

# IRWG-OAWG WORKSHOP: ISOTOPE RATIO MEASUREMENTS BY FOURIER TRANSFORM MASS SPECTROMETRY - MONDAY, 13 APRIL 2026

France Education Internationale, 1 Avenue Léon-Journault, Sèvres (I: In-person, R: Remote)

TIME	PRESENTATION TITLE	SPEAKER	AFFILIATION
9:00-9:05	Welcome	Zoltan Mester, Maria Fernandes-Whaley	CCQM IRWG CCQM OAWG
9:05-9:10	General Introduction	Johanna Irrgeher	IUPAC CIAAW
9:10-9:15	Overview and Goals - IRWG	Phil Dunn	CCQM IRWG
9:15-9:20	Overview and Goals - OAWG	Gavin O'Connor	CCQM OAWG
<b>Orbitrap Technologies for Isotope Measurements: fundamentals (20-30 min talks)</b> <b>Moderator(s) Fong Liu</b>			
9:20-9:50	The goals, fundamentals, challenges and future development of Fourier-transform Isotope Ratio Mass Spectrometry	John Eiler (R)	California Institute of Technology (USA)
9:50-10:20	Metrology to improve the accuracy of Orbitrap mass spectrometry measurements	Ian Gilmore (I)	University of Nottingham/NPL (UK)
10:30-11:00	COFFEE/TEA BREAK		
11:00-11:30	Analysing isotopologue ratios with high precision and accuracy using Orbitrap mass spectrometry	Nils Kuhlbusch (R)	Thermo Fisher Scientific (Germany)
11:30-11:50	FTMS Instrumentation and Data Analysis: Concepts and Implications for Isotope Ratio Measurements	Yury Tsybin (I)	Spectroswiss (Switzerland)
11:50-12:10	Ultrahigh mass resolution elemental isotope ratio analysis coupling the LS-APGD microplasma with an Orbitrap mass spectrometer and an enhanced data acquisition system	Kenneth Marcus (I)	Clemson University (USA)
12:10-12:30	PANEL DISCUSSION		
12:45-14:15	LUNCH		
<b>Orbitrap Technologies for Isotope Measurements: applications (20 min talks)</b> <b>Moderator(s): Jackie Mann</b>			
14:20-14:40	Development of triple oxygen isotope measurements of methanesulfonate using ESI-Orbitrap-MS and its application to atmospheric chemistry studies	Shohei Hattori (I)	Nanjing University (China)
14:40-15:00	Stable carbon isotope analysis by Orbitrap-based mass spectrometry	Amy Hofmann (R)	JPL Planetary Science Section (USA)
15:00-15:20	Ultrahigh resolution isotope ratio mass spectrometry of challenging materials: irradiated solutions and individual single-micron oxide particles	Kenneth Marcus (I)	Clemson University (USA)
15:20-15:40	Compound specific IRMS using FT ICR MS/MS for the authentication of natural vanillin	Jackie Mosely (I)	University of York (UK)
15:40-16:00	COFFEE/TEA BREAK		
16:00-16:30	High sensitivity amino acid carbon and nitrogen isotope ratio analysis in fossil teeth by FTMS	Caj Neubauer (I) and Dwight Matthews (I)	University of Colorado (USA), University of Vermont (USA)
16:30-16:50	Exploring metal ion isotopic ratios using high-resolution ESI-Orbitrap mass spectrometry	Damiano Monticelli (I)	Università degli Studi dell'Insubria (Italy)
16:50-17:30	DISCUSSION: Q & A		
17:30	Workshop Wrap-up	Juris Meija	National Research Council Canada