

## EUROPE



**Jean-Paul Barnes** is a Senior Expert and Scientific Director for the semiconductor technology platform division at the CEA Leti in Grenoble, France. He leads the mass spectrometry and ion beam analysis group that currently has 10 researchers, PhD and post-doc students working together. Jean-Paul received the MEng degree in Metallurgy and the Science of Materials from Oxford University and the DPhil in Materials Science from Oxford University. Since 2004, he has worked on the development of different characterization techniques for microelectronic applications, first, on electron energy loss spectroscopy in the (S)TEM and then on magnetic sector SIMS, ToF-SIMS and atom probe tomography. More recently, he has worked on FIB-TOF-SIMS tomography and analysis of organic light emitting diodes and biomaterials. He has coordinated several national projects and led workpackages in European and industrial projects. Jean-Paul has co-authored two book chapters, three patents and more than 180 publications in international scientific journals and conference proceedings. He has an H-factor of 30 with 2854 citations. He teaches at Grenoble University has supervised 6 post-docs, 10 PhDs and 4 master students.

Jean-Paul has co-organized several workshops and conferences including the European Atom Probe workshop in 2012, the Francophone TOF-SIMS meeting in 2015, and of course, SIMS-24 in 2024! He is active as a member of the program committee of the International Conference on Frontiers of Characterization and Metrology for Nanoelectronics (FCMN), the advisory board for SIMS Europe and is secretary of the French Mass Spectrometry Imaging GDR network.

Jean-Paul has been a regular attendee at international SIMS conferences as well as SIMS Europe and US SIMS workshops since SIMS-16 in Kanazawa in 2007. He has given over 35 talks at conferences of which 17 were invited lectures.

If I am elected to serve on the SIMS IC committee, I will bring my experience in conference organization and project management as well as a desire to maintain and promote the friendly and inclusive nature of the SIMS community that is so important in enabling high quality scientific discussion and collaboration.

## EUROPE

**Alexis Franquet** is Principal Member of Technical Staff at Imec (Belgium), the world's leading independent nanoelectronics R&D hub.

Alexis received his PhD degree in Applied Physics from the University of Brussel (Belgium) in 2002. Alexis joined Imec in 2005 as a researcher in surface analysis focusing on ToF-SIMS, AES and XPS. Since 2017, he is leading the Compositional Analysis team of the Materials and Component Analysis department at Imec focusing on Time-of-Flight (ToF-) and Magnetic Sector (MS-) SIMS. Alexis has authored or co-authored more than 280 scientific publications in international peer reviewed journals and has presented several invited talks at international conferences. His work has been cited over 4800 times, and his h-factor is 36. He maintains several national and international collaborations with Universities, R&D institutes, and companies. In 2017, Alexis invented the Self-Focusing SIMS (SF-SIMS) concept to enable the use of SIMS for future advanced devices in the semiconductor field. The SF-SIMS concept is now daily used in the semiconductor industry by several big companies. His current research is focused on the further development of the SF-SIMS concept, on the combination of ToF-SIMS with (*in-situ*) SPM, on the application and development of ORBITRAP<sup>TM</sup>-SIMS for organic and inorganic devices, ...

Alexis participated at his first conference of the biennial SIMS conference series in 2007 at Kanazawa, Japan. Since then, he has attended on every SIMS international conference with often multiple contributions. Alexis is also very active in more regional SIMS meetings such as the SIMS Europe workshop, for which he presented oral and poster contributions at each conference since 2006.

## Prof. Dr. Marcus Rohnke

Institute for Physical Chemistry  
Justus Liebig University Gießen  
Germany



Marcus studied chemistry at Hanover university and graduated in 1999 with a diploma thesis in the field of solid-state electrochemistry. Within his PhD thesis at Justus Liebig University Giessen (JLU) he focused on the interaction of low temperature plasmas and oxygen ion conductors. During his PhD, he spent several research stays at Imperial College in London (UK) in the group of Prof. John Kilner and learned SIMS from scratch on a huge Atomika quadrupole machine. After a short Postdoc stay with Prof. Tatsuya Kawada in the materials science department at Tohoku University (Sendai, Japan) he took over in 2005 a permanent position as research officer at JLU Giessen. Here he built up a SIMS laboratory at the Institute for Physical Chemistry and is heading the laboratory since more than 17 years. Marcus research work is dedicated to reactions and diffusion in materials and at materials interfaces. This covers a broad field from bone to battery materials research. Marcus is SIMS lab manager at the center for materials research and adjunct professor for physical chemistry at JLU Giessen. He is coauthor of more than 120 publications in peer reviewed journals, two patents and one book chapter.

*I would be happy to represent the interests of the Europeans in the IC for the next years.*

## EUROPE



Dr **Gustavo F. Trindade** is a Senior Scientist in the National Centre of Excellence in Mass Spectrometry Imaging (NiCE-MSI) at NPL. His current interests are in advancing measurement capabilities of the state-of-the-art [OrbiSIMS](#) to meet emerging challenges in life sciences, pharma, additive manufacturing, and organic semiconductors. Gustavo is a member of ISO TC 201 SC 6 (Mass Spectrometry), VAMAS TWA 2 and BSI CII/060 (Surface Chemical Analysis). He is also a member of the Institute of Physics (IOP), a member of the Brazilian Physical Society (SBF) and a committee member of the UK Surface Analysis Forum (UKSAF).

Gustavo has over 10 years of experience with secondary ion mass spectrometry with more than 50 published peer-reviewed papers and is currently contributing to two book chapters related to SIMS. He also contributes to the community acting as a grant reviewer and peer-reviewer for more than 10 different journals. In 2022, Gustavo was [awarded the Vickerman Prize](#) by the UKSAF, given to scientists whose work is anticipated to have a major impact in the field of surface analysis. In 2023, Gustavo was featured as one of [CellPress Matter's 35 researchers under 35](#) tackling challenges in materials science. In 2024, Gustavo is chairing and organising the [101<sup>st</sup> IUVESTA workshop](#) on High performance SIMS instrumentation and machine learning / artificial intelligence methods for complex data, which will bring together experts and define directions in the field. He is also the developer of the [simsMVA](#) software that is used in more than 10 countries around the world across industry and academia.

Gustavo obtained his BSc and MSc in Physics from the University of Sao Paulo (2011, 2013) where he worked with ion beam analysis of polymer materials modified for biocompatibility. He then worked as a graduate fellow at the same university on the analysis of minerals in teeth enamel of children born preterm and full term (2013-2014). Gustavo completed his PhD in Materials Science from the University of Surrey (2018), working mainly with secondary ion mass spectrometry and multivariate statistical data analysis to solve various industry-related problems such as surface plasma treatment of automotive grade polymers, food packaging adhesives and polyester coatings. Before joining NPL in 2021, Gustavo worked at the University of Nottingham (2018-2021) on the development of analytical methods for the micro/nano scale study of materials interface in multi-functional additive manufacturing, with applications in the electronics and pharmaceutical industries, collaborated on the measurement of proteins by OrbiSIMS and led an international collaboration (Nottingham, NPL, Sao Paulo and CERN) on the analysis and fabrication of micro patterned radiation detectors used in high energy physics experiments.

## **NORTH AMERICA**

### **David M. Carr, Ph.D.**

Dave has 20 years' experience with ToF-SIMS on an extremely wide variety of samples in an industrial setting. He is currently an Advanced Research Specialist at 3M who specializes in TOF-SIMS analyses on projects ranging from research & development to process modifications to failure analysis supporting customer complaints and manufacturing challenges. Dave is also known at 3M for his mentorship work with new employees. He grew up in Denver, Colorado and obtained a B.S. in Chemical Engineering from the University of Notre Dame and a Ph.D. in Chemical Engineering from the University of Minnesota. Dave first learned ToF-SIMS at Evans Analytical Group (now a part of Eurofins) where he ran contract analyses for over 175 different companies. After 10 years as a contract ToF-SIMS analyst, Dave joined Physical Electronics as a demo scientist for 6 years where he gained deep background knowledge of the technology and developed relationships across the worldwide academic and industrial SIMS communities before moving to 3M in 2020.

## NORTH AMERICA

**Prof. Michael J. Eller** (B.S., Chemistry Iowa State University 2007; Ph.D., Chemistry Texas A&M University 2012) is an Assistant Professor in the Department of Chemistry and Biochemistry at California State University, Northridge. His research interests are centered on developing instrumental and data analysis methods for the analysis of molecules at the nanoscale using Secondary Ion Mass Spectrometry. In 2017 he received the Beynon prize for the best published paper in Rapid Communications in Mass Spectrometry. He has authored over 43 papers published in peer reviewed journals. Michael is extremely active in the SIMS community and is working diligently to reestablish a vibrant SIMS community in North America. He is the current president of the North American SIMS Society which he co-founded with Tanguy Terlier with whom he also recently co-chaired the 2023 Rice SIMS Workshop which featured over 130 in person attendees. He will also co-chair the 2025 North American SIMS Workshop with Christine Mahoney which will be held in 2025 in Northridge CA.

## NORTH AMERICA

**Luke Hanley** is a LAS Distinguished Professor in the University of Illinois Chicago (UIC) Department of Chemistry and is currently Associate Dean of Research & Facilities in UIC's College of Liberal Arts and Sciences (LAS). He received his B.Sc. and Specialist in Chemistry from the University of Toronto and his Ph.D. in physical chemistry from the State University of New York at Stony Brook. He served as Chemistry's Department Head for seven years. He has been awarded a National Science Foundation (NSF) Postdoctoral Research Fellowship in Chemistry, an NSF Young Investigator in Chemistry, a University of Illinois Scholar, UIC Researcher of the Year Award, Fellow of the American Vacuum Society, and research funding from multiple federal agencies. His 150 refereed papers cover a diverse array of topics including time-of-flight, laser desorption, and photoionization mass spectrometry; surface science; analytical chemistry; statistical analysis of data; bioengineering; and microbiology (see <https://orcid.org/0000-0001-7856-1869>). He has successfully mentored 32 Ph.D. students during 34 year academic career.



## NORTH AMERICA



**Dr. Xiao-Ying Yu** obtained her Ph.D. in Physical Chemistry at the University of Michigan. She is a distinguished scientist and the group leader of the advanced nuclear materials of the Oak Ridge National Laboratory (ORNL). Dr. Yu had been a senior scientist and chief engineer at the Pacific Northwest National Laboratory (PNNL) before moving to ORNL. Dr. Yu's research focuses on new instrument development for characterization of materials in biology, energy, and material sciences using microfluidics and multimodal techniques. She invented new instrumentation and methodologies to study separation and materials at the micro and nanoscale that have resulted in multiple patents. Of specific interest to the international secondary ion mass spectrometry (SIMS) community, Dr. Yu is the lead inventor of the in situ liquid SIMS using microfluidics. She also spearheaded the application of SIMS in studying microbial biofilms, single cells, and environmental organics since the invention of liquid SIMS. Her invention of the vacuum compatible electrochemical microfluidics enabled operando molecular imaging of the solid electrode and liquid electrolyte interface using liquid SIMS. She also led in situ characterization of carbon dioxide capture solvents and investigation of chemical transformation of novel materials. She was the principal investigator of the prestigious R&D 100 and FLC Technology Transfer Award. Dr. Yu has published more than 130 peer-reviewed articles with an H-index of 40.



## ASIA-PACIFIC



**Dr. Haibo Jiang** is an Associate Professor in the Department of Chemistry at The University of Hong Kong and the Director of the JC STEM Lab of Molecular Imaging. He earned his B.S. from Shanghai Jiao Tong University and his Ph.D. from the University of Oxford. Dr. Jiang's academic career includes roles as a Lecturer, Research Fellow and Group Leader at The University of Western Australia, and a Visiting Assistant Professor at UCLA's David Geffen School of Medicine. His research focuses on the development of advanced bioimaging techniques to investigate molecular trafficking and metabolism mechanisms. His work has applied NanoSIMS imaging extensively in combination with multimodalities of imaging techniques to study mechanisms of lipid metabolism and interactions between therapeutics and biological systems. Dr. Jiang has published 68 peer-reviewed papers, including papers in prestigious journals. He has received numerous awards, including the Global STEM Professorship and the Discovery Early Career Researcher Award.