Conference Schedule

	Morning	**Afternoon**	**Evening**
Sunday July 24	-	Registration ISIMS Board Meeting Session Chairs Training	Welcome Reception*
Monday July 25	Technical Session *Plenary Lecture* *Fundamentals: Theory*	Technical Session *Developments in TIMS* *Gas-Phase Reactions*	Free Evening
Tuesday July 26	Poster Session	Networking Event* *Graceland* *Tour of Beale Street*	Free Evening
Wednesday July 27	Technical Session *Machine Learning Developments in TWIMS/ SLIM*	Technical Session *Instrumentation* *Applications*	Conference Dinner*
Thursday July 28	Technical Session *DIY-IMS* *Field-Ready Devices*	Technical Session *Plenary Lecture*	Free Evening
Friday July 29	Networking Event* *Walking Tour of Memphis*	-	-

* denotes attendance by registered conference guests

Technical Program

Sunday, July 24

13:00 – 15:30	ISIMS Board Meeting	
15:30 – 17:00	Session Chairs Training	
16:00 – 18:30	Conference Registration *	
18:00 – 21:00	Welcome Reception *	

Monday, July 25

07:30 – 08:30	Conference Registration	
07:30 – 08:30	*Breakfast & Poster setup*	
08:30	Opening of Conference*	
	Travel Awards Ceremony *	
	Distinguished Contribution Award*	
	Plenary lecture	
	Origins, Trend, and History in Development of Differential Ion Mobility Spectrometry (DMS/FAIMS)	Erkinjon Nazarov
	Morning Break	
Session 1	**Fundamentals of IMS: Theory**	
	Did Mason and McDaniel Stop One Step Short?	Bill Siems
	Predicting ion mobility by including the non-linear effects of high electric field strength, inelasticity of collision in polyatomic gases, and internal degrees of freedom	Viraj D. Gandhi
	Prediction of structures related to complex organic matter with flexible alkyl chains using ion mobility-mass spectrometry	Julien F. Maillard
	A Pandemic Collision (of theory)	Glenn E. Spangler
	Mobilities of halogens ions. Thermodynamical consideration and measurements with DT IMS and DMS	Izabela Wolańska
	Lunch	
Session 2	**Developments in TIMS**	
	Integration of single- and double-down (CID, ExD/UVPD) strategies with TIMS-MS	Francisco Fernandez-Lima
	Development of a New Trapped Ion Mobility Spectrometer	Daniel A. Rickert
	Tandem-trapped ion mobility spectrometry – mass spectrometry (tTIMS/MS) for structural characterization of carbohydrate oligosaccharides	Jusung Lee
	Implementation of a novel Tandem TIMS-QIT-MSn methodology	Miguel Santos-Fernandez
	Afternoon Break	
Session 3	**Gas-Phase Reactions**	
	Thermal decomposition and collision induced dissociation of nitrate adducts of explosives in ion mobility spectrometry and mass spectrometry	Bhupendra K. Gurung
	Ion Abundances and Charge Competition with Binary Mixtures in Ambient Pressure Ionization	Elie Lattouf

	Correlating Peptide Charge State with Gas-Phase Hydrogen/Deuterium Exchange Rates and Vapor-induced Arrival Time Shifts	Haley Schramm
	Intermingled positive and negative ions in ambient ionization for increased sensitivity	Robert Ewing
	Reaction Kinetic Studies of the Formation of Protonated Monomer Ions in Atmospheric Pressure Chemical Ionization by Ion Mobility Spectrometry	Oliver Hecht

Tuesday, July 26

07:30 – 08:30	*Breakfast*
8:30-12:00	Poster Session/Vendor Exhibition
12:00-13:00	*Lunch**
13:30-17:30	Networking Event*

Wednesday, July 27

07:30 – 08:30	*Breakfast*	
Session 4a	**Machine Learning**	
	Keynote Lecture on Machine Learning in Ion Mobility Spectrometry	Pete Harrington
	Field Induced Fragmentation (FIF) spectra from Tandem Ion Mobility Spectrometry Toward Molecular Identification Using IMS	Gary A. Eiceman
	Determining Physiochemical Properties with Differential Mobility Spectrometry	W. Scott Hopkins
	Development of a Novel Heterogeneous Sensor System for CBRN Monitoring	Bert Ungethuem
	Morning Break	
Session 4b	**Machine Learning- Continued**	
	Approaches to the Analysis of DMS DispersionPplots	Anton Kondratev
	Ion Mobility for Unknown Metabolite Identification: Hope or Hype?	Carter Asef
Session 5	**Developments in TWIMS/SLIM**	
	Evaluating Ramped TW Parameters for the Enhancement of Peak Profiles in TW-SLIM	Zackary Kinlein
	A re-calibration procedure for interoperable lipid collision cross section values measured by traveling wave ion mobility spectrometry	Anaïs C. George
	ISIMS Business	
	Lunch	
Session 6	**Instrumentation: General**	
	Development of a seamless non-radioactive ion mobility spectrometer for liquid phase samples	Annika Fechner
	Using a planar field emitter as ion source for ion mobility spectrometry in negative polarity	Max Kueddelsmann
	Constriction of Ion Mobility distributions by means of varying fields	Carlos Larriba-Andaluz

	FET-IMS TBD	Alex Bohnhorst
	Afternoon Break	
Session 7	**Applications**	
	Framing the amyloid mosaique — how MALDI-IMS MSI depicts the signature of protein misfolding diseases	Juliane Gottwald
	Characterizing Intact and Denatured Adeno-Associated Virus Capsids Using Novel Mass Spectrometry Methods	Jack Ryan
	Ultrasonic Vapor Modifier Nebulization for Enhanced Control of FAIMS-Mass Spectrometry-Applications with Volatile Organic Solvents	Nathan Grimes
	Differentiation of isomeric sugars with Bruker timsTOF	Jun Jack Hu
	Kinetic vs Thermodynamic Control within Differential Mobility Spectrometry: An Unexpected Observation using Alpha-Acids from Brewing Hops	Christian Ieritano
18:00-18:15	Group Photo*	
18:00-22:00	Conference Dinner*	

Thursday, July 28

07:30 – 08:30	*Breakfast*	
Session 8	**DIY-IMS**	
	Functionalization of a next-generation material for 3D-Printed IMS and analytical detectors	Sebastian Brandt
	Tristate Ion Shutters - an Overview and Guide	Ansgar Kirk
	Accurate and On-Demand Chemical Sensors: A Print-in-Place Ion Mobility Spectrometer	Brian C. Hauck
	Challenges and Opportunities for Coupling Hadamard Transform Multiplexing with High Kinetic Energy Ion Mobility Spectrometry	Cameron N. Naylor
	ISIMS Business – Presentation of Nominees	
	Voting on Nominees	
	Morning Break	
Session 9	**Applications/Instrumentation: Field-Ready Devices**	
	GC-Ion Mobility Spectrometry for Biodiversity Monitoring	Chandrasekhara Hariharan
	Development of a Cabin Air Quality Monitor for Airplanes Based on a Combination of Ion Mobility Spectrometer and Other Sensors for the European AECS Project	Andreas Walte
	Ambient Desorption Swab-Ionization Source for Portable Ion Mobility and Mass Spectrometry Devices	Jimmie C. Oxley
	Portable multi-sensor array with ultra-fast polarity switching ion mobility spectrometer, photoionization detector and fast gas chromatographic pre-separation	Falko Ziegert-Kuehn
	Lunch & Poster Take Down	

Session 10	**Tutorial and Panel Discussion**	
	Preview of 2023's COMSOL: Dark side of Ion Mobility Finite Element Method (FEM) Simulations. How to fail fast and efficiently	Bert Ungethum & Osmo Anttalaninen
	Panel discussion about defining CCS	
	Best Poster Award Ceremony*	
	ISIMS Business - Election Results*	
	ISIMS 2023*	
	Closing Remarks*	

Friday, July 29

08:30 – 09:30	*Breakfast*
10:00	Depart for walking tour – Meet in Lobby*
13:00	Arrive at Peabody Hotel

Tuesday Poster Session

0	A Tribute to David A. Atkinson a.k.a. Big Dog	Maggie Tam
1	An Equilibrium Theory for the Collision Cross Section of Ion Mobility Spectrometry (IMS) that Includes Angular Momentum	Glenn E. Spangler
2	A detailed SQL Ion Mobility Database for the storage and query of mobility variables and their interdependence	Leyan Hua
3	Neural Network Classification of Field Induced Fragmentation Spectra of Volatile Organic Compounds from Tandem Differential Mobility Spectrometry	Peter Fowler
4	Ion Mobility-Mass Spectrometry Structural Mapping of Discrete Mass Polyurethane Oligomers	Madelyn F. James
5	Electron impact ionization from planar field emitter	Florian Herdl
6	Quantitative response with a Gen 1 microplasma ion source with DMS analyzer	Gyoungil Lee
7	SimELIT: Simulator for Eulerian and Lagrangian Ion Trajectories	Sandilya V.B. Garimella
8	Reaction Kinetic Studies of the Formation of Protonated Monomer Ions in Atmospheric Pressure Chemical Ionization by Ion Mobility Spectrometry	Oliver Hecht
9	Exploring the Separation of Sulfate-Conjugated Anabolic-Androgenic Steroid Isomers by High Resolution Ion Mobility	Kyle Lira
10	Trace detection of low molecular weight compounds using High Kinetic Energy Ion Mobility Spectrometry (HiKE-IMS)	Falko Ziegert-Kuehn
11	Exploring Enantiomer Separations by Ion Mobility using Noncovalent Copper Complexes	Benjamin K. Blakley
12	Coupling Ion Mobility Spectrometry to Hyper-Fast Gas Chromatography by using a Flow-Optimized Ion Source	Ansgar T. Kirk
13	Evaluation of Parameters to Optimize the Sensitivity and Resolution of a SLIM-based Ion Mobility Spectrometer	Alexander E. Toler
14	Time-resolved experiments using tandem-trapped ion mobility spectrometry/mass spectrometry reveal the stability of native-like proteins in the gas phase	Tyler Cropley