

32nd Annual ISIMS Conference in Maastricht

Conference Schedule at a Glance

The schedule may be subject to changes. Please check regularly prior to the conference. The venues are listed in brackets after the items on the conference program. Oral presentations and poster session will take place in Ceramique.

Saturday, August 19th

09:00 – 09:30	Short Course Registration (Pomerol/Graves)
09:30 – 17:15	Short Course Day 1 (Pomerol/Graves)

Sunday, August 20th

09:00 – 14:30	Short Course Day 2 (Pomerol/Graves)
15:00 – 17:00	ISIMS Board Meeting (Pomerol/Graves)
17:00 – 19:00	Conference Registration (Lobby)
17:00 – 19:00	Early Career Event: Meet and Greet (Pomerol/Graves)

Monday, August 21st

08:00 – 08:30	Conference Registration (Ceramique Foyer)
08:30 – 09:00	Housekeeping, Welcome, Introduction to Keynote (Ceramique)
09:00 – 09:50	Keynote Talk from Edwin de Pauw
10:10 – 12:00	Session A: Bio/Medical
12:00 – 13:00	Lunch (de Mangerie)
13:00 – 15:10	Session B: TIMS
15:30 – 16:40	Session C: Hyphenated Systems
16:40 – 16:50	ISIMS Business: Call for Nominations
17:30 – 20:00	Early Career Event: Tour to M4i (Meeting 17:30 Ceramique Foyer)

Tuesday, August 22nd

08:00 – 08:05	Announcement
08:05 – 10:00	Session D: Ionization Sources
10:15 – 11:45	Session E: Ionization Chemistry
11:45 – 12:00	Team Building for Poster Presenters
12:00 – 13:00	Lunch (de Mangerie)
13:00 – 16:00	Poster Session
16:00 – 16:15	Team Building for Mid Career Researchers
16:30 – 20:00	Early Career Event: Tour to Chemelot (Meeting 16:15 Ceramique Foyer)

Wednesday, August 23rd

08:00 – 08:10	Announcement
08:10 – 10:00	Session F: Instrumentation
10:20 – 11:50	Session G: Instrumentation/Drift Region
12:00 – 13:00	Lunch (de Mangerie)
13:00 – 14:40	Session H: CCS
15:00 – 16:30	Discussion Panel
18:00 – 23:00	Dinner Cruise (Meeting 17:30 Ceramique Foyer)

Thursday, August 24th

08:00 – 09:50	Session I: Application
09:50 – 10:05	ISIMS Business: Nominees Presentation
10:05 – 10:20	ISIMS Business: Voting for Nominees
10:20 – 11:20	Session J: Security
12:00 – 13:00	Lunch (de Mangerie)
13:00 – 14:55	Session K: Food
15:15 – 15:45	ISIMS Business: Election results, Travel and Poster Awards, ISIMS 2024 and closing remarks

Friday, August 25th

Networking event to Valkenburg (at own cost). Depart 09:15 from the lobby of Crowne Plaza Hotel

Monday, August 21st

08:00 – 08:30 Conference Registration (Ceramique Foyer)
08:30 – 09:00 Housekeeping, Welcome, Introduction to Keynote (Ceramique)
09:00 – 09:50 Keynote Talk from Edwin de Pauw: Ion mobility, from shape to structure?

Break

Session A: Bio/Medical

	Stefanie Sielemann	Session Chair and Introduction
10:10 – 10:20	A1 Wolfgang Vautz	GC-IMS Analysis of mVOCs for Identification of Bacteria and Potential Antibiotic Resistance
10:20 – 10:40		
10:40 – 11:00	A2 Ziyi Chen	The impact of fluid load and mechanical ventilation power on the correlation of propofol concentrations in exhaled breath and blood
11:00 – 11:20	A3 Simon Davis	Spatially resolved proteomics of a human brain tumour
11:20 – 11:40	A4 Isabell Eickel	Dual polarity GC-IMS blood culture headspace gas analyses enable early differentiation of nine common pathogens in sepsis
11:40 – 12:00	A5 Hannah Schanzmann	Thermal desorption gas chromatography coupled with ion mobility & mass spectrometry for the detection of hospital-acquired infections

Lunch (de Mangerie)

Session B: TIMS

	Fanny Caroline Liu	Session Chair and Introduction
13:00 – 13:10	B1 Melvin Park	Native mass spectrometry on a modified timsTOF Pro
13:10 – 14:30	B2 Hugo Muller	Sliding windows in ion mobility (SWIM): a new approach to increase the separation power in trapped ion mobility-mass spectrometry hyphenated with chromatography
13:30 – 13:50		
13:50 – 14:10	B3 Juliane Gottwald	Connecting amyloid to the molecular environment: how MALDI TIMS imaging and supervised segmentation analysis guide in-depth proteomic disease characterization
14:20 – 14:30	B4 Aurore Schneiders	Comparison of collision cross section (CCS)-m/z trendlines of perfluoroalkyl carboxylic acid dimers between Trapped, Traveling Wave and Drift Tube ion mobility spectrometry.
14:30 – 14:50	B5 Patricia Skowronek	Synchro-PASEF: Combining Specificity with Accuracy and Coverage for Highly Challenging Sample Types, Including Multiplexed Single-Cells
14:50 – 15:10	B6 Francisco Fernandez Lima	TIMS-FT-ICR MS/MS for the analysis of complex mixtures

Break

Session C: Hyphenated Systems

	Peter Fowler	Session Chair and Introduction
15:30 – 15:40	C1 Philipp Weller	Automated peak detection in gas chromatography-ion mobility spectrometry using persistent homology
15:40 – 16:00		
16:00 – 16:20	C2 Chuang Chen	Parallel Coupling of Ion Mobility Spectrometry and Ion Trap Mass Spectrometry for Real-Time Monitoring Hazardous Chemical Leakages
16:20 – 16:40	C3 Elvin R. Cabrera	Compressed Sensing FT-IM-MS for Drastically Shortened Experimental Timescales
16:40 – 16:50	ISIMS Business: Call for Nomination	
17:30 – 20:00	Early Career Event: Tour to M4i (Meeting at Ceramique Foyer)	

Tuesday, August 22nd

08:00 – 08:05 | Announcement

Session D: Ionization Sources

08:05 – 08:10	Christoph Schäfer	Session Chair and Introduction
08:10 – 08:20	D1 Maximilian J. Kueddelsmann	Advantages of Focusing Flow Ion Source Geometries for Fast Response and High Sensitivity
08:20 – 08:40	D2 Osmo Anttalainen	Time resolved ion formation in ion mobility spectrometry
08:40 – 09:00	D3 Luisa Speicher	New ionisation source: The Closed μ -Tube Plasma
09:00 – 09:20	D4 Joachim Franzke	Elucidation of soft ionisation mechanism in a He-, Ne, Ar, Kr, Xe-Flexible μ Tube Plasmas by temporally and spatially resolved Plasma Optical Emission Phoresis Spectroscopy
09:20 – 09:40	D5 Annika Fechner	Development of a seamless non-radioactive liquid phase IMS device
09:40 – 10:00	D6 HJ Jost	Atmospheric Pressure Chemical Ionization MS with Multi-Scheme Chemical Ionization Inlet (MION)

Break

Session E: Ionization Chemistry

10:15 – 10:25	Jaroslav Puton	Session Chair and Introduction
10:25 – 10:45	E1 Lei Hua	Modifier-enhanced Positive Photoionization Ion Mobility Spectrometry for Real-time and On-site Measurement of Ammonia
10:45 – 11:05	E2 Oliver Hecht	Reaction kinetic studies of the formation of protonated monomer and dimer ions in atmospheric pressure chemical ionization by Tandem-IMS
11:05 – 11:25	E3 Fuminori Misaizu	Proton transfer reaction in protonated p-aminobenzoic acid by an ammonia molecule acting as a vehicle – Study with cryogenic ion mobility-mass spectrometry
11:25 – 11:45	E4 Gary A. Eiceman	Quantitative Prediction of Ion Abundances in Binary Mixtures of VOCs using Atmospheric Pressure Chemical Ionization
11:45 – 12:00	Team Building for Poster Presenters	

Lunch (de Mangerie)

13:00 – 16:00	Poster Session
16:00 – 16:15	Team Building for Mid Career Researchers
16:30 – 20:00	Early Career Event: Tour to Chemelot (Meeting 16:15 Ceramique Foyer)

Wednesday, August 23rd

08:00 – 08:10 | Announcement

Session F: Instrumentation

08:10 – 08:20		-	Session Chair and Introduction
08:20 – 08:40	F1	Jarosław Puton	Ion Swarms and Currents in Variable Electric Field – Theoretical Description and Possible Applications
08:40 – 09:00	F2	Alexander Graf	Miniaturized DMS Chip Device: Concept, Results, Limitations and Future Perspective
09:00 – 09:20	F3	Thomas Turpen	Advancing ion mobility spectrometry for distributed chemical sensing
09:20 – 09:40	F4	Monika Wiśnik-Sawka	Ion Mobility Spectrometry for pure Vx detection
09:40 – 10:00	F5	Alexander Bohnhorst	Limitations and Opportunities - Understanding Ion Current Detection in Ion Mobility Spectrometry

Break

Session G: Instrumentation - Drift Region

10:20 – 10:30		Brian Clowers	Session Chair and Introduction
10:30 – 10:50	G1	Zackary Kinlein	Development of a Highly Modular Platform Integrating Structures for Lossless Ion Manipulations and Time-of-Flight Mass Spectrometry
10:50 – 11:10	G2	Yehia, Ibrahim	Advances in ion mobility separations in structures for Lossless Ion Manipulations (SLIM)
11:10 – 11:30	G3	Simon Höving	Functionalization of a Next-Generation Material for 3D-Printed IMS and Analytical Detectors
11:30 – 11:50	G4	Arthur Schiller	Flexible Drift Tube Manufacturing with different 3D Printing Technologies using conductive and non-Conductive Cyclic Olefin Copolymer

Lunch (de Mangerie)

Session H: CCS

13:00 – 13:10		-	Session Chair and Introduction
13:10 – 13:30	H1	Anaïs George	Accurate lipid CCS determination using TIMS instrument: desolvation issues and comparison with TWIMS and DTIMS instruments
13:30 – 13:50	H2	Glenn Spangler	Towards a Mechanistic Study of Isomeric Separation by Ion Mobility Spectrometry
13:50 – 14:10	H3	Alexander Haack	First-Principles Modeling of Ion Mobility and Ion Chemistry in IMS Devices
14:10 – 14:40	H4	Haley Schramm	Evaluation of Variable Temperature Hydrogen-Deuterium Exchange during Transient Vapor Binding with a FlexTube FT-IMS

Break

15:00 – 16:30 | Discussion Panel

18:00 – 23:00 | Dinner Cruise (Meeting 17:30 Ceramique Foyer)

Thursday, August 24th

Session I: Application

08:00 – 08:10	-	Session Chair and Introduction
08:10 – 08:30	I1 William T. Wallace	Differential Mobility Spectrometry on the ISS - Successes and Current Concerns
08:30 – 08:50	I2 Oscar Lloyd Williams	Investigating Small Molecules as Templating Agents for Coordination Driven Self-Assembly with Ion Mobility Mass Spectrometry
08:50 – 09:10	I3 Robert Ewing	Multi-dimensional measurements coupled with computational predictions for reference-free identification of existing and emerging fentanyl analogs
09:10 – 09:30	I4 Haiyang Li	Rapid determination of intraoperative blood propofol concentration by dopant-enhanced negative photoionization ion mobility spectrometry
09:30 – 09:50	I5 Christoph Schaefer	Detection of Precursors for Drug Synthesis Using High-Temperature High Kinetic Energy Ion Mobility Spectrometry (HiT-HiKE-IMS)
09:50 – 10:05	ISIMS Business: Nominee Presentation. Voting during Break.	

Break

Session J: Security

10:20 – 10:30	Brian Hauck	Session Chair and Introduction
10:30 – 10:50	J1 Maria Allers	Drone mounted ion mobility spectrometers – capabilities and limitations
10:50 – 11:10	J2 Bert Ungethuen	New developments in the application of a field deployable high-pressure time-of-flight mass spectrometer (HiP-MS-Pro)
11:10 – 11:20	J3 Adam Price	Kinetic analysis of low molecular weight nitroalkanes using electric field induced heating in a differential mobility spectrometer.

Lunch (de Mangerie)

Session K: Food

13:00 – 13:10	Veronika Ruszanyi	Session Chair and Introduction
13:10 – 13:30	K1 Tom Limero	How Is The Wine?
13:30 – 13:50	K2 Joscha Christmann	Fault detection in fermentation processes by GC-IMS exhaust gas monitoring and chemometrics
13:50 – 14:10	K3 Modestus Wigger	Combination of non-targeted and targeted strategies for the classification of monofloral honey types using Headspace-GC-MS/-IMS
Break		
14:25 – 14:45	K4 Lukas Bodenbender	Profiling of VOCs in citrus products by prototypic gas chromatography focus high temperature IMS (Focus-HT-IMS)
14:45 – 14:55	K5 Lourdes Arce Jiménez	Food authentication methodologies: high performance ion mobility applied to the analysis of olive oil quality. First comparative approach between spectroscopic techniques

Break

15:15 – 15:45	ISIMS Business: Election results, ISIMS 2024, Travel and Best Poster Awards and Closing Remarks	
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Poster Session

Posters will be displayed on tables. The table dimensions are 150 cm by 60 cm (59" by 23.6"). Before the poster session, the tables in the Ceramique need to be rearranged. We kindly ask all poster presenters to help us after Session E. After the poster Session. Mid career researchers please stay behind to move tables and chairs back to classroom setting.

P01	Chris Pruefert	History of IMS research in the Netherlands
P02	Jamie Threadgold	Ultrafast gas chromatography-tandem differential mobility spectrometry: demonstrating opportunities to enhance sensitivity and selectivity through detection of explosives in representative sample sets
P03	Daniel Claassen	Reducing false alarm rate: low-cost multi-stage ion mobility spectrometer with collision induced fragmentation
P04	Martin Lippmann	Comparative Study of Triacetone Triperoxide Using High-Temperature High Kinetic Energy Ion Mobility Spectrometry and Gas Chromatography Ion Mobility Spectrometry
P05	Martin Lippmann	Detection of Precursors for Drug Synthesis Using Gas Chromatography Ion Mobility Spectrometry
P06	Changzhuo (Alex) Chen	Exploring automatic IMS and its fusion with X-ray CT in security screening
P07	Nils Funke	Analysis of mass spectrum of a miniaturized DMS chip
P08	Dylan Koch	Characterization of an open-source silicon based differential mobility spectrometer
P09	Jonas Winkelholz	Compensated Resistive Voltage Divider Based on Printed Circuit Board Design for Measuring High RF Fields with DC Component as Used in Ion Mobility Spectrometry
P10	Florian Herdl	Lifetime investigation on Graphene-Oxide-Semiconductor electron emitter for operation in atmospheric pressure levels
P11	Krzysztof Piwowarski	Simple Ionization Detector with Variable Electric Field - Possibility of Analytical Use
P12	Leonardo Hermeling	Investigation of Corona Discharge Ionization at Low Pressures in Air
P13	Alexander Nitschke	Plasma Ionization Source for a Dual Polarity Ion Mobility Spectrometer Utilizing Parallel Drift Tubes
P14	Christian Thoben	High Resolution Electrospray Ionization Ion Mobility Spectrometry with High Repetition Rate for Efficient Coupling with Fast Chromatography and Droplet Microfluidics
P15	Moritz Hitzemann	Ultra-Fast Polarity Switching GC-IMS for Onsite and Online Analysis of Biogas
P16	Stefanie Sielemann	GCxIMS for the online process control in the brewing of beer
P17	Carolin Zimmer	Ion Mobility Spectrometry: Application in Food analysis, for characterization and Quality control
P18	Sophia Lohße	Gas Chromatography-Ion Mobility Spectrometry (GC-IMS) Investigations of the Volatilome of Healthy and Cancerous Prostate Cells under Normoxic and Hypoxic Growth Conditions
P19	Richard Frey	Direct headspace sampling from mammalian cell cultures for non-target based analysis of volatile organic compounds via GC-IMS
P20	Veronika Ruzsanyi	Determination of volatile metabolites produced by genetically modified mycoparasitic fungi
P21	Lourdes Arce Jiménez	Keys to run a qualitative and quantitative analysis using HS-GC-IMS

P22	Lourdes Arce Jiménez	Mycobacterium tuberculosis complex field infection detection in cattle after faecal volatile organic compound analysis using gas chromatography-ion mobility spectrometry
P23	Tim Kobelt	Identification of Wear and Abrasion Particles from Loosened Hip Arthroplasties with Py-GC-IMS
P24	Fuminori Misaizu	Stable compositions and structures of oxide cluster ions of rare-earth metals (Sc, Y, and La)
P25	Fuminori Misaizu	Two conformer structures of crown ether complexes with metal ions studied by cryogenic ion mobility-mass spectrometry
P26	Peiliang Han	An investigation of fragmentation mechanism on nifedipine-type nitro-containing molecules by tandem mass spectrometry and ion mobility spectrometry
P27	Izabela Wolańska	Small hydrated ions in ion mobility spectrometry
P28	Emanuel Mařař	IMS-MS diagnostic of RONS generated by plasma jet in Ar
P29	Darya Hadavi	Evaluating the impact of Buffer 4-ethylmorpholine/acetate for native mass spectrometry of proteins and protein complexes by mass spectrometry and ion mobility spectrometry
P30	Fanny Caroline Liu	Structural Elucidation of Glycoprotein Complexes by Tandem-Trapped Ion Mobility Spectrometry/Mass Spectrometry.
P31	Simon Höving	Unleashing the Potential of 3D Printing: Continuous Fiber Heater Creation for Advanced Ketone Analysis in Ion Mobility Spectrometry
P32	Edyta Budzyńska	Identification and quantification of vicynal diketones in beer using gas chromatography-ion mobility spectrometry