

4TH STABLE ISOTOPE COURSE IN ECOLOGY AND ENVIRONMENTAL SCIENCES

22nd - 25th February 2022

25-30
students

INSCRIPTION

From November 29th to January 28th

Send inscription form to: lie@ebd.csic.es

ROOM 1: Plenary Room. Ground Floor EBD

ROOM 2: LIE Lab. First Floor EBD

Director of the course: Manuela G. Forero

Course Language: English and Spanish



Tuesday, 22nd February

INTRODUCTION TO STABLE ISOTOPES AND LAB PRACTICES FOR BULK SIA

9:30 Welcome opening at EBD, registration and presentation of participants. *Manuela G. Forero, EBD-CSIC*

10:00 **Room 1**
Introduction to Stable Isotope Ecology: Principles and general applications. *Keith A. Hobson, Western University (Ontario, Canada)*

11:30 **Coffee break**

12:00 **Room 1**
Main methodological aspects of SIA: Isotopic turnover, diet-to-tissue discrimination factors, confounding effects on SIA interpretation. *Joan Giménez (ICM-CSIC, Barcelona)*

13:30 **Lunch time**

15:00 **Room 1**
Principles and applications of IRMS to ecological studies: recent developments in laboratory instrumentation and new perspectives in isotope ratios analysis. *Ricardo Álvarez (ThermoFisher, Granada)*

16:00 **Group 1. Parallel Session. Room 2.**
Sample collection, preparation, analysis for SI in bulk, results correction *Susana Carrasco and Sarai López (LIE-EBD, CSIC, Sevilla)*

Group 2. Parallel Session
Visit to Scientific Collections at EBD. *Carlos Urdiales (EBD-CSIC)*

17:00 **Coffee break**

17:30 **Group 2. Parallel Session. Room 2.**
Sample collection, preparation, analyses for SI in bulk, results correction. *Sarai López and Susana Carrasco (LIE-EBD, CSIC)*

Group 2. Parallel Session
Visit to Scientific Collections at EBD. *Carlos Urdiales (EBD-CSIC)*

20:00 **Tapas in Sevilla downtown**
(OPTIONAL, NOT INCLUDED IN THE REGISTRATION COSTS)

Wednesday, 23rd February

COMPOUND-SPECIFIC STABLE ISOTOPE ANALYSIS: INTRODUCTION AND LAB METHODS

9:00 **Room 1**
Participants will make a short presentation of their research interests, the contribution of stable isotopes to their specific research, and how this course could improve their results

11:00 **Room 1**
Reliability in isotopic measurement *Antonio Carreira (Air Liquide SWE Market Manager. Air Liquide Specialty gases International expert)*

11:30 **Coffee break**

12:00 **Room 1**
Introduction to Compound Specific Stable Isotope Analyses and their applications: stable isotopes in individual amino acids (CSIA-AA) as a tool to ecological studies. *Seth Newsome (University of New Mexico, Albuquerque, NM, USA)*

13:30 **Lunch time**

15:00 **Room 1**
How to combine Bulk and CSIA results in ecological studies? *Keith A. Hobson (Western University, Ontario, Canada)*

16:00 **Room 1**
Sample preparation in CSIA (preservation and storage, processing, derivatization reactions). *Daniel Carrizo Gallardo (INTA-CSIC, Madrid)*

17:00 **Coffee break**

17:30 **Room 1**
Biogeochemical and astrobiological applications of compound specific isotopic measurement of $\delta^{15}\text{N}$, $\delta^{13}\text{C}$ and $\delta^2\text{H}$. *Daniel Carrizo Gallardo (INTA-CSIC, Madrid)*

18:30 **End of the day**

Thursday, 24th February

I APPLICATION OF COMPOUND SPECIFIC STABLE ISOTOPE ANALYSES TO ECOLOGICAL STUDIES

9:30 **Room 1**
Applications of conventional CSIA and Py-CSIA to the study of biopolymers and soil organic matter. *José A. González Pérez (IRNAS-CSIC, Sevilla)*

11:00 **Coffee break**

11:30 **Room 1**
Discerning dietary lipid sources and their ecophysiological fate in aquatic consumers using stable isotopes of fatty acids
Martin J. Kainz (*WasserCluster Lunz - Biologische Station, Lunz am See, Austria*)

13:30 **Lunch time**

15:00 **Room 1**
Analysing the complexity of marine food webs using amino acid stable nitrogen isotopes: from trophic positions to diets.
Antonio Bode (IEO, A Coruña)

16:30 **Coffee break**

17:00 **Room 1**
Stable isotope data: from the lab to international databanks. What you need to know. *Seth Newsome and Keith A. Hobson (University of New Mexico, Albuquerque, NM, USA and Western University, Ontario, Canada).*

18:30 **End of the day**

Friday, 25th February

FIELD TRIP TO DOÑANA NATIONAL PARK

- 8:30** Meeting at the entrance of the EBD ready to take a group picture before leaving to Doñana National Park.
- 8:45** Field trip to Doñana National Park and lunch in Matalascañas (LUNCH NOT INCLUDED IN THE REGISTRATION COSTS)
- 17:00** End of the day