

REGISTRATION

Please use the on-line registration form for the registration:
<http://iuca.unizar.es/science-and-past-registration>

Registration fees:

REGISTRATION PERIOD	DATE	SENIOR REGISTRATION FEE	STUDENT REGISTRATION FEE
Early registration	until November 11, 2013	200 €	110 €
Late registration	from November 12, 2013	275 €	180 €

Registration fees include:

- Attendance to course sessions
- Program and course documentation
- Certificate of attendance
- Coffee Breaks

PAYMENT:

Payment (in euro) should be made by bank transfer to:

Bank: Ibercaja
IBAN: ES 82 2085 0111 79 0330788546
Swift code: CAZRES2Z

Please, include clearly your name in the bank transfer voucher

CONFIRMATION OF REGISTRATION:

Your registration will be confirmed when the payment of the registration fee is received by the organizers (please, send copy of the bank transfer to iuca@unizar.es). Written confirmation will be sent you by e-mail

FINANCIAL SUPPORT:

Financial support will be given for a limited number of participants to cover travel expenses in full or partly. Application deadline November 4, 2013.

Course coordinators:

Dr. Josefina Pérez-Arantegui (IUCA, University of Zaragoza)
Dr. Gloria Cuenca (IUCA, University of Zaragoza)

For further information:

Environmental Sciences Institute (IUCA). University of Zaragoza
C/ Pedro Cerbuna, 12. Facultad de Ciencias. 50009 Zaragoza (Spain)

e-mail: iuca@unizar.es
<http://iuca.unizar.es>

SCIENCE & PAST: CLIMATE AND ENVIRONMENT evolution through time

5TH INTERDISCIPLINARY COURSE
NOVEMBER 27-29, 2013 · University of Zaragoza · Spain



Instituto Universitario de Investigación
en Ciencias Ambientales
de Aragón
Universidad Zaragoza



VENUE:

Biblioteca María Moliner
Campus San Francisco · Universidad de Zaragoza



Universidad
Zaragoza



Facultad de
Filosofía y Letras

SPONSOR:

Thermo
SCIENTIFIC

Program

Science & Past:
CLIMATE AND
ENVIRONMENT
evolution through time

The course is focused on the development and use of scientific methods in order to study climate changes and the environment evolution from the past. In this edition, special focus will be given on Isotopic-Ratio Mass-Spectrometry techniques with the collaboration of Thermo Fisher Scientific.

The lectures are addressed to students, researchers and professionals in chemistry, physics, geology, geography, archaeology, conservation science, palaeontology, etc., to acquire a solid knowledge on the state of art of this topic.

Wednesday, 27th November

10:00. Registration

10:45. Presentation

11:00. TESTING IN THE FIELD: "The Quaternary of northern Europe". **Philip L. Gibbard** (University of Cambridge, United Kingdom)

12:00. TESTING IN THE FIELD: "Defining the Quaternary". **Philip L. Gibbard** (University of Cambridge, United Kingdom)

13:00. Discussion

Lunch

15:30. TESTING IN THE FIELD: "Quaternary climate and environmental change in terrestrial environments: methodologies, challenges and implications for recent Global warming". **Bias Valero** (Instituto Pirenaico de Ecología - CSIC, Spain).

16:30. TESTING IN THE FIELD: "Droughts, Environment and Humans: Water crises in the past". **Bias Valero** (Instituto Pirenaico de Ecología - CSIC, Spain).

17:30. Discussion

Thursday, 28th November

9:30. COLLECTING ISOTOPIC-RATIO DATA: "Fundamentals of Isotopic Ratio Mass Spectrometry. Isotopic Ratio Mass Spectrometry applied to studies of past climate changes and environmental evolution". **Lionnel Mounier** (Thermo Fisher Scientific, Spain)

10:30. COLLECTING ISOTOPIC-RATIO DATA: "What isotopes can tell us about ocean currents during past climate changes". **Isabel Cacho** (Universidad de Barcelona, Spain)

11:30. Coffee break

12:00. COLLECTING ISOTOPIC-RATIO DATA: "Structure of deglaciation and timing of events from very high-resolution marine palaeo-profiles: what do we learn about climate dynamics?" **Rainer Zahn** (Universidad Autónoma de Barcelona, Spain)

13:00. Discussion

Lunch

15:30. RETURN TO THE PAST: "Environmental and climatic context of Neanderthal occupation in south-western Europe during MIS3 inferred from the small-mammal assemblages". **Juan Manuel López García** (Università degli Studi di Ferrara, Italy)

16:30. RETURN TO THE PAST: "Reconstruction of Quaternary climates using fossil amphibians and reptiles". **Hugues-Alexandre Blain** (Universidad Rovira i Virgili, Spain)

17:30. Discussion

Friday, 29th November

9:30. CHANGES AND EVOLUTION RESULTS: "Climate changes of the last 130,000 years and their impact on North Atlantic and European ecosystems". **Maria Fernanda Sánchez-Goñi** (CNRS - Université Bordeaux 1, France)

10:30. CHANGES AND EVOLUTION RESULTS: "Assessing the possible impact of climate changes on past human populations". **Francesco D'Errico** (CNRS - Université Bordeaux 1, France; University of Bergen, Norway)

11:30. Coffee break

12:00. CHANGES AND RESULTS: "Strategies for risk prevention according to the European Water Framework Directive facing climate changes". **Pedro Arrojo** (Universidad de Zaragoza, Spain)

13:00. Discussion

13:30. Concluding remarks

Science

& past: