



## Australian and New Zealand Society for Mass Spectrometry Conference




Online, 21-25 November 2021


**NOTE: All times are Australian Eastern Standard Daylight Saving (Canberra / Sydney) Time**

### Sunday, 21 November 2021



	<b>Chairs:</b> <i>Erin Humphries, Children's Medical Research Institute and Hyun Lee, University of New South Wales</i>
13:00 - 15:00	Early Careers Panel <b>Dr Heather Patsiouras (Waters Australia), Dr George Khairallah (Accurate Mass Scientific), Dr Gus Grey (University of Auckland), Dr Sarah Hancock (University of New South Wales)</b>
15:00 - 15:40	Afternoon Tea
15:40 - 16:00	<b>Conference Opening</b>
	Acknowledgement of Country & Convenor Welcome <b>Dr Adam J. Carroll, Australian National University, Canberra, Australia</b>
16:00 – 17:00	Opening Keynote Address <b>Professor Margaret Sheil, Vice-Chancellor and President, Queensland University of Technology, Australia</b>


## Monday, 22 November 2021

	<b>Chair: <i>Dr Tara Pukala, University of Adelaide</i></b>	
09:00 – 10:00	2021 Morrison Medal Presentation <i>Advanced Mass Spectrometry Tools for Illuminating the 'Hidden' Diversity and Structural Complexity of the Lipidome</i> <b>Professor Gavin Reid, Bio21 Institute, University of Melbourne, Australia</b>	
	<b>Advances in Instrumentation &amp; Methods</b> <b>Chair: <i>Dr Tara Pukala, University of Adelaide</i></b>	Sponsored by  Mass Dynamics
10:00 – 10:20	Ambient Pressure Ion Funnel: Concepts, Simulations and Analytical Performance <b>Associate Professor W. Alexander Donald, University of New South Wales, Australia</b>	
10:20 – 10:40	Internal fragment assignments enhance top-down protein sequencing experiments that are beneficial for localising post-translational modifications and protein-ligand binding sites <b>Dr Muhammad Zenaidee, Australian Proteome Analysis Facility, Macquarie University, Australia</b>	
10:40 – 11:00	Nanosecond pulsed dielectric barrier discharge ionisation-high-resolution differential ion mobility mass spectrometry for volatile biomarker analysis <b>Diana Zhang, University of New South Wales, Australia</b>	
11:00 - 11:20	Morning Tea	
	<b>Metabolomics and Lipidomics</b> <b>Chair: <i>Associate Professor Todd Mitchell, University of Wollongong</i></b>	Sponsored by 
11:20 – 11:40	A discovery platform for fatty acids using untargeted charge-switch derivatization UPLC-OzID-MS and untargeted large-scale data analysis <b>Dr. Jan Philipp Menzel, Queensland University of Technology, Australia</b>	
11:40 – 12:00	Broad Quantitative Lipid Profiling Using High-Throughput Targeted UHPLC-MS/MS <b>Miss Monique Ryan, Murdoch University, Australia</b>	
12:00 - 13:00	Lunch	
	<b>Environmental and Forensic</b> <b>Chair: <i>Christopher Fitzgerald, Australian National University</i></b>	Sponsored by 



13:00 – 13:20	3-O-Methyl-dopa as an indicator of dopaminergic manipulation in equine plasma <b>Miss Bethany Keen</b> , University of Technology Sydney, Australia
13:20 – 13:40	Lipidomics for enhanced equine anti-doping using LC-HRMS <b>Miss Kathy Tou</b> , University of Technology Sydney, Australia
13:40 – 14:00	GC-MS profiling of equine urine for longitudinal assessments <b>Madysen Elbourne</b> , University of Technology Sydney, Australia
14:00 – 14:20	Energy-Resolved Fragmentation Aiding the Structure Elucidation of Steroid Biomarkers <b>Mr Christopher Fitzgerald</b> , Australian National University, Australia
14:20 – 14:40	Afternoon Tea
	<b>Advances in Instrumentation &amp; Methods</b> <b>Chair: Associate Professor W. Alexander Donald</b> , University of New South Wales <div style="text-align: right;"> Sponsored by  </div>
14:40 - 15:40	2021 Bowie Medal Presentation <b>Professor Michelle Colgrave</b> , Commonwealth Scientific & Industrial Research Organisation and Edith Cowan University, Australia
15:40 – 16:00	FAIMS based fractionation enables proteomic/glycoproteomics analysis in a single analytical run <b>Dr Nichollas Scott</b> , University of Melbourne, Australia
16:00 – 16:20	Electron Activated Dissociation in Zeno-TOF Mass Spectrometer <b>Takashi Baba</b> , Sciex, Canada
16:20 – 16:40	Activity and Structural Screening of $\beta$ -Diketonate Assemblies by High Throughput Travelling Wave Ion Mobility-Mass Spectrometry <b>Mr Oscar Lloyd Williams</b> , University of New South Wales, Australia
16:40 - 17:00	Development and implementation of a Multi-reflecting TOF for Spatially Resolved Metabolomics <b>Dr James. I. Langridge</b> , Waters MS Technologies Centre, United Kingdom

## Tuesday, 23 November 2021

09:00 – 10:00	Keynote Address: <i>Development and Applications of Ultraviolet Photodissociation Mass Spectrometry for Biological Applications</i> <b>Professor Jennifer S. Brodbelt</b> , University of Texas, Austin, USA
	<b>Ion Chemistry and Spectroscopy</b> <b>Chair: Professor Adam Trevitt</b> , University of Wollongong <span style="float: right;">Sponsored by  Journal of the American Society for Mass Spectrometry</span>
10:00 – 10:20	Structural Analysis of Glyphosate and Aminomethylphosphonic Acid (AMPA) Metal Complexes using Ion Mobility-Mass Spectrometry and Computational Methods <b>Olivia Rusli</b> , University of New South Wales, Australia
10:20 – 10:40	On the mechanism of theta capillary nanoelectrospray ionisation for the formation of highly charged protein ions directly from native solutions <b>Susannah Brown</b> , University of New South Wales, Australia
10:40 – 11:00	Palladium-mediated CO <sub>2</sub> extrusion Followed by insertion of (hetero)cumulenes for the synthesis of amidines, amides and alkenes: translating fundamental gas and solution phase mechanistic studies to develop synthetic protocols <b>Yang Yang</b> , The University of Melbourne, Australia
11:00 – 11:20	Adventures in Gas-Phase Organometallic Ion Chemistry: From Exploring Mechanisms to Inventing New Reactions. <b>Professor Richard O'Hair</b> , University of Melbourne, Australia
11:20 – 11:40	Morning Tea
	<b>Ion Chemistry and Spectroscopy</b> <b>Chair: Professor Adam Trevitt</b> , University of Wollongong <span style="float: right;">Sponsored by  Journal of the American Society for Mass Spectrometry</span>
11:40 – 12:00	Isomerism of protonated para-aminobenzoic acid catalysed by a single methanol <b>Mr Boris Ucur</b> , University of Wollongong, Australia
12:00 – 12:20	Influences of Internally Oriented Electric Fields on the Protomer Specific Reactions of Quinazoline Distonic Radical Cations <b>Mr. Oisin Shiels</b> , University of Wollongong, Australia
12:20 – 12:40	Exploring substituent effects in decarboxylation of cationic zinc complexes. [(phen)Zn(O <sub>2</sub> CC <sub>6</sub> H <sub>4</sub> X)] <sup>+</sup> <b>Mr. Joshua Rand</b> , The University of Melbourne, Australia
12:40 – 13:00	Lunch
13:00 – 14:40	<b>ANZSMS AGM</b>


14:40 – 15:00	Afternoon Tea
	<b>Metabolomics and Lipidomics</b> <b>Chair: Associate Professor Todd Mitchell, University of Wollongong</b>
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15:00 – 15:20	Ultra-high resolution ozone-induced dissociation uncovers triacylglycerol structural diversity in human plasma <b>Dr Berwyck Poad, Queensland University of Technology, Australia</b>
15:20 – 15:40	Single-cell lipidomics by chip-based nano electrospray ionisation mass spectrometry <b>Dr Sarah Hancock, University of New South Wales, Australia</b>
15:40 – 16:00	Multi-omic Comparison of Growth Dependent Adaptation <b>Madie Nuske, University of Melbourne, Australia</b>
16:00 - 17:00	Keynote Address: <i>Isotopes in metabolic research: example of non-targeted 13C metabolite analysis to examine metabolic re-orchestration in leaves when gas-exchange conditions vary</i> <b>Professor Guillaume Tcherkez, Australian National University, Australia and University of Angers, France</b>

## Wednesday, 24 November 2021

	<b>Chair: Dr Matthew Taylor, CSIRO</b>	
09:00 – 10:00	Keynote Address: <i>Quantification of Proteomic and Post-translational Changes during Kidney Injury and Protective Effects in Response to Genetic and Dietary Interventions</i> <b>Associate Professor Birgit Schilling, The Buck Institute, California, USA</b>	
10:00 – 11:00	Keynote Address: Environmental and Forensic <b>Professor Kimberly Prather, Scripps Institute of Oceanography, University of California, San Diego, USA</b>	
11:00 – 11:20	Morning Tea	
	<b>Environmental and Forensic Chair: Dr Matthew Taylor, CSIRO</b>	Sponsored by 
11:20 – 11:40	Improving the analysis of non-conventional cationic and zwitterionic per- and polyfluoroalkyl substances in biosolids <b>Mr Hyun Eui Lee, University of New South Wales, Australia</b>	
11:40 – 12:00	An Early Warning System for Illicit Drug Use: DART-MS for Trace Residue Analysis of Discarded Drug Packaging Samples and Discarded Drug Paraphernalia <b>Mr. Henry West, The University of Melbourne, Australia</b>	
12:00 – 12:20	Quantifying methamphetamine in air, waste-water and house-hold furnishings, fabrics and foods to determine extent of third-hand exposure to methamphetamine (T.H.E.M). <b>Associate Professor Stewart Walker, Flinders University, Australia</b>	
12:20 – 12:40	A liquid chromatography tandem mass spectrometry method for the quantification of selected analgesics and their metabolites in wastewater influent <b>Fahad Ahmed, The University of Queensland, Australia</b>	
12:40 – 13:20	Lunch	
	<b>Metabolomics and Lipidomics Chair: Professor Gavin Reid, University of Melbourne</b>	Sponsored by 
13:20 – 13:40	Using LC-DAD-MS and IM-MS Methods to Characterise Anthocyanin Profiles in Novel and Commonly Consumed Plants <b>Mr River Pachulicz, The University of Adelaide, Australia</b>	

13:40 – 14:00	Tightening the belt on lipid structural elucidation: the associations between glycerophospholipid sn- and DB isomers <b>Mr Reuben Young</b> , Queensland University of Technology, Australia
14:00 – 14:20	Characterization of Brain Derived Extracellular Vesicle Lipids in Alzheimer's Disease <b>Huaqi Su</b> , The University of Melbourne, Australia
14:20 – 14:40	Afternoon Tea
14:40 – 15:00	The Lipidomic Signatures of Colorectal Cancer <b>Mr Tim Salita</b> , Bio21 Institute, University of Melbourne, Australia
15:00 – 15:20	Development of LC-MS/MS method for quantification of Somatostatin in blood. <b>Ramneek Kaur</b> , Western Sydney University, Australia
15:20 – 15:40	Region Specific Losses of Phospholipid Derived Docosahexaenoic Acid in the Putamen of Huntington's Patients <b>Miss Gabrielle Phillips</b> , University of Wollongong, Australia
15:40 – 16:00	Refreshment Break
16:00 - 17:00	Keynote Address: Clinical and Diagnostics <b>Professor Maria Fuller</b> , The University of Adelaide Medical School

## Thursday, 25 November 2021

09:00 – 10:00	Keynote Address: Mass Spectral Imaging <b>Dr Shane Ellis</b> , <i>University of Wollongong</i>
	<b>Mass Spectral Imaging</b> Chair: <b>Dr Gus Grey</b> , <i>University of Auckland</i>
10:00 – 10:20	Imaging of nutrient and pharmaceutical transport in the ocular lens with MALDI mass spectrometry <b>Dr Gus Grey</b> , <i>University of Auckland, New Zealand</i>
10:20 – 10:40	Evaluation of Glucose uptake and metabolism in the normal bovine lens by MALDI imaging mass spectrometry <b>Ali Zahraei</b> , <i>The University of Auckland, New Zealand</i>
10:40 – 11:00	More Ions from Less Sample: Efficient Imaging of Aromatic Antioxidants Using Sequential Matrix-Assisted Laser Desorption and Resonant Photoionisation <b>Ms Tassiani Sarretto</b> , <i>The University of Wollongong, Australia</i>
11:00 – 11:20	Exploiting Laser Post-Ionisation Matrix-Assisted Laser Desorption/Ionisation (MALDI) Mass Spectrometry Imaging for Enhanced Spatial Probing of Glycosphingolipid Metabolism in Parkinson's Disease Model <b>Shadrack Mutuku</b> , <i>The University of Wollongong, Australia</i>
11:20 – 11:40	Morning Tea
	<b>Advances in Instrumentation &amp; Methods</b> Chair: <b>Associate Professor W. Alexander Donald</b> , <i>University of New South Wales</i>
	Sponsored by  Mass Dynamics
11:40 – 12:00	Extending differential ion mobility separation of proteoform isomers to the top-down range <b>Miss Xiaojing Huang</b> , <i>University of New South Wales, Australia</i>
12:00 – 12:20	Small-Footprint, Field-Portable LC/MS System for On-Site Analysis of Per- and Polyfluoroalkyl Substances in Soil <b>Mohamed Hemida</b> , <i>University of Tasmania, Australia</i>
12:20 – 13:40	Lunch
	<b>Native Mass Spectrometry / Structural Biology</b> Chair: <b>Dr Tara Pukala</b> , <i>University of Adelaide</i>
13:40 – 14:00	Biophysical characterisation of DNA triplexes for antigene technology <b>Jack Klose</b> , <i>University of Adelaide, Australia</i>



14:00 – 14:20	Hydrogen deuterium exchange mass spectrometry applied to the identification of small molecule binding sites in Escherichia coli CoaE <b>Christina Spry</b> , The Australian National University, Australia and <b>Caryn Hepburn</b> , Waters Australia
14:20 – 14:40	Afternoon Tea
	<b>Chair: Associate Professor W. Alexander Donald</b> , University of New South Wales
14:40 – 15:00	Rapid Response to Pandemics: Identification of novel antivirals using native mass spectrometry <b>Dr Miaomiao Liu</b> , Griffith University, Australia
15:00 – 15:20	Multiplexed screening of thousands of natural products for protein binding using native mass spectrometry <b>Mr Jack Bennett</b> , University of New South Wales, Australia
15:20 – 15:40	Native ion-mobility MS unravels the aggregation dynamics of amyloid fibril-forming proteins and their interactions with molecular chaperones <b>Dr Blagojce Jovcevski</b> , University of Adelaide, Australia
15:40 – 16:00	Break
16:00 – 17:00	Keynote Address: Native Mass Spectrometry / Structural Biology <b>Professor Michal Sharon</b> , Weizmann Institute of Science, Israel
17:00 - 17:30	Award Announcements and Conference Close <b>Associate Professor W. Alexander Donald</b> , University of New South Wales and <b>Dr Adam J. Carroll</b> , Australian National University, Canberra, Australia

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The Conference program is subject to change at the discretion of the Organising Committees

