



# Current and future applications of mass spectrometry

15 May 2025

NPL Teddington



Activity ( $\text{Bq} = \text{s}^{-1}$ )

$$n = \frac{A \cdot T_{1/2}}{N_A \cdot \ln 2}$$

Amount of substance (mol)



Time	Session	Chair	Time	Presentation	Presenter
08:45-09:15	Registration				
09:10-09:30	Introduction	Simon Jerome, NMBU, Norway	09:10-09:15	Welcome	Richard Barker, Head of the Energy and Environment Challenge, NPL, UK
			09:15-09:30	Introduction to MetroPOEM	Dirk Arnold, PTB, Germany
09:30-10:30	WP1 – Establish and compare the selectivity and detection limits of different mass spectrometers	Ben Russell, NPL, UK and Simon Jerome, NMBU, Norway	09:30-09:40	Introduction to WP1	Ben Russell, NPL, UK
			09:40-10:00	Preparation of radionuclide standard solutions and progress on interlaboratory comparison exercise	Ben Russell, NPL
			10:00-10:20	Multi-disciplinary Applications of Mass Spectrometry Techniques in Environmental Radioactivity Research	Jixin Qiao, DTU
			10:20-10:30	WP1 discussion	Led by Ben Russell
10:30-11:00	Posters and coffee break				
11:00-12:45	WP2 – Advancing stable and long-lived radiogenic isotope ratio measurements of environmental pollutants	Tea Zuliani IJS, Slovenia and Simon Jerome, NMBU, Norway	11:00-11:10	Introduction to WP2	Tea Zuliani, IJS, Slovenia
			11:10-11:25	A novel way to determine absolute isotope ratios by combining mass spectrometry and ion chromatography	Lukas Flierl, PTB, Germany
			11:25-11:35	Investigation of Instrumental Isotopic Fractionation in ICP-MS	Pranav Seena Prem, BAM, Germany
			11:35-11:50	Refining Sample Preparation: Optimized Automation for Isotopic Analysis via MC-ICP-MS <sup>†</sup>	Johanna Irrgeher, MUL, Austria and Daniel Pröfrock, Hereon, Germany
			11:50-12:10	Good Practice Guide on sample processing, treatment, uncertainty budgets	Dmitriy Malinkovsky, LGC, UK
			12:10-12:30	Online LC separation as a technique to mitigate ICP-MS interferences: example trace <sup>239</sup> Pu in the presence of U	John Entwisle, LGC, UK
			12:30-12:45	WP2 discussion	Led by Tea Zuliani

<sup>†</sup> On line presentation

Time	Session	Chair	Time	Presentation	Presenter
12:45-14:00	Lunch (with posters)				
14:00-15:25	WP4 - Development of SI traceable certified reference material	Oktay Cankur, TÜBİTAK, Türkiye and Dirk Arnold, PTB, Germany	14:00-14:10	Introduction to WP4	Oktay Cankur, TÜBİTAK, Türkiye
			14:10-14:30	Seawater sampling and multi element analysis of matrix rich waters <sup>†</sup>	Daniel Pröfrock, Hereon, Germany
			14:30-14:50	Planning and processing of the candidate certified reference material	Betül Ari, LGC, UK/TÜBİTAK, Türkiye
			14:50-15:10	Development of an aqueous certified reference material certified for stable elements	Oktay Cankur, TÜBİTAK, Türkiye
			15:10-15:25	WP4 discussion	Led by Oktay Cankur
15:25-16:00	Posters and tea break				
16:00-17:00	WP3 – Development of radioactive reference materials	Lucille Chambon, CEA, France and Dirk Arnold, PTB, Germany	16:00-16:10	Introduction to WP3	Lucille Chambon, CEA, France
			16:10-16:30	Preparation of radioactive silica RM	Lucille Chambon, CEA, France
			16:30-16:50	Preparation of radioactive seawater RM	Monika Mazánová, ČMI, Czech Republic
			16:50-17:00	WP3 discussion	Led by Lucille Chambon
17:00-17:15	CCRI(II)-TG-MS	Dirk Arnold, PTB, Germany	17:00-17:15	Introducing CCRI(II)-TG-MS	Lisa Karam, NIST, USA
17:15	Close	Dirk Arnold, PTB, Germany			
Evening	Meal for participants at the Kings Head, Teddington at participants own cost				

**Registration:**     [Current and future applications of mass spectrometry Tickets, Thu, May 15, 2025 at 9:30 AM | Eventbrite](#)

<sup>†</sup> On line presentation