

NANOSIMS WORKSHOP

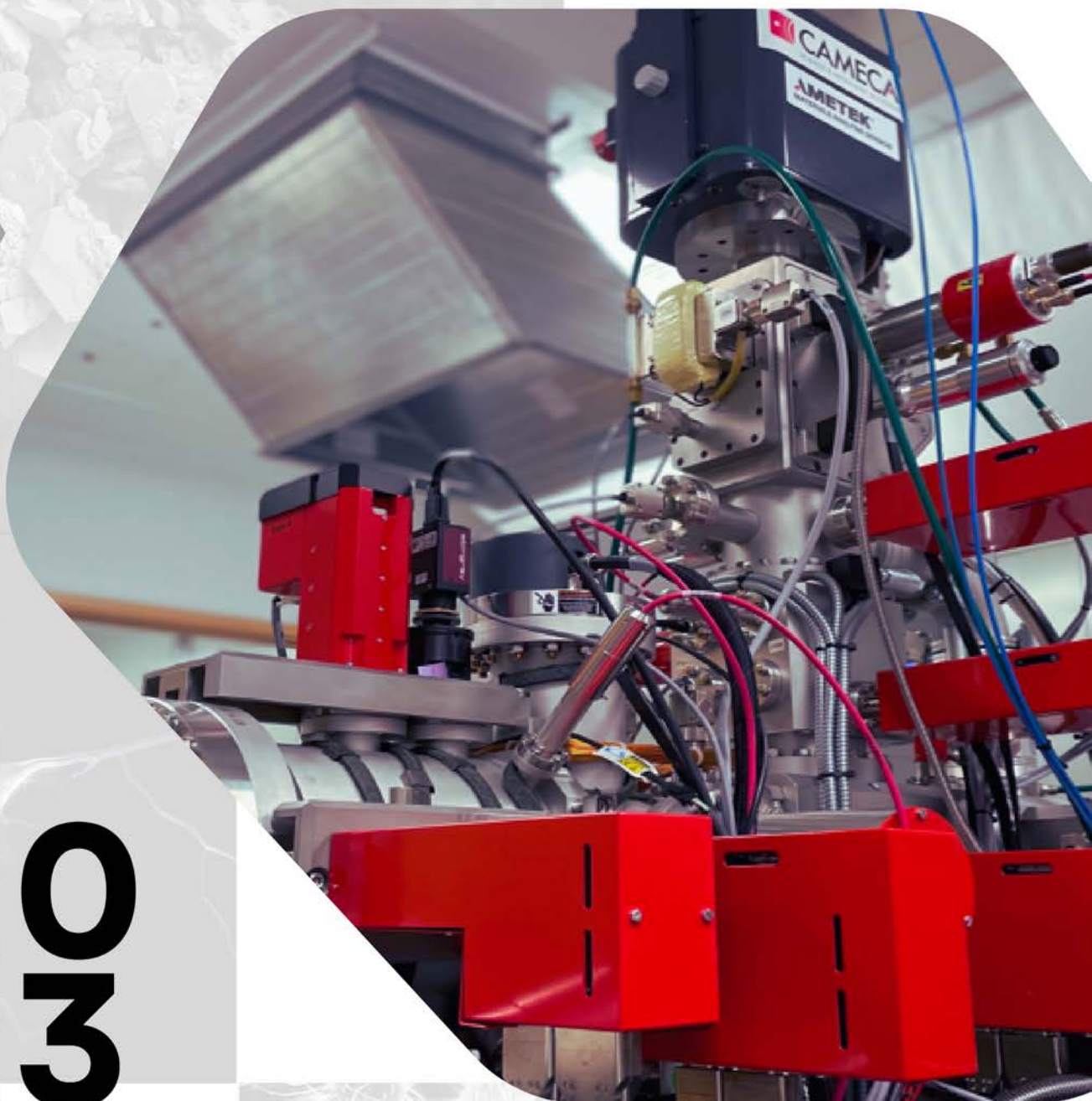
PROGRAM 2023

GOTHENBURG



20
23

ASTRAZENECA



MONDAY, 16 OCT, 2023



OPENING 9:00 – 10:25

9:00 – 9:30

Doors open PGN, Registration/Coffee/Tea/

9:30 – 9:40

Welcome and general announcements

9:40 – 9:45

Plenary Lecture Speaker Introduction

9:45 – 10:25

Plenary Lecture – Tom Wirtz



MATERIALS IN FOCUS 10:25 – 11:05

Contributed Talks Session 1, (15 minutes + 5 minutes)

10:25 – 10:45

Yizhuo Ding et al.

“Characterisation of Aluminium-Lithium alloys using NanoSIMS and EMPA”

The University of Manchester,
United Kingdom

10:45 – 11:05

Gina Greenidge et al.

“Advancing NanoSIMS analysis of carbon materials for next-generation Li-ion battery anodes”

National Physical Laboratory (NPL),
United Kingdom



COFFEE BREAK 11:05–11:25

MONDAY, 16 OCT, 2023



MATERIALS IN FOCUS 11:25 - 12:25

Contributed Talks Session 2, (15 minutes + 5 minutes)

11:25 - 11:45

Kexue Li et al.

“Challenges and Innovations in Measuring Hydrogen Distribution in Zr Alloy Using NanoSIMS”

University of Manchester
United Kingdom

11:45 - 12:05

Carmen Hoeschen et al.

“How does the Cs + primary ions affect NanoSIMS measurements of thin coatings or at particle edges? What can we learn from 3D-SDTrimSP?”

Technical University of Munich
Germany

11:45 - 12:05

Ian Byrnes et al.

“NanoSIMS Analysis of Uranium Uptake in Daphnia magna Tissues”

The Norwegian University of Life Sciences
Norway



LUNCH 12:30 - 13:30



LAB TOUR 13:30 - 14:40

MONDAY, 16 OCT, 2023



INVITED TALK 14:40 – 16:00

14:40 – 15:20

Prof. Andrew Ewing
“Evaluation of Partial Exocytosis and Nano
Vesicular Subcompartments with NanoSIMS”

University of Gothenburg
Sweden

15:20 – 15:40 (ONLINE)

Dr. Angela Vogts
“Depicting intra- and intercellular processes
in marine microorganisms”

Leibniz Institute for Baltic Sea Research
Warnemünde
Germany

15:40 – 16:00 (ONLINE)

Prof. Peter Williams
“Canode: An improved duoplasmatron
design for negative primary ion
generation for secondary ion mass
spectrometry”

Arizona State University
USA



COFFEE BREAK 16:00 – 16:20

MONDAY, 16 OCT, 2023



**POSTER FLASH TALKS FOLLOWED BY
POSTER VIEWING 16:20 – 17:30**

P1: E. Berlin "Characterization of Stress Granule Protein Turnover in Neuronal Progenitor Cells Using Correlative STED and NanoSIMS Imaging"
University of Gothenburg, Gothenburg, Sweden

P2: Abiel Tesfai Kidane, Single-cell iron uptake: Direct correlation to nitrogen and carbon fixation in cyanobacteria of the tropical North Atlantic

P3: Macaulay Turner, Understanding whipworm biology and anthelmintic uptake mechanisms through the use of Nanoscale Secondary Ion Mass Spectrometry

P4: Yizhuo Ding, Characterisation of Aluminium-lithium alloys using NanoSIMS and EPMA

P5: Levgen Shulov, Red-emitting rhodamine dyes for correlative optical and SIMS imaging

P6: André du Toit, Autophagy modulatory effects on protein turnover in human neural progenitor cells with Schinzel-Giedion Syndrome using correlative fluorescence microscopy and NanoSIMS

P7: Laura Helene Rasmussen, Do Arctic Exstream winter warming events lead to microbial N immobilization and plant N limitation?

P8: Tho Nguyen et al, "NanoSIMS imaging to study content release from nanovesicles"



END OF DAY 17:30

TUESDAY, 17 OCT, 2023

OPENING 9:00 - 9:30

Doors open PGN, Registration/Coffee/Tea/



INVITED TALK 9:30 - 10:40

9:30 - 9:50

Dr. Katie Moore

"Analyzing plant science processes with NanoSIMS"

University Of Manchester
United Kingdom

9:50 - 10:20 (ONLINE)

Prof. Jinshan Pan

"Penetration of corrosive species along grain boundaries of copper explored by SIMS-based techniques"

KTH Royal Institute of Technology
Sweden

10:20 - 10:40

Dr. Katie Moore

"Advancing Qubit Coherence and Isotopic Purity in Silicon using P-NAME validated by NanoSIMS"

University Of Manchester
United Kingdom

TUESDAY, 17 OCT, 2023



LIFE SCIENCE IN FOCUS 10:40 – 11:20

Contributed Talks Session 3, (15 minutes + 5 minutes)

10:40 – 11:00

Maria Angels Subirana et. al.

“NanoSIMS and complementary techniques to localize trace element accumulation in cells and tissues”

CNRS /Université de Pau et des Pays de l'Adour
France

11:00 – 11:20

Macaulay Turner et al.

“Understanding whipworm biology and anthelmintic uptake mechanisms through the use of Nanoscale Secondary Ion Mass Spectrometry”

University Of Manchester
United Kingdom



COFFEE BREAK 11:20 – 11:45



LIFE SCIENCE IN FOCUS 11:45 – 12:25

Contributed Talks Session 4, (15 minutes + 5 minutes)

11:45 – 12:05

Abiel Kidane et al.

“A Single-cell iron uptake: Direct correlation to nitrogen and carbon fixation in cyanobacteria of the tropical North Atlantic”

Max Planck Institute for Marine Microbiology
German

TUESDAY, 17 OCT, 2023

11:05 - 12:25

Tho Nguyen et al.
"NanoSIMS imaging to study content
release from nanovesicles"

University of Gothenburg
Sweden



LUNCH 12:25 - 13:30



LIFE SCIENCE IN FOCUS 13:30 - 14:10

Contributed Talks Session 5, (15 minutes + 5 minutes)

13:30 - 13:50

Alicia A Lork et al.
"Subcellular spatial distribution of protein
turnover in neuronal
progenitor cells"

University of Gothenburg
Sweden

13:50 - 14:10

Anton Legin et al.
" Subcellular imaging of a dual stable
isotope-labeled platinum(IV)
complex in murine tumor"

University of Vienna
Austria



DATA ANALYSIS IN FOCUS 14:10 - 15:10

Contributed Talks Session 6, (15 minutes + 5 minutes)

14:10 - 14:30

G. Greenidge and G. McMahon
"Development of Standard Samples for
NanoSIMS Measurements"

National Physical Laboratory (NPL)
United Kingdom

TUESDAY, 17 OCT, 2023

14:30 - 14:50

André du Toit

"Approaches to contextualizing secondary ion mass spectrometry imaging"

University of Gothenburg
Sweden

14:50 - 15:10

Mats Josefsson et al.

"An Image Pipeline to apply Hyperspectral Machine Learning for Mass Spectra"

AstraZeneca
Sweden



ROUNDTABLE DISCUSSION 15:10 - 15:40

- COMMUNITY-BASED SUPPORT CROWDSOURCING KNOWLEDGE ON NANOSIMS!
- "RECRUITMENT – ISSUES AND SOLUTIONS?"
- VOLUNTEERS FOR 2024 WORKSHOP



COFFEE BREAK 15:40 - 16:00



SPONSORS SESSION 16:00 - 17:00

Cameca, Gennevilliers, France
IONTOF, Münster Germany



END OF DAY 17:00



DINNER 19:00

WEDNESDAY, 18 OCT, 2023



OPENING 8:30 – 9:00

Doors open PGN, Registration/Coffee/Tea

DRUG-SIMS DAY 9:00 – 11:45

INTRODUCTION 9:00 – 9:45

9:00 – 9:05

Per Malmberg
Introduction to the DrugSIMS day

9:05 – 9:25

Shalini Andersson
"The broad vision that started it all"

AstraZeneca
Sweden

9:25 – 9:45

Ulrika Edvardsson
"A New Approach for Industry-Academia collaborations"

AstraZeneca BioventureHub
Sweden



DRUG-SIMS IN FOCUS 9:45 – 10:05

Contributed Talks Session 7, (15 minutes + 5 minutes)

9:45 – 10:05

Julia Fernandez-Rodriguez
"Correlative Multimodal Imaging by NanoSIMS and Electron Microscopy: optimization of sample preparation methods to accelerate drug development"

Sahlgrenska Academy
Sweden

WEDNESDAY, 18 OCT, 2023



COFFEE BREAK 10:05 – 10:20



DRUG-SIMS IN FOCUS 10:20 – 11:45

Contributed Talks Session 8, (15 minutes + 5 minutes)

10:20 – 10:40

Rouven Stulz

“Design and synthesis of
oligonucleotides for NanoSIMS
imaging”

AstraZeneca,
Sweden

10:40 – 11:00

Michael Kurczy

“The Fundamentals of DrugSIMS”

AstraZeneca
Sweden

11:00 – 11:20

Cecile Becquart

“DrugSIMS: quantitative insights
into the subcellular
distribution of oligonucleotide
therapeutics and small
molecules”

AstraZeneca
Sweden

11:20 – 11:40

Aurelien Thomen,

“Quantification/standards/softw
are”

CAMECA
France



11:40 – 11:45

Closing statement



10

NANOSIMS WORKSHOP 2023

GOTHENBURG



THANKS TO THE SPONSORS

CHALMERS
UNIVERSITY OF TECHNOLOGY

CAMECA

ASTRAZENECA

ION-TOF