



8th International Mass Spectrometry School

Fundamentals, advances, instrumentation, and applications

Alghero, Sardinia (Italy) September 19-24, 2027



<https://www.spettrometriadi massa.it/imss2027>

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Tutors

Michela Begala, *University of Cagliari – Italy*

Aivett Bilbao, *PNLL, Richland – USA*

Francesco Botrè, *University of Florence – Italy*

Julia Chamot-Rooke, *Institut Pasteur, Paris – France*

Carlos Cordeiro, *Univ. of Lisbon – Portugal*

Simona Francese, *Sheffield Hallam University – UK*

Juan Francisco García Reyes, *Universidad de Jaén – Spain*

Pascal Gerbaux, *University of Mons – Belgium*

Gianluca Giorgi, *University of Siena – Italy*

Martina Marchetti-Deschmann, *TU Wien – Austria*

John McLean, *Vanderbilt University – USA*

Paola Montoro, *Univ. of Salerno – Italy*

Jens Soltwisch, *University of Münster – Germany*

Michele Suman, *Barilla, Univ. of Parma – Italy*

PROGRAM

Sunday, September 19

17:30	Registration	
18:15	Opening session	
18:45	Mass spectrometry. Where is it from? Where it is and where is it going?	J. McLean
20:00	<i>End of session</i>	
20:30	<i>Welcome cocktail</i>	

Monday, September 20

Volatile molecules: ionization techniques, GC-MS, ...

8:30	Ionization of volatile molecules: electron ionization (EI), chemical ionization (CI)	G. Giorgi
9:45	<i>Coffee break & poster session</i>	
10:30	EI fragmentation processes, energetics	M. Begala
11:45	Study of complex mixtures of volatile molecules: GC, fast GC, GC×GC	
13:00	<i>Buffet lunch</i>	

Polar molecules ionization techniques, LC-MS, ...

15:00	Classical and novel ionization methods at atmospheric pressure conditions	J. F. García-Reyes
16:15	<i>Coffee break & poster session</i>	
16:45	Study of complex mixtures of polar molecules using chromatographic approaches	J. F. García-Reyes
18:00	<i>End of session</i>	
18:00	<i>Urban trekking</i> in Alghero: discover the beautiful and sneaking corners of the town Guided tour	

Tuesday, September 21

MALDI. Analyzers

8:30	Matrix-assisted laser desorption ionization, MALDI-2. Mechanisms of ion production	J. Soltwisch
9:45	Analyzers (I). Ion separation in space: beam instruments: sectors, quadrupole, time-of-flight	M. Marchetti-Deschmann
11:00	<i>Coffee break & poster session</i>	
11:30	Analyzers (II). Ion separation in time: ion traps, FT-ICR, Orbitrap	C. Cordeiro
12:45	<i>Buffet lunch</i>	

High resolution MS, accurate mass measurements. Tandem mass spectrometry

14:30	High resolution mass spectrometry, accurate mass measurements. Examples and applications	G. Giorgi
15:45	Tandem Mass Spectrometry (MS/MS) and MS ⁿ : ion activation & dissociation	P. Gerbaux
17:00	<i>Coffee break & poster session</i>	
17:30	DIA & DDA methods. Target & untarget analysis	
18:45	<i>End of session</i>	

Wednesday, September 22***Imaging MS. Proteomics. Artificial intelligence in MS.***

8:30	Imaging mass spectrometry	J. Soltwish
9:45	<i>Coffee break & poster session</i>	
10:30	Bottom-up, top-down, and complex-down proteomics	J. Chamot-Rooke
11:45	Artificial intelligence and machine learning in MS	A. Bilbao
13:00	<i>Buffet lunch</i>	
14:15	<i>All to the beach!!</i> Travel by bus Enjoy the magnificence of sand and sea of the Sardinia beaches	
19:00	Go back to Alghero	

Thursday, September 23***Do it by yourself ! Ion mobility & big data***

8:30	Exercises on MS, HRMS and MS/MS interpretation, mechanisms, ...	C. Cordeiro, G. Giorgi, P. Gerbaux
	<i>Award for the best MS solver!</i>	
10:30	<i>Coffee break & poster session</i>	
11:15	Ion mobility & big data	J. McLean
12:30	<i>Buffet lunch</i>	
<i>Short orals. Workshop. Problem solving. Quantitation</i>		
14:15	Short orals by students:	
15:45	Workshop with Companies	
16:30	Problem solving	
17:15	<i>Coffee break & poster session</i>	
17:45	Quantitation by MS and MS ⁿ	M. Marchetti-Deschmann
19:00	<i>Awards for the best orals!</i>	
19:15	<i>End of session</i>	
20:30	<i>Social dinner</i>	

Friday, September 24***Doping, forensics, metabolomics & MS in food***

8:30	MS in doping analysis	F. Botrè
9:30	MS in forensics	S. Francese
10:30	<i>Coffee break & poster session</i>	
11:00	MS in plant metabolomics	P. Montoro
12:00	Food authentication and traceability	M. Suman
13:00	<i>Award for the best poster!</i>	
13:10	ECTS test	
13:30	<i>Arrivederci!</i>	