

# Group Training:

## Metrology in measurements of stable isotopes of light elements: traceability, uncertainty and comparability

December 7-9, 2016 | Jožef Stefan Institute, Department of Environmental Sciences, Ljubljana, Slovenia

### Objectives

The Fondazione Edmund Mach (FEM) and Jožef Stefan Institute (JSI) are organising a training course on stable isotope metrology. New applications and new analytical technologies in stable isotope research have resulted in a change to the measurements and standards infrastructure needed to ensure data integrity. Making accurate and precise measurements of stable isotopes is challenging, since analytical methods cannot be properly validated given that lack of certified reference materials and/or reference methods. Uncertainty propagation in measurements, both for reference material characterization and for everyday laboratory practice will be discussed. The training course aims to provide participants with the skills required to produce quality assured stable isotope ratio data for environmental and food samples. Both theory and practice will be combined throughout the course to give participants the opportunity to put concepts learned into practice.

[www.masstwin.eu](http://www.masstwin.eu)



### Lecturers

Philip Dunn

*LGC Limited Teddington, Middlesex, UK*

Manfred Groening

*International Atomic Energy Agency, Vienna, Austria*

Paola Iacumin

*Università degli Studi di Parma, Parma, Italy*

Simon Kelly

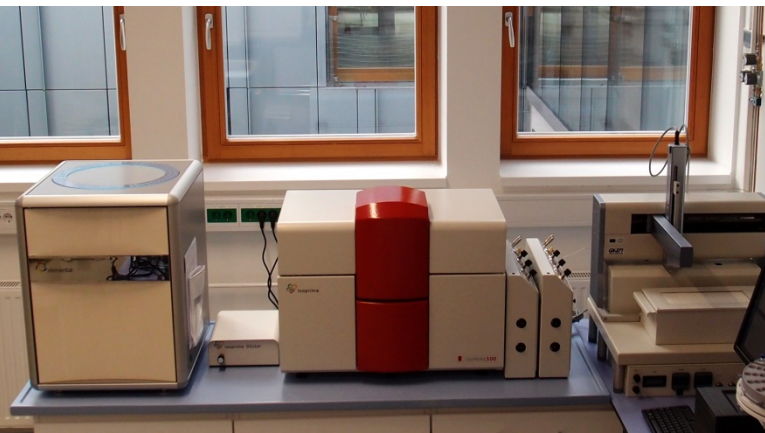
*International Atomic Energy Agency, Vienna, Austria*

Arndt Schimmelmann

*Indiana University, Bloomington, USA*

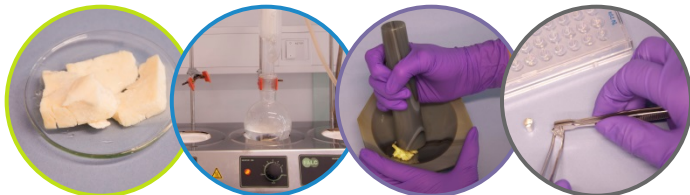
Claudia Zoani

*ENEA, Rome, Italy*



## Participant profile

The training course is designed for participants (master's, doctoral and postdoctoral level) and others interested in metrology and measurement uncertainty relating to stable isotope analysis. A working knowledge of English is essential. Participants are encouraged to bring their own specific case studies/problems.



## Experience based learning

This course offers a unique blend of theoretical and practical experiences, as they relate to stable isotope measurements. During the course participants will be expected to work in small teams.



## Deadline for application

Registration opens on September 30<sup>th</sup> 2016  
Registration closes on November 9<sup>th</sup> 2016

## Candidate selection

November 10<sup>th</sup> 2016

## Deadline for application

No participation fee required.  
Travel and subsistence costs are not covered.

## Registration

Please fill in the application form at <https://www.masstwin.eu>

## Venue

Jožef Stefan Institute, Reactor center,  
Brinje 40, Dol pri Ljubljani, Slovenia,  
[www.rcp.ijs.si](http://www.rcp.ijs.si)

## Further information

Contact us at [masstwin@ijs.si](mailto:masstwin@ijs.si)



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