

Program

All workshops and lectures will take place in Hall B, level 3

| Monday, March 27 | |
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| 08:30- | Registration open at Uppsala Konsert & Kongress - level 3 |
| | <i>Chair pre-meeting morning session: Anna Nilsson, Uppsala University</i> |
| 09:00-09:30 | Pre-meeting Workshop 1 What is nano-DESI and what can you do with it? <i>Speaker: Prof. Ingela Lanekoff, Uppsala University</i> |
| 09:30-10:00 | Pre-meeting Workshop 2 - Spectral Hybrid SIMS: Secondary Ion Mass Spectrometry (SIMS) Imaging with High Mass Resolving Power <i>Speaker: Sven Kayser, IONTOF</i> |
| 10:00-10:30 | Coffee Break - level 3 |
| 10:30-12:15 | Pre-meeting Workshop 3 - Waters Corporation Accessible Performance in Mass Spectrometry Imaging Speakers: Remi Longuespee, University Hospital Heidelberg, Mark Towers, Waters Corporation, Emrys Jones, Waters Corporation |
| 12:15-13:15 | Lunch - level 3 |
| | <i>Chair pre-meeting afternoon session: Tina Angerer, Uppsala University</i> |
| 13:15-15:00 | Pre-meeting Workshop 4 - Bruker Daltonics Miraly [™] MALDI HiPLEX-IHC <i>Speaker: Gargey Yagnik, AmberGen</i> SCiLS [™] Lab: Software for Data Analysis of Mass Spectrometry Imaging Data <i>Speaker: Jan H. Kobarg, Bruker Daltonics</i> Customer success story features <i>Speaker: Kate Stumpo, Bruker Scientific and Arne Behrens, Bruker Daltonics</i> |
| 15:00-15:30 | Coffee Break - level 3 |
| 15:30-16:00 | Pre-meeting Workshop 5 – Thermo Fisher Scientific MALDI technique meets Orbitrap technology <i>Speaker: Kerstin Strupat, Thermo Fisher Scientific</i> |
| 16:00-17:00 | Pre-meeting Workshop 6 METASPACE: cloud software for metabolite and lipid annotation and public knowledge base <i>Speaker: Dr. Theodor Alexandrov, EMBL</i> |
| 18:00-18:15 | Welcome <i>Dr Per Andrén, Uppsala University</i> |
| 18:15-19:15 | Opening Plenary Lecture Next generation MALDI imaging mass spectrometry: enabling molecular microscopy in the new age of biology and medicine <i>Prof. Richard Caprioli, Vanderbilt University</i> |
| 19:15-21:00 | Opening Reception & Bites at Uppsala Konsert & Kongress - level 3 |

Tuesday, March 28

* all lectures include 5 min for questions

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| 08:00-08:30 | Registration open at Uppsala Konsert & Kongress - level 3 |
| | Emerging Techniques & New Instrumentation <i>Session chairs: Jens Soltwisch & Henrik Lodén</i> |
| 08:30-09:00 | Keynote: Transmission-mode MALDI-2 Ion Source for Online Co-registration of MS and Optical Images with Sub-micrometer Precision <i>Speaker: Jens Soltwisch Abstract: #P34</i> |
| 09:00-09:15 | Combined imaging and chemical characterization in one spatial -omics platform <i>Speaker: Ingela Lanekoff Abstract: #P1</i> |
| 09:15-09:30 | Coupling Mass Spectrometry Imaging with Immunofluorescence for Molecular and Cellular Histology of Complex Microenvironment <i>Speaker: Landry Blanc Abstract: #P4</i> |
| 09:30-09:45 | Application of NanoSIMS in nucleic acid-based therapeutics discovery – introducing the intracellular concentration as in-vitro PK parameter <i>Speaker: Michael Kurzcy Abstract: #P8</i> |
| 09:45-10:00 | Sponsor talk: Waters Corporation Ion mobility-mass spectrometry for targeted drug quantification using validated desorption/ionization methods <i>Speaker: Rémi Longuespée, University Hospital Heidelberg</i> |
| 10:00-10:30 | Coffee Break - level 3 |
| | Pharmacology & Toxicology <i>Session chairs: Carsten Hopf & Patrik Bjärterot</i> |
| 10:30-11:00 | Keynote: Clinical Mass Spectrometry Imaging: New devices, chemicals and IT-solutions <i>Speaker: Carsten Hopf</i> |
| 11:00-11:15 | Ambient Mass Spectrometry Imaging using DESI: Studying gemcitabine drug delivery with multimodal imaging <i>Speaker: Nicole Strittmatter Abstract: #P37</i> |
| 11:15-11:30 | Making the Invisible Visible – Revealing Drugs in Tissue by MALDI-2 Mass Spectrometry Imaging <i>Speaker: Peter Marshall Abstract: #P39</i> |
| 11:30-11:45 | Seeing the invisible: NanoSIMS provides evidence of drug disposition concepts <i>Speaker: Cécile Becquart Abstract: #P31</i> |
| 11:45-12:00 | Desorption/ionization-MS methods for drug quantification in biological matrices and their validation following regulatory guidance. <i>Speaker: Rémi Longuespée Abstract: #P33</i> |
| 12:00-13:45 | <p style="text-align: center;">Lunch, level 3 & Shimadzu Seminar @ 12:45-13:15</p> <p style="text-align: center;"><i>Session chairs: Carsten Hopf & Patrik Bjärterot</i></p> <p>Insights into Enzyme Histochemistry by MALDI MSI <i>Speaker: Andreas Baumeister</i></p> <p>On the hunt for an efficient matrix spraying method for MALDI <i>Speaker: Peter Sandbichler</i></p> |
| | Tissue Mapping & Single Cell Analysis <i>Session chairs: Ron Heeren & Theodore Alexandrov</i> |
| 13:45-14:15 | Keynote: Mass spectrometry imaging in molecular pathology: single cells and beyond <i>Speaker: Ron Heeren</i> |
| 14:15-14:30 | Correlative high-resolution mass spectrometry imaging of metal and particle uptake in lung tissues and cells <i>Speaker: Per Malmberg Abstract: #P38</i> |
| 14:30-14:45 | Development of mass spectrometry histochemistry as multi-omics technology with single cell resolution: multidisciplinary teamwork. <i>Speaker: Peter D.E.M. Verhaert Abstract #P40</i> |

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| 14:45-15:00 | Towards cellular resolution of tryptic peptides in mass spectrometry imaging: A focus on enzyme application and reproducibility <i>Speaker:</i> Bastian Jahreis <i>Abstract:</i> #P11 |
| 15:00-15:15 | Mass spectrometry imaging as a tool for spatial dynamic metabolomics <i>Speaker:</i> Bram Heijs <i>Abstract:</i> #P57 |
| 15:15-15:45 | Keynote: Spatial and single-cell metabolomics <i>Speaker:</i> Theodore Alexandrov |
| 15:45-16:15 | Coffee Break, level 3 |
| 16:15-16:30 | <p style="text-align: center;">Phabian Award lecture</p> <p style="text-align: center;">The Phabian Award is awarded for "Best Thesis of the Year" within the fields of Pharmaceutical and Biomedical Analysis. Founded by Swedish Pharmaceutical Society and sponsored by AstraZeneca R&D. Chair: Ylva Hedeland</p> <p>Imaging neurochemical changes associated with Parkinson's disease and L-DOPA-induced dyskinesia using mass spectrometry <i>Speaker:</i> Elva Fridjonsdottir</p> |
| 16:30-18:00 | Poster Session & refreshments - Hall C, level 3 |
| 18:00-22:00 | Dinner for pre-registered @ 18:00-18:30 Welcome drink in Hall D at entrance level |

Wednesday, March 29

* all lectures include 5 min for questions

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| | <p>Cancer I</p> <p><i>Session chairs: Richard R. Drake & Kristina Schwamborn</i></p> |
| 08:30-09:00 | Keynote: Mapping the changes in tissue N-glycans by MALDI imaging of normal colons, adenomas and mucinous tumors <i>Speaker:</i> Richard R. Drake |
| 09:00-09:15 | Spatial multiomics show lipid metabolism alterations in prostate cancer <i>Speaker:</i> Maria K. Andersen <i>Abstract:</i> #P6 |
| 09:15-09:30 | Decreasing Relapse in Esogastric Cancer by Improved Diagnostic with SpiderMass Technology <i>Speaker:</i> Léa Ledoux <i>Abstract:</i> #P42 |
| 09:30-10:00 | Keynote: MALDI Imaging in Pathology – Applications and Challenges <i>Speaker:</i> Kristina Schwamborn |
| 10:00-10:30 | Coffee Break- level 3 |
| | <p>Cancer II & Other Diseases</p> <p><i>Session chairs: Peggi Angel & Tina Angerer</i></p> |
| 10:30-11:00 | Keynote: Imaging the Extracellular Microenvironment: A New Predictive Tool for Human Disease Research <i>Speaker:</i> Peggi Angel |
| 11:00-11:15 | Direct detection of lipid changes on cultured cells using imaging secondary ion mass spectrometry <i>Speaker:</i> John S. Fletcher <i>Abstract:</i> #P35 |
| 11:15-11:30 | Tissue Typing of Tumors of the Breast Using MALDI-MS Imaging <i>Speaker:</i> Julia Goncalves <i>Abstract:</i> #P3 |
| 11:30-11:45 | Studying senescence markers in skin <i>Speaker:</i> Martina Marchetti-Deschmann <i>Abstract:</i> #S63 |
| 11:45-12:00 | Sponsor talk: Bruker Daltonics Spatial differentiation in cancer using MALDI Imaging <i>Speaker:</i> Kate Stumpo |

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| 12:00-13:30 | <p style="text-align: center;">Lunch, level 3 & Ionoptika Seminar @ 13:00-13:30 Various biological applications of the J105 Cluster SIMS <i>Session chairs: Peggi Angel & Tina Angerer</i></p> <p>Recent Bio-applications on the J105 <i>Speaker: John Fletcher, University of Gothenburg</i> Cluster SIMS imaging for bio-samples: how lipids and sterols distribute in the skin <i>Speaker: Naoko Sano, Ionoptika</i> Mass sensitive imaging of bacterial biofilm composition using a water-gas cluster ion and neutral atom beams <i>Speaker: Nick von Jeinsen, University of Cambridge</i></p> |
| | <p>Neuroscience <i>Session chairs: Jonathan Sweedler & Ibrahim Kaya</i></p> |
| 13:30-14:00 | <p>Keynote: Mass spectrometry imaging and high throughput single cell characterization to unravel unusual cell to cell signalling pathways <i>Speaker: Jonathan Sweedler</i></p> |
| 14:00-14:15 | <p>MALDI-MS Imaging highlights spatiotemporal metabolic signatures of traumatic brain injury and its association with Alzheimer's disease <i>Speaker: Emanuela Salviati Abstract: #P32</i></p> |
| 14:15-14:30 | <p>Dynamic Imaging of Progressing Amyloid Pathology and Associated Multiomic Profiles In Alzheimer's Disease <i>Speaker: Wojciech Michno Abstract: #P61</i></p> |
| 14:30-14:45 | <p>On-Tissue Chemical Derivatization for Comprehensive Mapping of Brain Carboxyl and Aldehyde Metabolites by MALDI-MS Imaging <i>Speaker: Ibrahim Kaya Abstract: #P44</i></p> |
| 14:45-15:00 | <p>Dynamics of Escherichia coli-Central Nervous System Molecular Crosstalk in Rat Brain Meningitis/Encephalitis <i>Speaker: Dominika Luptáková Abstract: #P60</i></p> |
| 15:00-15:15 | <p>Nano-DESI mass spectrometry imaging of intact protein-metal complexes associated with the pathogenesis of amyotrophic lateral sclerosis. <i>Speaker: Oliver J Hale Abstract: #P56</i></p> |
| 15:15-15:45 | Coffee Break - level 3 |
| | <p>Data Analysis & Multimodal Data Integration <i>Session chairs: Bram Heijs & Marco Vicari</i></p> |
| 15:45-16:00 | <p>Removal of Batch Effects in Mass Spectrometry Imaging: ComBat to combat Batch Effects <i>Speaker: Maren Stillger Abstract: #P24</i></p> |
| 16:00-16:15 | <p>Integration of Spatial Multiomics Data for Prostate Cancer Classification <i>Speaker: Maximilian Wess Abstract: #P26</i></p> |
| 16:15-16:30 | <p>imzML Analyzer - an open source Python application for the rapid MSI data quality evaluation: application to the ecotoxicological model organisms Daphnia magna and Eisenia fetida <i>Speaker: Matthias Ochs Abstract: #P7</i></p> |
| 16:30-16:45 | <p>Spatial Multimodal Analysis of Transcriptomes and Metabolomes in Tissues <i>Speaker: Marco Vicari Abstract: #P5</i></p> |
| 16:45-17:00 | <p>KL-NMF as best suited NMF variant for the analysis of mass spectrometry imaging data <i>Speaker: Melanie Nijs Abstract: #P48</i></p> |
| 17:00 -17:10 | Closing |

Nano-DESI hands on workshop on Thursday March 30th

Are you curious about imaging with nano-DESI? We are offering a hands-on workshop on nano-DESI MSI in the Lanekoff lab at Uppsala University on Thursday March 30th. This extended workshop is sponsored by the MSIS and free of charge, but is limited to 6 attendees. If you are interested in attending, send a short motivation to [Ingela.Lanekoff\(at\)kemi.uu.se](mailto:Ingela.Lanekoff(at)kemi.uu.se)