

MASSTWIN GROUP TRAINING (GT2): Validation of analytical methods using ID ICP-MS

Within the activities planned in the EU funded project MASSTWIN - Spreading excellence and widening participation in support of mass spectrometry and related techniques in Health, Environment, and Food Analysis, Department of Environmental Sciences of the Jožef Stefan Institute (JSI-O2) and Institut des Sciences Analytiques et de Physico-chimie pour l'Environnement et les Matériaux and the Université de Pau et Pays de L'Adour (IPREM/UPPA) are organising Group training: Validation of analytical methods using ID ICP- MS.

The objective of this event is to strengthen and transfer the knowledge capacity and experiences of JSI-O2 researchers on the use of ID in ICP-MS in the field of health, environment and food analysis through collective learning with leading research experts in Europe.

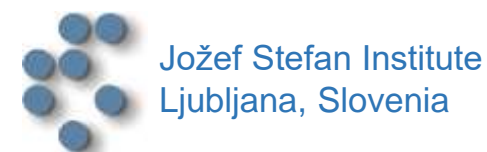
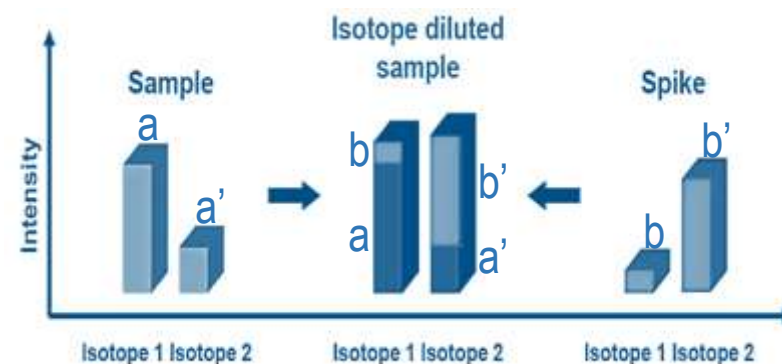
The important goal of this event is also to establish potential project groups in key areas of the European research programmes e.g. individual fellowships and initial training networks (ITN) projects for funding of Ph.D. and post-doctoral positions.

MAIN TOPICS OF THE GROUP TRAINING

- The principles of ID ICP-MS, the advantages and disadvantages.
- The use of enriched isotopic tracers to follow the processes during the analytical procedures and for accurate quantification of the total element and element species concentrations by ID ICP-MS.
- The use of ID ICP-MS in method validation (solid sample matrices e.g. soils, sediments, airborne particulate matter).
- Preparation of enriched isotopic standard solutions for speciation analysis.
- Calculation of element and element species concentrations by ID ICP-MS.
- Measurement uncertainty (MU) in ID ICP-MS (evaluation of MU of isotopic standard solutions and MU of the ID ICP-MS method).

TARGET GROUPS

The training course is intended for experienced researchers from our Department of Environmental Sciences and other Institutions, and Ph.D. students.



MASSTWIN has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no. 692241.

SCHEDULE

MONDAY, 15th May 2017

8:45-9:00 Welcome

Milena Horvat, Project coordinator JSI, Slovenia

9:00-10:30 Principles of IDMS for total elemental analysis and speciation

Jose Ignacio Garcia-Alonso, University of Oviedo Spain

10:30-10:45 Coffee break

10:45-11:15 Discussion

11:15-12:00 Part I: Basics of measurement uncertainty estimation for values from ID ICP-MS

Samuel Wunderli, Atomolmetrion, Switzerland

12:00-13:15 Lunch

13:15-14:00 Part II: Application of combined measurement uncertainty estimation for values from ID ICP-MS

Samuel Wunderli, Atomolmetrion, Switzerland

14:00-14:30 Discussion

14:30-14:45 Coffee break

14:45-15:30 The use of ID-ICP-MS for the provision of reference values and metrological applications

Sarah Hill, LGC Teddington, UK

15:30- 16:15 Application of ID in radiometry

Marko Štok, JSI, Ljubljana, Slovenia

16:15-16:45 Discussion

16:45 Visit to laboratories of O2

TUESDAY, 16th May 2017

9:00-9:45 The use of synthetic isotope mixtures for calibration of isotope ratio measurements by MC ICP-MS

Dmitryi Malinovskiy, LGC Teddington, UK

9:45-10:30 Introduction into mercury in the environment

Eva Krupp, University of Aberdeen, UK

10:30-10:45 Coffee break

10:45-12:15 Applications of IDMS for mercury speciation

Eva Krupp, University of Aberdeen, UK

12:15-12:45 Discussion

12:45-14:00 Lunch

14:00-14:45 Single and double spike procedures for chromium speciation analysis

Jose Ignacio Garcia-Alonso, University of Oviedo, Spain

14:45-15:30 Speciation of organotin compounds in waters, sediments and biota by IDMS

Jose Ignacio Garcia-Alonso, University of Oviedo, Spain

15:30-15:45 Coffee break

15:45-16:15 Discussion

16:15-16:45 Closing remarks



VENUE

Jožef Stefan Institute
Department of Environmental Sciences
Brinje 40, 1262 Dol pri Ljubljani (Slovenia)
<http://www.rcp.ijs.si/>



Contact person: Milena Horvat IJS-O2

Email: milena.Horvat@ijs.si

Phone: + 386 1 588 5389

<https://www.masstwin.eu/en/research-and-projects/projects/masstwin/>