



2024

INTERNATIONAL MASS SPECTROMETRY CONFERENCE



SCIENTIFIC PROGRAMME

AUGUST 17-23 MELBOURNE, AUSTRALIA



Short Courses

Pre-Registered Attendance Only

Saturday 17 August

Level 1 Foyer

8.00 AM - 5.00 PM Short Course Registration

Location	Meeting Room 101	Meeting Room 102	Meeting Room 107	Meeting Room 108	Meeting Room 111	Meeting Room 112	Meeting Room 205	Meeting Room 206
9:00am - 5:00pm	<p>LC-MS Practical Method Development and Validation</p> <p>Instructors: Robert Trengrove Curtin University</p> <p>Damien Callahan Deakin University</p>	<p>Proteomics and Post-Translational Modifications</p> <p>Instructors: Sean Humphrey Murdoch Children's Research Institute</p> <p>Shabaz Mohammed Rosalind Franklin Institute University of Oxford</p>	<p>Tandem Mass Spectrometry</p> <p>Instructors: Vicki Wysocki Ohio State University</p> <p>Ljiljana Paša-Tolić Pacific Northwest National Laboratory</p>	<p>Lipidomics</p> <p>Instructors: Stephen Blanksby Queensland University of Technology</p> <p>Anne Bendt National University of Singapore</p>	<p>Computational and Statistical Proteomic Analysis</p> <p>Instructors: David Tabb University Medical Centre Groningen</p> <p>Birgit Schilling University of California San Francisco (UCSF)</p> <p>Jordan Burton Buck Institute for Research on Aging</p>	<p>Imaging Mass Spectrometry</p> <p>Instructors: Martina Marchetti Deschmann Vienna University of Technology</p> <p>Shane Ellis University of Wollongong</p>	<p>Ion-Mobility Mass Spectrometry</p> <p>Instructors: Erin Baker University of North Carolina</p> <p>Valérie Gabelica University of Geneva</p>	<p>Glycomics</p> <p>Instructors: Yehia Mechref Texas Tech University</p> <p>Daniel Kolarich Griffith University</p>

All Short Courses include:

Morning Tea 10:30am - 11:00am

Lunch 12:30pm - 1:30pm

Afternoon Tea 3:00pm - 3:30pm

Sunday 18 August AM

Main Foyer 3

8.00 AM - 9.00 PM Conference Registration

Location	Meeting Room 101	Meeting Room 102	Meeting Room 107	Meeting Room 108	Meeting Room 111	Meeting Room 112	Meeting Room 205	Meeting Room 206
8:30am – 4:30pm	<p>LC-MS Practical Method Development and Validation</p> <p>Instructors: Robert Trengrove Curtin University</p> <p>Damien Callahan Deakin University</p>	<p>Proteomics and Post-Translational Modifications</p> <p>Instructors: Sean Humphrey Murdoch Children's Research Institute</p> <p>Shabaz Mohammed Rosalind Franklin Institute University of Oxford</p>	<p>Tandem Mass Spectrometry</p> <p>Instructors: Vicki Wysocki Ohio State University</p> <p>Ljiljana Paša-Tolić Pacific Northwest National Laboratory</p>	<p>Lipidomics</p> <p>Instructors: Stephen Blanksby Queensland University of Technology</p> <p>Anne Bendt National University of Singapore</p>	<p>Computational and Statistical Proteomic Analysis</p> <p>Instructors: David Tabb University Medical Center Groningen</p> <p>Birgit Schilling University of California San Francisco (UCSF)</p> <p>Jordan Burton Buck Institute for Research on Aging</p>	<p>Imaging Mass Spectrometry</p> <p>Instructors: Martina Marchetti Deschmann Vienna University of Technology</p> <p>Shane Ellis University of Wollongong</p>	<p>Ion-Mobility Mass Spectrometry</p> <p>Instructors: Erin Baker University of North Carolina</p> <p>Valérie Gabelica University of Geneva</p>	<p>Glycomics</p> <p>Instructors: Yehia Mechref Texas Tech University</p> <p>Daniel Kolarich Griffith University</p>

All Short Courses include:

Morning Tea 10:00am – 10:30am

Lunch 12:00pm - 1:00pm

Afternoon Tea 2:30pm - 3:00pm

Sunday 18 August PM

Plenary 3

4.30 PM - 5.00 PM Opening Ceremony
Welcome to Country with Didgeridoo
Performed by Wurundjeri Elder Ian Hunter

5.00 PM - 6.00 PM IMSC Plenary Lecture 1
Chaired by Tara Pukala
Membrane protein complexes – from recombinant complexes to regions of the brain

Professor Dame Carol Robinson
University of Oxford United Kingdom

6.00 PM – 9.00 PM Welcome Reception

Exhibition Hall

Monday 19 August AM

8.00 AM – 5.00 PM Conference Registration Main Foyer 3

<p>8.00 AM – 9.30 AM Chaired by Ron Heeren IMSF Thomson Medal Award Lectures Sponsored by the International Journal of Mass Spectrometry</p>	<p>8.00 AM - 8.45 AM Prof. Jennifer Brodbelt The University of Texas in Austin, USA</p>	<p>8.45 AM - 9.30 AM Prof. Richard (Rick) Yost University of Florida, USA</p>	Plenary 3
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9.30 AM - 10.00AM Morning Tea Exhibition Hall

9:40 AM - 9:55 AM Innovation Stage Talk: **SCIEX**
 Introducing the new SCIEX Echo® MS+ system: Combining high data quality and high-throughput sample analysis Exhibition Hall Innovation Stage

Location	Plenary 3	Meeting Room 105	Meeting Room 106	Meeting Room 109	Meeting Room 110
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10:00 AM – 12:00 PM Concurrent Sessions	Chaired by Anne Bendt: Lipidomics: Applications Session Sponsored by Avanti Polar Lipids	Chaired by Russell Grant: Clinical Chemistry	Chaired by Meng-Qiu Dong: Mass Spectrometry in Structural Biology A	Chaired by Trevor Ireland: Earth, Space, Geoscience and Atmospheric Chemistry A	Chaired by Isabelle Compagnon: Ion Chemistry, Reactions and Structure A
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<p>Keynote 10:00 AM 20 mins + 5 mins Q&A</p> <p>Talk 1 10:25 AM 15 mins + 4 mins Q&A</p> <p>Talk 2 10:44 AM 15 mins + 4 mins Q&A</p> <p>Talk 3 11:03 AM 15 mins + 4 mins Q&A</p> <p>Talk 4 11:22 AM 15 mins + 4 mins Q&A</p> <p>Talk 5 11:41 AM 15 mins + 4 mins Q&A</p>	<p>Keynote: Professor Yu Xia Tsinghua University 114 - Empowering Structural Lipidomics with Isomer-Resolved Mass Spectrometry</p> <p>Michal Holčapek 347 - CLIG interlaboratory study on the harmonization of lipid concentrations in human plasma</p> <p>Anthony Don 396 - Quantifying brain lipid synthesis and turnover through deuterium labelling of endogenous brain lipids in vivo</p> <p>Amy Liang 452 - Automated retention time calibration for complex, targeted reverse phase chromatography based lipidomics</p> <p>Stephanie Cologna 168 - Probing fatty acid alterations linked to cholesterol dysregulation in Niemann-Pick Type C Disease</p> <p>Rachel Pryce 176 - Lipidomic Alterations in the Retina of a mouse model of Zellweger Spectrum Disorder Investigated by Mass Spectrometry Imaging</p>	<p>Keynote: Associate Prof. Ronda Greaves Murdoch Children's Research Institute 762 - Mass spectrometry's contribution to neonatal endocrinology and metabolism – where to from here?</p> <p>Stefani Thomas 590 - Adopting fundamental principles from the clinical laboratory to accelerate the clinical translation of targeted mass spectrometry-based proteomic assays</p> <p>Priscilla Yeung 92 - Clonality Determination by Detecting Unmodified Monoclonal Serum Free Light Chains Using On-Probe Extraction Coupled with Liquid Chromatography-High-Resolution Mass Spectrometry</p> <p>Keziah Liebenberg 569 - Alterations in glutaminolysis detected by direct mass spectrometry techniques enable diagnosis and molecular subtyping of breast and ovarian cancers</p> <p>Dan Lane 87 - The Validation Processor: the development of a novel tool that automates, standardises, and accelerates mass spectrometric assay validation</p> <p>Ruben Luo 12 - Microprobe-Capture In-Emitter Elution Coupled with Mass Spectrometry for Structural Elucidation and Clinical Testing of β2-Transferrin</p>	<p>Keynote: Professor Michal Sharon Weizmann Institute 85 - Mass Spectrometry Analysis in Near-Physiological Conditions</p> <p>Cameron Fairweather 426 RAMP it up! Exploring conformational dynamics of the amylin receptors using HDX-MS</p> <p>Tara Pukala 597 - Extending the molecular view of snake venoms to higher order structure</p> <p>Weijing Liu 266 - Automated molecular glues screening using native mass spectrometry</p> <p>Duong Bui 50 - Deciphering Mechanisms and Thermodynamics of Protein Assembly using native mass spectrometry</p> <p>Ryan Julian 76 - Isomerization of tau provides mechanistic insight into the underlying causes of Alzheimer's disease</p>	<p>Keynote: Professor Roger Summons Massachusetts Institute of Technology 596 - Carotenoid pigments as environmental proxies for ancient, low oxygen environments</p> <p>Hyeon-Woo Lee 56 - Study on the Determination Methods of the Natural Radionuclides (U-238, Th-232) in Building Materials and Consumer Products Using ED-XRF and ICP-MS</p> <p>Samir Damare 500 - Mass spectrometry as a tool for understanding biological processes in Oceans</p> <p>Clemens Walther 589 - Nuclear forensics on single micrometer sized particles: recent developments of secondary neutral mass spectrometry for ultra-trace isotope analysis</p> <p>Oliver Jones 447 - Combining contaminants of emerging concern with environmental isotopes to distinguish wastewater and agricultural impacts on groundwater systems</p> <p>Robert Kirkby 634 - Using an automated soil incubation system coupled to online IRMS to resolve N₂ and N₂O emission pathways from agricultural soils</p>	<p>Keynote: Professor Evan Bieske University of Melbourne 748 - Spectroscopic studies of bare and hydrogenated carbon cluster cations</p> <p>Minsu Kim 491 - Research on size dependent molecular behavior of ESI-generated charged droplets by using X-ray scattering</p> <p>Xianglei Kong 594 - Generation and Identification of Free Radical Cations Using a UV/IR Double-Beam Laser System Combined with an FT ICR Mass Spectrometer</p> <p>Shibdas Banerjee 708 - Stabilizing Reactive Intermediates in Aqueous Microdroplets</p> <p>Peter O'Connor 514 Advances in Two-Dimensional Mass Spectrometry</p> <p>Adam Trevitt 667 - Laser photodissociation and ion reactivity of selected protonation-site isomers</p>
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Monday 19 August PM

12:00PM – 3:00PM (Light food and tea break style catering provided)
Lunch Break

Exhibition Hall

12:00 PM - 1:00 PM

Meeting Room 105

Meeting Room 106

Meeting Room 110

Sponsored
Lunch Seminars

Bruker 4D-Proteomics & Glycomics seminar
Hosted by Bruker

Advancements in Metabolomics and Lipidomics with
Multi-Reflecting TOF and Cyclic IMS
Hosted by Waters

Monitoring the sources of toxic compounds: Real-time
analysis of VOC and inorganic compounds by SIFT-MS
Hosted by Syft

1:15 PM – 1:30PM

Innovation Stage Talk: [IonOpticks](#)

Improved proteome coverage and reproducibility in large-scale analyses using the new Aurora Rapid 8 cm columns

1:30 PM – 1:45 PM

Innovation Stage Talk: [Thermo Fisher Scientific](#)

The latest solutions for water quality and environmental safety

1:45 PM – 2:00 PM

Innovation Stage Talk: [Shimadzu](#)

Shimadzu Mass Spectrometry - The Untold Story

Exhibition Hall Innovation Stage

2:00 PM – 2:15 PM

Innovation Stage Talk: [Waters Corporation](#)

Unleashing the power of High-Resolution DESI imaging

2:15 PM – 2:30 PM

Innovation Stage Talk: [Tecan](#)

Simplified and automated sample preparation for plasma proteomics

1:00 PM - 3:00 PM

Poster Session: [Monday Posters](#)

Exhibition Hall

2:30 PM – 3:00 PM

Afternoon Tea

Exhibition Hall

Location	Plenary 3	Meeting Room 105	Meeting Room 106	Meeting Room 109	Meeting Room 110
3:00 PM – 5:00 PM Concurrent Sessions	Chaired by Nicola Gray: Metabolomics A	Chaired by Helen Cooper: Proteomics: Top-Down	Chaired by Subhra Chakraborty: Food, Nutrition and Agriculture A	Chaired by Nick Manicke: Forensics, Sports Doping, Homeland Security A	Chaired by Han Bin Oh: Ion Activation Methods
Keynote 3:00 PM 20 mins + 5 mins Q&A	Keynote: Dr Anne K. Bendt National University of Singapore 112 - Clinical Translation of Lipidomics – a case study	Keynote: Professor Ying Ge University of Wisconsin 755 - New Strategies to Address the Challenges in Top-down Proteomics	Keynote: Dr Melanie Downs University of Nebraska-Lincoln 761 - Food Proteomics- A Luxury or a Need for Improving Food Safety and Quality?	Keynote: Professor Chris Gill Vancouver Island University 237 - Harm Reduction Drug Checking by Quantitative Paper Spray Mass Spectrometry: Where are we Now?	Keynote: Professor Shabaz Mohammad University of Oxford 313 - Top down and bottom up proteomics on an Orbitrap Exploris 480 - Omnitrap instrument equipped with ExD, UVPD and IRMPD
Talk 1 3:25 PM 15 mins + 4 mins Q&A	Breanna Dixon 48 - Uncovering the resistance phenotype of carbapenemase-producing Enterobacteriaceae (CPE) using metabolomics	Jack Bennett 559 - Uncovering hidden protein modifications with native top-down mass spectrometry	Genc Haljiti 61 - The Proteomes that Feed the World: Unveiling Plant Proteomics and Peptidomics	Maiken Ueland 122 - When disaster strikes, locating victims using electronic nose technology	Catherine Costello 671 - ExD fragmentation and multistage MSn facilitate high-confidence characterization of intact glycopeptides and glycolipids
Talk 2 3:44 PM 15 mins + 4 mins Q&A	Prabhu Rangabashyam 438 - Elucidating novel fatty acid structures in vernix caseosa by combining ultraviolet photodissociation and ozone-induced dissociation mass spectrometry	Athanasios Smyrnakis 624 - A new adaptation of the Omnitrap platform integrated into a trapped ion mobility time-of-flight mass spectrometer	Michelle Colgrave 606 - Proteomics application to deliver healthy and sustainable foods of the future	Xianming Liu 387 - Rapid Chromatography-Free Quantitative Screening of Synthetic Cannabinoids in Urine Using a Novel DART-TripleQuad MS	Rachel Ogorzalek Loo 246 - The Big Break Up—Understanding How a Subunit or Polypeptide Abandons its Noncovalent Complex in Native Top-Down MS
Talk 3 4:03 PM 15 mins + 4 mins Q&A	Sk Ramiz Islam 205 - Identification of novel glucose-independent, and reversible metabolic pathways associated with anti-proliferative effect of metformin in HepG2 cells	Tatiana Samgina 144 - EThcD method as a unique tool for top-down de novo sequencing of intact amphibian skin peptides	Peter Hoffmann 495 - Diving Deep into the Faba Bean Proteome	Louise O'Grady 25 - Identifying Psychedelics in Australian Acacia Species: Wattle We Do?	Li Ding 169 - Implementation of Electron Capture Dissociation in an RF Linear Ion Trap without Assistance of Magnetic Field
Talk 4 4:22 PM 15 mins + 4 mins Q&A	Agustinus Thomas Soerianto 445 - Utilizing high resolution mass spectrometry and cheminformatic approaches to delineate the full metabolic capability of the parasitic protist Leishmania Mexicana	Christian Neusüß 52 - Characterization of proteoforms of intact proteins by 2-dimensional CE-MS techniques	Larissa Buedenbender 512 - chelOMICS for a holistic understanding of siderophore-mediated host-pathogen interactions in aquaculture infections	Simon Ovenden 392 - The identification of VX chemical attribution signatures from four different synthetic methods	Oliver Hale 351 - Declustering protein complexes by infrared photoactivation for in situ native mass spectrometry
Talk 5 4:41 PM 15 mins + 4 mins Q&A	Patrik Španěl 86 - Gas Phase Reactions of O ⁻ , OH ⁻ , O ₂ ⁻ and NO ₂ ⁻ with Volatile Fatty Acids for Quantitative SIFT-MS Breath Analyses	Muhammad Zenaidee 369 - Ion mobility curated internal fragments enhance on-line top-down proteomics experiments	Omar Mendoza-Porras 453 - Understanding Thermal Stress in Salmon Tissues Using Proteomics and Metabolomics	Lisa Scharrenbroch 95 - High-Resolution and Isotope Ratio Mass Spectrometry based profiling of Ricinus communis - A forensic approach	Hidenori Takahashi 434 - Ion Fragmentation for Detailed Lipid Structural Analysis using Atomic Hydrogen/Oxygen Irradiation (HAD/OAD)

Evening Workshops, Sponsored by CSL

5:30 PM – 7:30 PM	Meeting Room 105	Meeting Room 106	Meeting Room 110
Light refreshments provided from 5:00 PM – 5:30 PM	<p>IMSF Focus Group: MS Imaging</p> <p>Organisers: Martina Marchetti-Deschmann (Vienna University of Technology) Samuele Zoratto (Medical University of Vienna)</p>	<p>FeMS Workshop: Empowering Women Mass Spectrometrists in a Traditionally Male-Dominated Workplace</p> <p>Organisers: Denise Tran (University of Sydney)</p>	<p>IMSC Spectroscopy-MS Workshop Uniting Mass spectrometry and laser spectroscopy</p> <p>Organisers: Caroline Dessent (University of York) Sarah Wilson (University of York)</p>

7.00 PM - 11.00 PM IMSF Affiliates Dinner, **Invitation-only event**

Old Melbourne Gaol

Tuesday 20 August AM

8.00 AM - 5.00 PM	Conference Registration	Main Foyer 3
8.30 AM - 9.30 AM	Chaired by W. Alexander Donald Plenary - Mass Spectrometry in Research of Chemical Reactions Professor Jana Roithová, Radboud University Netherlands	Plenary 3
9.30 AM - 10.00AM	Morning Tea	Exhibition Hall

Location	Plenary 3	Meeting Room 105	Meeting Room 106	Meeting Room 109	Meeting Room 110
10:00 AM – 12:00 PM Concurrent Sessions	Chaired by Stefani Thomas: Clinical 'omics	Chaired by Michal Sharon: Mass Spectrometry in Structural Biology B	Chaired by Mark Condina: Data Science in Mass Spectrometry A	Chaired by Yu Bai: Ionization Methods	Chaired by Emma Schymanski: Environmental Mass Spectrometry A Sponsored by ACS Publications

Keynote 10:00 AM 20 mins + 5 mins Q&A	Keynote: Professor Thomas Kislinger University of Toronto 613 - Prostate Cancer Reshapes the Secreted and Extracellular Vesicle Urinary Proteomes	Keynote: Professor Lisa Jones University of California San Diego 752 - In-Cell Protein Footprinting Coupled with Mass Spectrometry for Structural Biology Across the Proteome	Keynote: Professor Paul Pigram La Trobe University 692 - Complexity to clarity: detecting, identifying and analysing complex materials with machine learning	Keynote: Professor Garry Corthals University of Amsterdam 572 - Electroless ionisation and now possibilities with Ambient: simple, speedy and soft ionisation methods.	Keynote: Professor Kevin Thomas University of Queensland 763 - Advancements and Challenges in Mass Spectrometric Techniques for Comprehensive Environmental Analysis
Talk 1 10:25 AM 15 mins + 4 mins Q&A	Nicola Gray 496 - Signatures of future bronchiectasis risk in children with cystic fibrosis via lipid profiling of bronchoalveolar lavage fluid	Adalet Memetimin 582 - Improved identification of cross-linked peptide pairs by focused accurate inclusion mass screening (fAIMS)	Alexander Aksenov 55 - Illuminating the Dark Matter of Metabolomics Through Molecular Community Networking	Léa Ledoux 355 - Bacterioscore in 2D/3D MS imaging: pioneering in vivo cancer microbiome study and its link with diagnosis and patient survival	Alicia Macan Schönleben 236 - Occurrence and Patterns of Emerging Organic Chemicals in Vegan and Vegetarian Products
Talk 2 10:44 AM 15 mins + 4 mins Q&A	Oana Marian 399 - A Low Volume Exercise Intervention Remodels the Type-2 Diabetic Plasma Lipidome, Reducing Circulating Toxic Deoxyceramides	T. W. Dominic Chan 203 - Millimeter Water-in-Oil Droplet as an Alternative Back Exchange Prevention Strategy for Hydrogen/Deuterium Exchange Mass Spectrometry of Peptide/Protein	Mengbo Li 27 - Missingness-informed protein quantification and differential expression analysis	Yoichi Otsuka 34 - Mass spectrometry imaging of a single HeLa cell by tapping-mode scanning probe electrospray ionization	Michaela Lerch 282 - Mass Spectrometric Profiling of Antarctic Sea Water for Expedited Chemical Regulation
Talk 3 11:03 AM 15 mins + 4 mins Q&A	Anna Emilia Hoffman 71 - Interplay between sphingolipid metabolism and the endocannabinoid system in schizophrenia: Insights into biomarker candidacy	Joshua Sharp 28 - Radical Protein Footprinting in Stabilized Whole Blood	Yuji Sekiguchi 290- Genomically predicted protein mass database (GPMsDB) for rapid and broad-spectrum identification of bacterial and archaeal isolates by mass spectrometry	Jae-Chul Pyun 123 - Laser desorption/ionization (LDI) mass spectrometry based on nanomaterials for biomedical applications	Drew Szabo 319 - Prioritisation, Identification, and Quantification of Emerging Contaminants in Recycled Textiles Using Non-Targeted and Suspect Screening Workflows by LC-ESI-HRMS
Talk 4 11:22 AM 15 mins + 4 mins Q&A	Thomas Meikle 455 - Development and clinical translation of high-throughput lipidomic profiling for the assessment of individual cardiometabolic risk	Kuang-Ting Kuo 275 - Integration of Structural Proteomics and Computational Simulation for Elucidating Structural-Activity Relationships of Novel PPAR γ Inverse Agonists in Metabolic Disease	Piotr Radziński 245 - Contrastive learning encoding algorithm of MS images for memory management and segmentation enhancement	Stanislav Pekov 525 - Mass spectrometry profiling is a useful method for analyzing autopsy samples, taking into account their unique preservation requirements	Yik-Sze Lau 412 - The Coupling of a High-efficiency Aerosol Collector with Electrospray Ionisation/Orbitrap Mass Spectrometry for the Real-time Chemical Characterisation of Aerosol Particles
Talk 5 11:41 AM 15 mins + 4 mins Q&A	Elizabeth Want 531 - Exploring novel metabolic changes in tissue injury: possible new treatment routes	Terese Eisgruber 233 - Investigating Modification-Specific Interactions of Linker Histone H1 by Mass Spectrometry-based Proteomics	Toan Phung 349 - CHRONICLE, A Family of Tools and Softwares for Mass Spectrometry-based Proteomics Data Processing, Analysis, Visualization, and Exploration	David Borts 91 - A Coated Blade Spray Mass Spectrometry Workflow for Rapid Toxicology General Unknown Screening	Quan Cheng 242 - Improving Cytotoxicity Study with Single Cell Lipid Profiling of Microalgae and Bacterial Cells by Microchip-MALDI-MS

Tuesday 20 August PM

12:00PM – 3:00PM (Light food and tea break style catering provided)
Lunch Break

Exhibition Hall

12.00 PM - 1.00 PM

Meeting Room 105

Meeting Room 106

Meeting Room 110

Sponsored
Lunch Seminars

Bruker MALDI Imaging & Metabolomics seminar
Hosted by Bruker

The Cyclic Revolution for Accelerated Protein Structure, Folding
and Dynamics Research
Hosted by Waters

What's holding you back? See the latest in blazingly fast
quantitative analysis from SCIEX
Hosted by SCIEX

1:15 PM – 1:30 PM

Innovation Stage Talk: [IonOpticks](#)

A high-level overview of how replacing your chromatography with IonOpticks columns can unlock the true potential of your mass spectrometer

1:30 PM – 1:45 PM

Innovation Stage Talk: [Thermo Fisher Scientific](#)

Novel Technologies to translate discoveries into breakthroughs

Exhibition Hall Innovation Stage

1:45 PM – 2:00 PM

Innovation Stage Talk: [Agilent](#)

Instrument Intelligence and Digital Lab Transformation: Empowering Data Management.

2:00 PM – 2:15 PM

Innovation Stage Talk: [Waters Corporation](#)

Unveiling the Potential of Multi-Reflecting Time-of-Flight (MRT) Mass Spectrometry

1:00 PM - 3:00 PM

Poster Session: [Tuesday Posters](#)

Exhibition Hall

2:30 PM – 3:00 PM

Afternoon Tea

Exhibition Hall

Location	Plenary 3	Meeting Room 105	Meeting Room 106	Meeting Room 109	Meeting Room 110
3:00 PM – 5:00 PM Concurrent Sessions	Chaired by Elizabeth Want: Metabolomics B	Chaired by Qingsong Lin: Proteomics: Method Development	Chaired by Zhongping Yao: Food, Nutrition and Agriculture B	Chaired by Valérie Gabelica: Ion Mobility A	Chaired by Christopher Hansen: Ion Chemistry, Reactions and Structure B
Keynote 3:00 PM 20 mins + 5 mins Q&A	Keynote: Professor David Wishart University of Alberta 747 - Automated, Massive-Scale, Quantitative Metabolomics Using Mass Spectrometry	Keynote: Professor Ruijun Tian Southern University of Science and Technology 182 - Exploring functional proteome in spatially resolved and high-throughput fashion	Keynote: Professor Bruno Fedrizzi The University of Auckland 764 - Sulfur compounds in wine: the good, the bad and the unknown	Keynote: Professor Perdita Barran The University of Manchester 759 - Visualizing Molecules: The role of Ion Mobility Mass Spectrometry where m/z selection is not enough	Keynote: Professor Isabelle Compagnon University of Lyon, France 767 - Interrogating structure and dynamics of molecular ions from the IR to the XUV domain for fundamental Physical-Chemistry and Analytical applications
Talk 1 3:25 PM 15 mins + 4 mins Q&A	Vinzenz Hofferek 478 - Use of anion chromatography with modified chemical suppression for broad coverage HRMS metabolomics studies on the parasitic protists	Christopher Overall 413 - Multiplex MS Profiling of SARS-CoV-2 3CLpro/Main Protease Cleavage Kinetics for Ranking Interactors as Substrates and Designing Optimal Peptide Assay Formats	Oscar Nuñez 35 - High-throughput LC-LRMS and FIA-LRMS fingerprinting and polyphenolic profiling for the geographical characterization and authentication of honey	Alex Shvartsburg 568 - Novel Differential Ion Mobility Approaches Based on the Macromolecular Dipole Alignment	Chi Kit (Andy) Siu 706 - Impact of Solvent Reorganization on Disulfide Bond Cleavage in Hydrated Electron Clusters
Talk 2 3:44 PM 15 mins + 4 mins Q&A	Darren Creek 456 - Combining metabolite standards cocktails with IDEOM v24 to enable routine semi-targeted metabolomics	Haoyun Fang 448 - Deciphering subcellular proteomic niches of mouse heart using label-free DIA-MS and machine learning	Yada Nolvachai 165 - Enhancing food safety and authenticity: GC-MS analysis of adulterated edible oils and early detection of foodborne pathogens	Tim Causon 545 - The role of unsaturation in defining the 3-dimensional structure of ionised lipids in the gas phase	Frantisek Turecek 89 - Nitrile Imines as Photochemical Crosslinkers in Gas-Phase Peptide Ions: Reactivity and Action Spectroscopy
Talk 3 4:03 PM 15 mins + 4 mins Q&A	Per Andrén 681 - Spatial metabolomics reveals region-specific alterations induced by parkinsonism and L-DOPA-induced dyskinesia	Bente Siebels 343 - Spatial resolved mass spectrometric proteomics analysis facilitated by infrared laser-based sampling of infected murine bladders	Jessica Prenni 573 - The Periodic Table of Food Initiative	Olivia Rusli 192 - Understanding the Coordinative Selectivity of Glyphosate and AMPA Toward Divalent Metals by IM-MS and IM-IRMPD-MS	Han Bin Oh 166 - A combination of genetic code expansion and free radical-initiated peptide sequencing mass spectrometry
Talk 4 4:22 PM 15 mins + 4 mins Q&A	Fan Yang 16 - Untargeted mass spectrometry-based metabolomics workflow optimization for chronic and autoimmune chronic pancreatitis biomarker discovery	Kermit Murray 563 - Laser Ablation Mass Spectrometry of Native Proteins	Takumi Fujiki 484 - Varietal differences in distribution of soluble carbohydrates and organic acids in strawberry fruits visualized using quantitative MALDI-TOF MS imaging	Yimin Wang 298 - Simultaneous Polyphenol Profiling and Quantification with LC-TIMS-TOF-MS: An Application to Different Apple Matrices	Nicole Rijs 190 - Directing Molecular Trams on the Picoscale! Perturbing Structural Outcomes of Self-Assembly Monitored by Ion Mobility Mass Spectrometry
Talk 5 4:41 PM 15 mins + 4 mins Q&A	Soumen Kanti Manna 714 - Effect of wearing face mask on cardiopulmonary parameters and salivary metabolome	Colleen Maxwell 13 - The Edge Effect in High-Throughput Proteomics: A Cautionary Tale	Arundhati Singh 447 - Mass spectrometry to unveil the foliar distribution of fluxapyroxad within fungicide seed-treated barley	Jackie Mosely 565 - Structures for ion mobility resolved radical cations of benzocaine, and consequences for dissociation.	Caroline Dessent 574 - Mapping the Photodegradation Products of Antibiotics Using Laser Interfaced Mass Spectrometry

Evening Workshops, Sponsored by CSL

5:30 PM – 7:30 PM Light refreshments provided from 5:00 PM – 5:30 PM	<p>Meeting Room 105</p> <p>IMSF Focus Group: Native MS Integrating native and structural MS methods to solve open questions in structural/mechanistic biology and medicine</p> <p>Organisers: Anton Calabrese (University of Leeds)</p>	<p>Meeting Room 106</p> <p>IMSC Sustainability Workshop Sustainability in Mass Spectrometry: An International Perspective</p> <p>Organisers: Perdita Barran (University of Manchester), Gordon Kearney (Shimadzu Research Laboratory, Europe), Chris Bowen (Shimadzu Scientific Australasia)</p>	<p>Meeting Room 110</p> <p>IMSC Paper Writing Workshop Write Right: How to Improve Your Scientific Writing</p> <p>Organisers: John Langley (University of Southampton)</p>
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Wednesday 21 August AM

8.00 AM - 5:00 PM	Conference Registration			Main Foyer 3
8.30 AM - 9.30 AM	<p>Chaired by Vicki Wysocki IMSF Curt Brunnee and Jochen Franzen Award Lectures Curt Brunnee Award Sponsored by Thermo Fisher Scientific Jochen Franzen Award Sponsored by Bruker</p>	<p>8.30 AM – 9:00 AM IMSF Curt Brunnee Award Plenary Lecture Dr. Jens Soltwisch University of Munster, Germany</p>	<p>9.00 AM – 9:30 AM IMSF Jochen Franzen Award Plenary Lecture Dr. Ljiljana Pasá-Tolic Pacific Northwest National Laboratory, USA</p>	Plenary 3

9.30 AM - 10.00AM	Morning Tea	Exhibition Hall
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9:40 AM - 9:55 AM	Innovation Stage Talk: Thermo Fisher Scientific High-throughput quantitative proteomics workflow solutions using novel magnetic beads and TMTpro 32plex reagents	Exhibition Hall Innovation Stage
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Location	Plenary 3	Meeting Room 105	Meeting Room 106	Meeting Room 109	Meeting Room 110
10:00 AM – 12:00 PM Concurrent Sessions	Chaired by Ron Heeran: Imaging Mass Spectrometry: Applications	Chaired by Matthias Pelzing: Biopharmaceuticals and Vaccines	Chaired by Dezeræe Cox: Protein-Interactions	Chaired by Mario Thevis: Forensics, Sports Doping, Homeland Security B	Chaired by Philippe Schmitt-Kopplin: High Throughput Sampling, Screening and Analysis

<p>Keynote 10:00 AM 20 mins + 5 mins Q&A</p> <p>Talk 1 10:25 AM 15 mins + 4 mins Q&A</p> <p>Talk 2 10:44 AM 15 mins + 4 mins Q&A</p> <p>Talk 3 11:03 AM 15 mins + 4 mins Q&A</p> <p>Talk 4 11:22 AM 15 mins + 4 mins Q&A</p> <p>Talk 5 11:41 AM 15 mins + 4 mins Q&A</p>	<p>Keynote: Professor Kristine Glunde Johns Hopkins Medical Institutions 665 - MALDI Mass Spectrometry Imaging to Investigate Inflammatory Pathways: Tissue Mapping of Aspirin Metabolites and Prostaglandins in Breast Cancer</p> <p>Stefania Lakab 311 - Molecular Snapshots of a Colon Cancer 3D Cell Culture Model</p> <p>Esther Cheow 547 - Spatial Multi Omics Strategy to Advance Target Biology and Biomarker Discovery for Pulmonary Fibrosis</p> <p>Charles Schurman 358 - Spatial Proteomics via Extracellular Matrix Imaging of Bone Fracture Callus Reveals Delayed Transition of Osteochondral Remodelling with Age</p> <p>Jayden Mckinnon 260 - Unveiling Single Cell Small Metabolite Distributions via an Oversampling approach enabled by MALDI-2-MSI</p> <p>Haruki Uchino 672 - Sex-dependent changes in renal spatial lipidome revealed by MALDI-2-TIMS-MS imaging</p>	<p>Keynote: Dr Da Ren Biotherapeutics Solutions 766 - Trends of MS Applications in Biopharmaceutical Industry</p> <p>Daniele Fabris 340 - A Mid-Down Strategy for the Characterization of Non-Coding and mRNAs</p> <p>Philipp Bittner 208 - In-depth Characterization of DNA-Encoded Chemical Libraries using Native Mass Spectrometry: The Impact of DNA-tags on Binding Affinities</p> <p>Devin Makey 235 - Cyclic Ion Mobility-Mass Spectrometry for Rapid Protein Structure and Stability Assessment During the Development of Next-Generation Antibody Therapeutics</p> <p>Laura van der Vloet 540 - Visualizing antisense oligonucleotides and its biological impact in brain tissue using a multi-omics mass spectrometry imaging approach</p> <p>Janik Seidel 255 - An optimized DIA-MS workflow for HCP quantification in bioreactors to assess relationship in between processing conditions and critical quality attributes</p>	<p>Keynote: Professor Lan Huang University of California 765 - Developing MS-cleavable Cross-linking Mass Spectrometry for Profiling Multimeric Interactions of Cellular Networks</p> <p>Ashleigh Dale 633 - Membrane and flagellar enrichment increase the depth of large-scale bacterial interactomics studies using ion mobility and cross-linking mass spectrometry (XL-MS)</p> <p>Gavin Reid 196 - A Co-Fractionation Mass Spectrometry-Based Method for Investigating Disease Associated Alterations in Lipid-Protein Interactomes</p> <p>Venita Sitahal 363 - Elucidating the Structural Dynamics of Binding Interactions in Regulator of G-Protein Signaling-1 (RGS1) using Hydrogen Deuterium Exchange Mass Spectrometry (HDX-MS)</p> <p>Adam Cahill 322 - Development of photoactivatable lysine reactive crosslinking reagents</p> <p>Debasmita Ghosh 337 - Mass Shifts Induction by Protein-Protein Interactions: A Novel Direct-MS Method</p>	<p>Keynote: Professor Adam Cawley Racing Analytical Services Ltd 772 - Catching the cheats...explaining the innocent: Forensic perspectives for sports anti-doping.</p> <p>Caitlin Jenkins 10 - Chemical Analysis of Electronic Cigarettes in Australian Schools</p> <p>Madysen Elbourne 543 - The indirect detection of dopaminergic manipulation in equine urine via an optimised routine and metabolomic-based LC-HRMS method</p> <p>Kin-Sing Wong 47 - Screening and confirmation of recombinant human follistatin in equine plasma for doping control purposes</p> <p>Renee Webster 364 - Characterisation of stable isotopes in small molecules for chemical attribution signature determination using gas chromatography-high resolution accurate mass spectrometry</p> <p>Bruce Pui-nam 645 - Gene doping control analysis of human erythropoietin transgene in equine plasma by PCR-liquid chromatography high resolution tandem mass spectrometry</p>	<p>Keynote: Professor Yasushi Ishihama Kyoto University 688 - Challenges toward ultrahigh-speed proteomics systems with high-sensitivity and high-depth</p> <p>Laura Sanchez 68 - Trapped ion mobility spectrometry for high-throughput directed evolution screening of α-ketoglutarate dependent dioxygenases</p> <p>Tin Cham Mak 197 - Discovery of inhibitor against Mycobacterium tuberculosis Leucyl-tRNA synthetase (LeuRS) via Mass Spectrometry-based screening</p> <p>Rachel Smith 229 - Development of automated high-throughput mass spectrometry methods for biotechnology and biomedical targets using desorption electrospray ionisation</p> <p>Xiaobo Tian 45 - Differentiating specific and non-specific protein-metabolite interactions using gradient open port probe electrospray ionization mass spectrometry</p> <p>Chengyi Xie 429 - Cellular-level resolution DESI-MS imaging</p>
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Wednesday 21 August PM

12:00PM – 3:00PM (Light food and tea break style catering provided)
Lunch Break

Exhibition Hall

12.00 PM - 1.00 PM

Meeting Room 105

Meeting Room 106

Meeting Room 110

Sponsored
Lunch Seminars

Realize the promise of translational omics
Hosted by Thermo Fisher Scientific

Novel Ion Fragmentation in Mass Spectrometry for Detailed
Lipid Structural Analysis via Atomic Hydrogen/Oxygen
Irradiation
Hosted by Shimadzu

Standardizing and scaling automated workflows for cutting edge
proteomics
Hosted by Evosep

1:15 PM – 1:30 PM

Innovation Stage Talk: [Merck](#)
Diamond in the rough: Supel™ Carbon, a porous graphitic carbon LC column

1:30 PM – 1:45 PM

Innovation Stage Talk: [Syft](#)
Monitoring sources of toxic chemicals: Real-time analysis of VOC and inorganic compounds by SIFT-MS

1:45 PM – 2:00 PM

Innovation Stage Talk: [Agilent](#)
Instrument Intelligence that Drives Performance, Innovation that Drives Breakthroughs

Exhibition Hall Innovation Stage

2:00 PM – 2:15 PM

Innovation Stage Talk: [Trajan Scientific and Medical](#)
Trajan CHRONNECT Workflow Solutions: A sample prep journey - upcoming launch, PFAS in soil.

2:15 PM – 2:30 PM

Innovation Stage Talk: [Bruker](#)
EVOQ DART TQ+: "Chrom free" High Throughput Quantitation. Increased Simplicity, Robustness and Sustainability, while lowering your mass spec analysis costs

1:00 PM - 3:00 PM

Poster Session: [Wednesday Posters](#)

Exhibition Hall

2:30 PM – 3:00 PM

Afternoon Tea

Exhibition Hall

Location	Plenary 3	Meeting Room 105	Meeting Room 106	Meeting Room 109	Meeting Room 110
3:00 PM – 5:00 PM Concurrent Sessions	Chaired by Yu Xia: Lipidomics: Technology	Chaired by Mark Molloy: Proteomics: Quantitative	Chair TBA Polymers and Nanomaterials	Chaired by Myeong Hee Moon: Hyphenation, Separations, Lab-on-a-Chip	Chaired by Tim Causon: Ion Mobility B
Keynote 3:00 PM 20 mins + 5 mins Q&A	Keynote: Professor Makoto Arita Keio University 673 - Lipidome signatures associated with aging and the host-microbiome interaction	Keynote: Professor Jesper Velgaard Olsen University of Copenhagen 700 - High-throughput and scalable single-cell proteomics with narrow-window data-independent acquisition mass spectrometry	Keynote: Professor Xiaopeng Li Shenzhen University 226 - Multidimensional Mass Spectrometry Assisted Supramolecular Chemistry	Keynote: Professor Jin-Ming Lin Tsinghua University 750 - Microfluidic Chip Combined with Mass Spectrometer for Single Cell Analysis	Keynote: Professor Dr Kevin Pagel Freie Universität Berlin 751 - Mass Spectrometry-Based Techniques to Elucidate the Sugar Code
Talk 1 3:25 PM 15 mins + 4 mins Q&A	Takeshi Bamba 126 - Solid phase extraction and LC/MS/MS methods for comprehensive targeted profiling of bioactive lipids	Nathan Burke 248 - Phosphoproteomic analysis of human sperm capacitation reveals novel, druggable kinases offering new non-hormonal male contraceptive targets	Scott McLuckey 629 - Ion/Ion Reactions for Complex Mixture Analysis: Precursor Resolution via Ion Z-state Manipulation (PRIZM)	Hartmut Schlüter 232 - Towards original compositions of proteoforms in tissues via soft laser ablation	Felicia Hansen 497 - Direct observation of phospholipase A activity via isomer-resolved mass spectrometry
Talk 2 3:44 PM 15 mins + 4 mins Q&A	Seung Hee Shin 72 - Optimization of skin sampling method for lipidomic analysis by nanoflow nUHPLC-ESI-MS/MS	Molly Talbot 617 - Reversibly oxidised cysteine post-translational modifications in diabetic cardiomyopathy following antioxidant N-propionylglycine, identified using quantitative mass spectrometry	Takaya Satoh 128 - High Mass Resolution Mass Spectrometry for Assessing Polyethylene terephthalate Degradation: A Comprehensive Study using MALDI-TOFMS and GC-TOFMS	Andrei Fedorov 67 - MicroTAS (Total Analysis System) for ESI-MS Dynamic Monitoring of Extracellular Proteome and Intracellular Metabolome in Cell and Gene Therapy Biomanufacturing	Bram van de Put 325 - Towards De Novo Sequencing of Oligosaccharides Using Cyclic Ion Mobility Spectrometry
Talk 3 4:03 PM 15 mins + 4 mins Q&A	Gérard Hopfgartner 367 - Enhanced Mass Spectrometry Workflows using ESI and APPI with Multi Ion Activation Methods for Characterization of Lipids in Plasma Samples	Subra Chakraborty 712 - Climate Change & Food Security: Organellar Crosstalk and Post-translational Control Shaping Plant Immunity	Callan Littlejohn 554 - Tools for Polymer Identification using Ultra-high Resolution Mass Spectrometry	Nick Manicke 365 - On-Paper Electrophoretic Stacking and Separations Coupled to Paper Spray Mass Spectrometry	David Marshall 281 - Separation and characterisation of isomeric coordination complexes with high-resolution ion mobility mass spectrometry
Talk 4 4:22 PM 15 mins + 4 mins Q&A	Huong Giang Vo 336 - Comprehensive analysis of structural glycosphingolipids in clinical samples using trapped ion mobility spectrometry mass spectrometry	Scott Peterman 518 - Novel Hybrid Nominal Mass Instrument Enables Rapid Development of Large-Scale Targeted Plasma Proteomics Assays	Cassandra Rauert 548 - Quantitative analysis of micro- and nano-plastics in environmental samples by pyrolysis gas chromatography mass spectrometry	John Langley 26 - Sustainable fuels and the need for different hyphenated solutions	Madelen Wooding 74 - The Story of a Sorptive Sampler: From Fairy Circles to the Detection of Tuberculosis-Associated Compounds using GC×GC-TOFMS and UPLC-IMS-HRMS
Talk 5 4:41 PM 15 mins + 4 mins Q&A	Huaqi Su 54 - Multi-omics characterization of highly enriched human plasma extracellular vesicles	Li Zhong 11 - Mass Spectrometry Proteomics Reveals PLEK as a Biomarker for the Early Phase of Severe COVID-19	Laura Puente-De La Cruz 379 - Micro and nanoplastic migration from plastic breast milk storage bags and storage bottles	Russell Grant 562 - High Throughput Quantitative Amino Acid Analysis for The Masses	Patricia Skowronek 312 - Optimal trapped ion mobility workflows coupled with dia-PASEF and synchro-PASEF for high throughput and sensitivity

Evening Workshops, Sponsored by CSL

5:30 PM – 7:30 PM	Meeting Room 105	Meeting Room 106
Light refreshments provided from 5:00 PM – 5:30 PM	<p>IMSF Focus Group: MS Instrumentation The journey from instrument concept, prototype development, to market</p> <p>Organisers: Shane Ellis (University of Wollongong)</p>	<p>IMSC Career Workshop Navigating career pathways for the mass spectrometrists</p> <p>Organisers: Jackie Mosely (University of York)</p>

Thursday 22 August AM

8.00 AM - 5:00 PM Conference Registration Main Foyer 3

8.30 AM - 9.30 AM **Chaired by Melanie White**
 Plenary – Advancing Personalized Proteomics by DIA-MS: From Large-Scale Profile to Single-Cell Resolution Plenary 3
 Professor Yu-ju Chen, [Academia Sinica Taiwan](#)

9.30 AM - 10.00AM Morning Tea Exhibition Hall

9:40 AM - 9:55 AM Innovation Stage Talk: **SCIEX**
 Redefine bioanalysis with enhanced robustness on the 7500+ system Exhibition Hall Innovation Stage

Location	Plenary 3	Meeting Room 105	Meeting Room 106	Meeting Room 109	Meeting Room 110
10:00 AM – 12:00 PM Concurrent Sessions	Chaired by Ben Parker: PTMs and Cross Talk, Cellular Signalling and Systems Biology	Chaired by Peter Hoffmann: Cancer and Immunology	Chaired by Sutin Kingtong: Environmental Mass Spectrometry B	Chaired by Shibdas Banerjee: Chemistry at the Solution/Gas Phase Interface	Chaired by Nicole Rijs: Ion Chemistry, Reactions and Structure C
Keynote 10:00 AM 20 mins + 5 mins Q&A	Keynote: Professor Rena A. S. Robinson Vanderbilt University 685 - Pushing the Limits of Quantitative Proshibteomics to Advance Alzheimer's Research	Keynote: Professor Bernd Wollscheid Swiss Federal Institute of Technology 756 - Light-mediated discovery of surfaceome nanoscale organization	Keynote: Dr Jean Armengaud CEA 753 - Monitoring the environment by mass spectrometry of sentinel animals and microbiomes	Keynote: Professor Xinxing Zhang Nankai University 758 - Investigation of Microdroplet Chemistry with Mass Spectrometry	Keynote: Zheng Ouyang Tsinghua University 654 - Mass spectrometry technologies for analysis at high structural specificity
Talk 1 10:25 AM 15 mins + 4 mins Q&A	Marco Jochem 444 - Analysing Non-Proteinaceous Ubiquitination by Mass Spectrometry	Arash Zarrine-Afsar 14 - 10-second Classification of Lung Cancer Subtypes by Picosecond Infrared Laser Mass Spectrometry: Evaluation of Diagnostic Power Across Various Tissue Models	Simran Kaur 265 - From Tyres to Tides: Investigating Tyre Additive Chemicals in the Moreton Bay Catchment, Queensland	Jongcheol Seo 359 - Investigating Protein Conformations Using Protein-Iodine Interactions	Howard Ma 224 - Photoelectron Spectroscopy of Some Copper Borohydride and Acetylide Anions
Talk 2 10:44 AM 15 mins + 4 mins Q&A	Guangcan Shao 503 - Mapping the Modification Sites of Ubiquitin-like Proteins (UBLs)	Michelle Hill 611 - Ovarian cancer serum glycoform biomarker panel discovery to lectin magnetic array-mass spec (LeMBA-MS) clinical assay	Hang-kin Kong 96 - Identifying Morphologically Similar Toxic Microalgal Strains by Proteomic Approaches	Lukas Benzenberg 29 - Microsolvation of charged residues prevents backbone collapse and aids in retention of native-like structural features after desolvation	Salomé Poyer 507 - Copper-based mass spectrometry and ion mobility to resolve isomeric barriers of phosphatidylcholines
Talk 3 11:03 AM 15 mins + 4 mins Q&A	Siqi Li 189 - Development of highly sensitive mass spectrometry methods for phosphorylated protein analysis	Hong Yan 80 - Machine Learning-Driven Identification of sex and KRAS specific features for Ferroptosis-Targeted Drug Repurposing in Colorectal Cancer	Zhu Yang 468 - Inducible energy source shift alleviates geo-specific PM2.5 components causing imbalances in energy metabolism	Valérie Gabelica 307 - To unfold, or not to unfold, that is the question. On the preservation of solution phase structures upon electrospray ionization	Oscar Lloyd Williams 462 - Of Cryptophanes and Cations: Unravelling structural changes induced by encapsulation or complexation
Talk 4 11:22 AM 15 mins + 4 mins Q&A	Lin Zhu 130 - Real-world PM2.5 Exposure Causes Liver Metabolic Reprogramming via Oxidation of Specific Cysteine Residues on MDH2 and CPT2 in Mice	Paula Nissen 120 - Quantitative mass spectrometric proteome analysis of colorectal carcinoma liver metastasis reveals distinct phenotypes associated with specific signalling pathways and survival	Siobhan Peters 460 - Bioaccumulation of the environmental neurotoxin BMAA in mussels exposed to cyanobacteria	Sangwon Cha 637 - Derivatization of Single Cell Saccharides and Analysis by Induced ESI MS	Daiki Asakawa 416 - The Internal Energy of Ions Produced by ESI Depends on the Density of Molecules in Electrodes at First Vacuum Stage
Talk 5 11:41 AM 15 mins + 4 mins Q&A	Maria Tanzer 44 - Proteome profiling of macrophage reprogramming upon dead cell clearance	Nicole Brace 680 - A Study of Altered B Cell Responses to PAMP-Activation in Schizophrenia	Albert Lebedev 140 - Formation of Specific Disinfection By-products in Water treatment by Aqueous Chlorination	Qianhao Min 652 - Monitoring the Dynamic Fate of Interfacial Electrochemical Intermediates by Ambient Mass Spectrometry	Takemichi Nakamura 441 - Collision-Induced Isomerization of Cyclic Peptide Ions Probed by Energy-Resolved Ion Mobility/Tandem Mass Spectrometry: A Case of Anabaenopeptins

Thursday 22 August PM

12:00PM – 3:00PM	Lunch Break (Light food and tea break style catering provided)	Exhibition Hall
12.00 PM - 1.00 PM Sponsored Lunch Seminars	Meeting Room 105 Expanding experimental flexibility from multi-omics to biopharma analysis Hosted by Thermo Fisher Scientific	
1:00 PM – 3:00 PM	Poster Session: Thursday Posters	Exhibition Hall
2:15 PM – 2:30 PM	Innovation Stage Talk: Bruker , Introducing Bruker's Novel MALDI_TOF Platform for IHC Solutions and General-Purpose Applications	Exhibition Hall Innovation Stage
2:30 PM – 3:00 PM	Afternoon Tea	Exhibition Hall

Location	Plenary 3	Meeting Room 105	Meeting Room 106	Meeting Room 109	Meeting Room 110
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3:00 PM – 5:00 PM Concurrent Sessions	Chaired by Rena Robinson: Neurodegeneration and Aging	Chaired by Catherine Costello: Glycomics and Glycoproteomics	Chaired by Lingjun Li: Single Cell Mass Spectrometry	Chaired by Léa Ledoux: Imaging Mass Spectrometry: Development/Technology	Chaired by Paul Pigram: Data Science in Mass Spectrometry B
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Keynote 3:00 PM 20 mins + 5 mins Q&A	Keynote: Dr Birgit Schilling University of California San Francisco 631 - Cellular senescence and aging in healthy individuals – proteomic analysis of lung and ovary tissues across the age range	Keynote: Professor Nicki Packer Macquarie University 754 - Analysis of the CD52 glycopeptide shows activity is dependent upon both its N- and O-linked glycan structures	Keynote: Professor Yu Bai Peking University 228 - Single Cell Multi-omics Mass Spectrometry Analysis: Methods and Applications	Keynote: Professor Helen Cooper University of Birmingham 138 - Native ambient mass spectrometry imaging of proteins and their complexes	Keynote: Associate Professor Magnus Palmblad Leiden University Medical Center 651 - Data Science in Mass Spectrometry: Fascinating Past, Exciting Present and Promising Future
Talk 1 3:25 PM 15 mins + 4 mins Q&A	Martina Marchetti-Deschmann 481 - Spatially resolved analyses reveals significant changes of the N-glycome and transcriptome in aging skin	Xue Sun 616 -Large-Scale pattern analysis of N- and O-glycoproteomics using ion-mobility assisted mass spectrometry	Andrew Ewing 346 - Correlation of Cellular Measurements of Partial Exocytosis and Nano Vesicular Subcompartments Using NanoSIMS	Mengze Sun 161 - Mass Spectrometry Imaging of LPLAT8 Knockout Mouse Retina by Tapping-mode Scanning Probe Electrospray Ionization	Emma Palm 283 - Identifying dead-end pesticide transformation products of potential concern
Talk 2 3:44 PM 15 mins + 4 mins Q&A	Gaurav Chopra 591 - Artificial Intelligent Agents for Automating Deep Lipidomics Workflows to Investigate Alzheimer's Disease and Aging-Related Lipid Droplets	Ronghu Wu 118 - Effective Mass Spectrometry-Based Methods for Comprehensive and Site-Specific Analysis of Surface Glycoproteins and Their Dynamics	David Bishop 70 - Quantitative, Multiplexed, Immuno-Mass Spectrometry Imaging Of The Dystrophin-Glycoprotein Complex	Jianing Wang 127 - Subcellular Resolution MALDI Mass Spectrometry Imaging of Lipids	Sarah Bamford 277 - Self-Organizing Maps with Relational Perspective Mapping (SOM-RPM) Applied to Time-of-Flight Secondary Ion Mass Spectrometry (ToF-SIMS) Data
Talk 3 4:03 PM 15 mins + 4 mins Q&A	Michael Gotsbacher 636 - Biodistribution of a Copper-Delivering Agent in Mouse Brains	Abarna Murugan 674 - Phyloglycomics: Mapping the serum glycome in vertebrates to understand the evolution of vertebrate glycosylation	Reuben Young 401 - Exploring different post-ionisation techniques coupled with MALDI-MSI for single cell lipidomics of neurons and astrocytes	Alice Ly 212 - Weave: A software package for integrated spatial multi omics visualization and data analysis	Mark Condina 397 - Streamlining proteomics investigations for drug discovery using Mass Dynamics 2.0's Dataset Service
Talk 4 4:22 PM 15 mins + 4 mins Q&A	Emily Byrd 324 - Understanding ow ALS-associated mutations alter the structure and phase separation propensity of the TDP-43 C-terminal domain using structural mass spectrometry	Mark Larance 22 - Unbiased analysis of the human platelet proteome identifies a new form of domain-specific O-fucosylation generated by FUT10 and FUT11	Mariachiara Squillaci 366 - Single cell proteomics (SCP) analysis to study crosstalk dynamics of signaling complexes in extrinsic and intrinsic cell death pathways	Shane Ellis 383 - A MALDI-2-MSI source with transmission and reflective mode capabilities that exploits laminar gas flows of novel intermediate pressure ion guides	Natan Horacek 113 - An automatic and unsupervised artificial peak detection approach for preprocessing GC-MS and GCxGC-MS metabolomic data
Talk 5 4:41 PM 15 mins + 4 mins Q&A	Emma Schymanski 173 - Can Small Molecules Provide Clues on Disease Progression in Cerebrospinal Fluid from Mild Cognitive Impairment and Alzheimer's Disease Patients?	Kristian Tkalec 83 - Protein Aggregation Capture enabled carboxylate group derivatisation allows proteome scale peptide supercharging for O-glycoproteomic analysis	Nhu Phan 370 - Targeted molecular imaging with correlative NanoSIMS: Applications to study protein organization and turnover in neuronal cells	Jan Preisler 41 - Digital Mass Spectrometry Imaging using Nanoparticle Tags	Ove Johan Ragnar Gustafsson 384 - Proteomics Lab: streamlining computational proteomics for life scientists

6.30 PM – 9:30 PM **Conference Dinner**

Showtime Events Centre

Friday 23 August AM

8.00 AM - 5.00 PM Conference Registration

Main Foyer 3

8.45 AM - 9.30 AM

Chaired by **Gavin Reid**

Distinguished Keynote Speaker – Inventions and Innovation do not occur in a vacuum
Koichi Tanaka, Shimadzu Corporation, Japan

Plenary 3

Location	Plenary 3	Meeting Room 105	Meeting Room 106	Meeting Room 109	Meeting Room 110
9:30 AM – 11:00 AM Concurrent Sessions	Chaired by Zheng Ouyang : Mass Analysers	Chaired by Ute Roessner : Plant 'omics	Chaired by Branka Miljevic : Earth, Space, Geoscience and Atmospheric Chemistry B	Chaired by Justin Benesch : Recent Advances in Mass Spectrometry, and Beyond	Chaired by Scott McLuckey : Ion Chemistry, Reactions and Structure D
Keynote 9:30 AM 20 mins + 5 mins Q&A	Keynote: Professor Evan Williams University of California, Berkeley 276 - Charge Detection Mass Spectrometry: Mass and Conformation of Really Big Things	Keynote: Dr Joachim Kopka Max-Planck-Institute of Molecular Plant Physiology (MPIMP) 697 - GCMS-based 13C-positional isotopologue analysis for investigating photosynthetic carbon assimilation fluxes	Keynote: Professor Haofei Zhang University of California, Riverside 741 - Understanding organic peroxide formation during multiphase oxidation of organic aerosols using mass spectrometry	Keynote: Professor Yujia Qing University of Oxford 760 - Towards nanopore proteomics: Single-molecule analysis of post-translational modifications within full-length proteins	Keynote: Dr Vaughan Langford Syft Technologies Limited 19 - SIFT-MS: Ion-Molecule Chemistry Coupled with Mass Spectrometry for Real-World Applications
Talk 1 9:55 AM 15 mins + 4 mins Q&A	Hamish Stewart 62 - Behind the Curtain: The Long Development of Next Generation HRAM Analyzers	River Pachulicz 42 - Acid-catalysed esterification of anthocyanin glucosyl units in Brassica oleracea	Ralf Zimmermann 335 - Application of a Novel, Field-Deployable Single Particle Mass Spectrometer for Detection of Toxicants and Climate-Relevant Parameters in Wildfire Aerosols	Niklas Geue 98 - Visualizing Conformational Dynamics of Biomacromolecules by Coupling Ion Mobility Mass Spectrometry to Electron Microscopy	Berwyck Poad 284 - Hyphenation of chromatography with ion-ion charge inversion chemistries for the resolution and structure elucidation of branched-chain lipids
Talk 2 10:14 AM 15 mins + 4 mins Q&A	Yi-Sheng Wang 745 - Critical factors determining the performance of linear time-of-flight mass spectrometry – theoretical study and experimental validation	Melanie Odenkirk 546 - Juicy Insights: A Standardized, Nontargeted Metabolomics Approach to Facilitate the Comparison of Apples to Apples Across the Globe	Philippe Schmitt-Kopplin 100 -Molecular atlas of meteorite soluble organic matter using non-targeted ultrahigh resolution organic spectroscopy reveals hydrothermal history of asteroid Ryugu samples	Lars Gruber 213 - Guiding imaging mass spectrometry by mid-infrared vibrational spectroscopy for deep lipidomic profiling	Haiyang Li 341 - Miniature Continuous Atmospheric Pressure Interfaced Ion Trap Mass Spectrometer with Radial Electric Field Driven Collision-Induced Dissociation and its applications
Talk 3 10:33 AM 15 mins + 4 mins Q&A	Taous Abar 20 - Analysis of VOCs in aqueous solutions using the coupling of an oven with a mobile FT-ICR-MS associated to chemical ionization	Laurent Bigler 297 - Structure elucidation of iron chelators produced by microorganisms	Trevor Ireland 431 - Highs and Lows in Analysis of Water with SIMS	Yanis Zirem 350 - Spatial multi-omics informed by SVD k-means++ clustering and statistical assessment of heterogeneity: Advance dry proteomic guided by lipids MALDI MSI	Hua Lei 267 - Photoionization/photoionization-induced chemical ionization mass spectrometry for operando characterization of catalytic reaction processes: instrumentation and applications

11:00 AM – 11:30 AM Morning Tea

Exhibition Hall

Friday 23 August PM

Location	Plenary 3	Meeting Room 105	Meeting Room 106	Meeting Room 109	Meeting Room 110
11:30 AM – 1:00 PM Concurrent Sessions	Chaired by Laura Sanchez: Toxicology and Metabolism	Chaired by Hiroshi Hinou: Biosimilars, Biobetters and Glycoengineering	Chaired by Paul Haynes: Cultural Heritage, Conservation and Archaeology	Chaired by Miaomiao Liu: JMS Awardee Session Sponsored by Journal of Mass Spectrometry	Chaired by Ljiljana Paša-Tolić High Resolution Mass Spectrometry
<p>Keynote 11:30 AM 20 mins + 5 mins Q&A</p> <p>Talk 1 11:55 AM 15 mins + 4 mins Q&A</p> <p>Talk 2 12:14 PM 15 mins + 4 mins Q&A</p> <p>Talk 3 12:33 PM 15 mins + 4 mins Q&A</p>	<p>Keynote: Zongwei Cai Hong Kong Baptist University 769 - Mass spectrometry determination of microbiota-mediated biotransformation of triclosan for investigation of colitis induction</p> <p>Maya Cameron 393 - Comprehensive analysis of Endocrine Disrupting Chemicals using High Resolution Mass Spectrometry</p> <p>Denise Tran 592 - Method Development for High-throughput Quantification of PFAS in Plasma for Correlation to the Omics Profile of Patients with Cardiovascular Disease</p> <p>Mark Sartain 446 - Empowering Drug Metabolite Identification with a Novel Software Workflow</p>	<p>Keynote: Dr Alain Beck Laboratoires Pierre Fabre 129 - Combination of Mass Spectrometry instruments and workflows for complex antibody-based products characterization</p> <p>Magdalena Biesaga 37 - Identification of surfactants with antifungal activity produced by antarctic bacteria Bacillus subtilis strain</p> <p>Troy Wood 230 - Quality Assurance Using Mass Spectrometry to Analyze Structural Fidelity of Monoclonal Antibodies in HIV-1 Therapeutics</p> <p>Adam Pruška 345 - Temperature-Controlled Mass Spectrometry as a Tool for Structural Characterization of Enzymes and Antibodies</p>	<p>Keynote: Dr G. Asher Newsome Smithsonian Museum Conservation Institute 46 - Application and Accessibility Improvements for Real-time, Minimally-invasive, Non-proximate Sampling of Conserved Art Objects</p> <p>Teodora Raicu 506 - MeV SIMS Approach for Identifying Colorants in Artists' Modern Inks</p> <p>Paul Haynes 288 - Proteomic analysis of bone collagen from a collection of worked bone artefacts from Pymont, Australia</p>	<p>11:30 Isaure Sergent 483 - Combining Ion Mobility with Molecular Modeling to Rationalize the MS/MS Behavior of Biradical Oligomer Anions 15 mins talk + 3 mins questions</p> <p>11:48 Brett Burns 669 - Optimizing the low-lying excited states and photodissociation of Norrish type I photoinitiator Acetophenone using group I cations in the gas-phase 15 mins talk + 3 mins questions</p> <p>12:06 Vimanda Chow 253 Probing the molecular mechanism of Constitutive Androstane Receptor (CAR) transactivation by Hydrogen-Deuterium Exchange Mass Spectrometry 15 mins talk + 3 mins questions</p> <p>12:24 Hui Lok Ngan 8 - Application of Imaging Mass Spectrometry-Based Metabolomics to Early Liver Cancer Diagnosis 15 mins talk + 3 mins questions</p> <p>12:42 PM Zuzana Vaňková 300 - Continuous Comprehensive Four-Dimensional Lipidomics Approach for Analysis of Human Plasma 15 mins talk + 3 mins questions</p>	<p>Keynote: Professor Vicki Wysocki Ohio State University 749 - Electrons and/or a surface: characterization of capsids, glycoproteins, and nucleoproteins</p> <p>Lee Gethings 216 - Comprehensive discovery lipidomic workflow which utilizes a prototype, multi-reflecting ToF with integrated informatics, providing highly confident lipid characterization and quantification</p> <p>Jordan Partington 459 - Comparison of high-resolution mass spectrometry acquisition methods for the simultaneous quantification and identification of per- and polyfluoroalkyl substances (PFAS)</p> <p>Benedict Gannon 560 - Effects of sustainable rejuvenator on aged British roads compared with commercial bitumen binder rejuvenator by FT-ICR MS</p>
1:00PM – 2:00PM Lunch Break (Light food and tea break style catering provided)					Exhibition Hall
2:00 PM – 3:00 PM	<p>Chaired by Sarah Hancock Closing Plenary A smart vision for a sustainable future: SMaRT technologies and MICROfactories™ creating sustainable materials and products from waste Professor Veena Sahajwalla, University of New South Wales</p>				Plenary 3
3.00 PM - 4.00 PM	Closing Ceremony, Award Presentations and Presentation of IMSC2026				Plenary 3

Poster Sessions – Monday 19 August

Theme	Presenter	Poster Title	Location
Cancer and Immunology	Adam Rainczuk	(150) Dia-PASEF proteomic analysis of HNSCC tumor and stroma enriched sections from FFPE samples prepared with laser capture microdissection	1
Cancer and Immunology	Brandon Bills	(252) Confident transformation site localization of PROTAC drug metabolites facilitated by multi-stage fragmentation LC-HRAM-MS	2
Cancer and Immunology	David Bergen	(578) A Semi-Targeted Orbitrap Tribid Method for Simultaneous Quantification and Discovery of Immunopeptides	3
Cancer and Immunology	David Harman	(683) Development of a better treatment for glioblastoma	4
Cancer and Immunology	Erin Sykes	(423) Quantitation of breast cancer biomarkers by selected reaction monitoring	6
Cancer and Immunology	Erwin Tanuwidjaya	(291) Exploring the potential of soluble HLA through immunopeptidomics	7
Cancer and Immunology	Jennifer Koh	(420) Use of mass spectrometry to determine the effects of storage temperature and time on FFPE tissue sections	8
Cancer and Immunology	Lilian Heil	(581) Enhancing Immunopeptide Profiling with Orbitrap Astral Mass Spectrometer for Unbiased Discovery of Neoantigens	9
Cancer and Immunology	Rangika Perera	(487) Resolving isomeric bis(monoacylglycero)phosphates and phosphatidylglycerols by hydrophilic-interaction liquid chromatography coupled with cyclic ion-mobility mass spectrometry	10
Cancer and Immunology	Rifaldy Fajar	(623) Predictive Modeling of Tumor Microenvironment Diversity Using Mass Spectrometry Imaging and Deep Learning: Advancing Immunotherapeutic Strategies in Oncology	11
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Poster Sessions – Wednesday 21 August

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Chemistry at the Solution/Gas Phase Interface	Fengjian Chu	(615) Prebiotic Formation of Peptides through Bubbling and Arc Plasma	1
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Food, Nutrition and Agriculture	Jia Yee Wu	(703) Time-Course Peptidomics Analysis of Gastrointestinal Digesta: Decoding Dietary Protein Breakdown with Mass Spectrometry	8
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Food, Nutrition and Agriculture	Julie Rowan	(628) Combined LC/MS and GC/MS approach for analysis of extractables and leachables in complex matrices using high resolution mass spectrometry.	10
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