of); <i>J. Son</i>, Korea Research Institute of Standards and Science (KRISS), Korea (Republic of); <i>J. Moon</i>, Korea Research Institute of Bioscience and Biotechnology (KRIBB), Korea (Republic of)</p>
3:20pm	<p>FM-ThA1-9 Additional Dimension to the <i>m/z</i> Scale: Separation of Structural Isomers Using Orbisims, <i>Gustavo F. Trindade, J. Vorng</i>, National Physical Laboratory, UK; <i>A. Pirkl</i>, IONTOF GmbH, Germany; <i>I. Gilmore</i>, National Physical Laboratory, UK</p>
3:40pm	BREAK
4:00pm	
4:20pm	<p>SS+BS+FM-ThA3-15 A Fine Analysis of the Composition of Organic-inorganic Complex Layers of Cross-sections from Old Paintings by TOF-SIMS Imaging, Enlighthened by MS/MS and Orbitran <i>Alain Brunelle, C. Bouvier</i> IAMS Sorbonne</p>
4:40pm	<p>SS+BS+FM-ThA3-17 How Do Water Clusters Work? Insight from Molecular Dynamics Simulations, <i>M. Kański, S. Hrabar, C. Chang, Zbigniew Postawa</i>, Jagiellonian University, Poland</p>
5:00pm	<p>INVITED: SS+BS+FM-ThA3-19 <i>In situ</i> identification, imaging and depth profiling of proteins using 3D OrbiSIMS, <i>David Scurr</i>, School of Pharmacy The University of Nottingham, UK</p>
5:40pm	Closing Remarks and Thank You

Fundamentals
Session FM-ThA1
High Resolution and MS/MS Methods II
Moderators:
Evan Groopman, National Institute of Standards and Technology (NIST),
Christine Kern, Justus Liebig University Giessen, Germany

SIMS Solutions in Materials and Life Sciences
Session SS+BS+FM-ThA3
High Resolution and MS/MS Methods III
Moderator:
Gregory Fisher, Physical Electronics USA

Thursday Afternoon, September 22, 2022

Room Great Lakes C	
2:00pm	<p>INVITED: BS+SS-ThA2-1 Multidimensional Chemical Imaging of Polymeric Materials Using TOF-SIMS with GCIB Sputtering, <i>Paul Vlasak, M. Clark, R. Drumright, J. Harris, M. Pacholski, H. Ying</i>, Dow</p>
2:40pm	<p>BS+SS-ThA2-5 Mixed Actinide Glasses as Working Reference Materials for Spatial Analyses, <i>David Willingham, J. Matzel, P. Weber</i>, Lawrence Livermore National Laboratory; <i>E. Groopman</i>, National Institute for Science and Technology (NIST); <i>D. Weisz, J. Wimpenny, J. Caseres, K. Knight</i>, Lawrence Livermore National Laboratory</p>
3:00pm	<p>BS+SS-ThA2-7 An Overview of Automotive Coatings and the Analytical Tools that Drive Innovation, <i>Sabrina Peczonczyk, N. Hosking, C. Peters, T. Misovski, C. Seubert, M. Nichols</i>, Ford Motor Company</p>
3:20pm	
3:40pm	BREAK
4:00pm	<p>BS+SS-ThA4-13 <i>In Operando</i> Correlated Studies in Energy Materials via Combined Afm/Tof-Sims Platform, <i>Anton V. Ievlev</i>, Oak Ridge National Laboratory, USA</p>
4:20pm	<p>BS+SS-ThA4-15 Adsorption Differences of Organic Molecules on the Metal Oxide Surfaces, <i>Aydan Yadigarli, S. Mohajernia, M. Killian</i>, Chemistry and Structure of new Materials, Siegen University, Germany; <i>M. Aktan</i>, Department of Materials Science and Engineering, KU Leuven, Belgium; <i>A. Braem</i>, Department Materials Science and</p>
4:40pm	
5:00pm	

Beyond SIMS
Session BS+SS-ThA2
Polymers & Multi-Technique
Moderators:
Andrew Giordani, Procter & Gamble Company,
Michaeleen Pacholski, Dow Chemical Company

Beyond SIMS
Session BS+SS-ThA4
Multi-Technique
Moderator:
Andrew Giordani, Procter & Gamble Company

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