

REGISTRATION

Registration fees: 200 €.

Please, download the registration form:

<http://iuca.unizar.es/idi.php?section=25>

and follow the instructions to complete the course registration.

• Financial support to young students.

The Environmental Sciences Institute will give some financial support to young students. The application deadline 2009, 25th September.

• Registration deadline: 2009, 16th October.

The entry fee has to be transferred to the bank account before 2009, 16th October.

Bank: Ibercaja

Account number with IBAN code: ES82 2085 0111 79 0330788546

Swift code: CAZRES2Z

SCIENCE & PAST: APPROACHING MATERIALS STUDIES AND CULTURAL HERITAGE

Interdisciplinary
Course
for Graduated Students
and Professionals
on Cultural Heritage

2009, 27th - 30th OCTOBER
ZARAGOZA (SPAIN)

Course Coordinator:

Dr. Josefina Pérez-Arantegui

INSTITUTE OF ENVIRONMENTAL SCIENCES UNIVERSITY OF ZARAGOZA-SPAIN

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UNIVERSITY OF ZARAGOZA

<http://iuca.unizar.es/idi.php?section=25>

email: iuca@unizar.es

The course is focused on the development and use of scientific techniques in order to extract archaeological and historical information from the cultural heritage.

The lectures are addressing to students in chemistry, physics, geology, archaeology, conservation science, etc., to acquire a solid knowledge on natural and material sciences applied to the study, safeguarding and authentication of material heritage.

PROGRAM

TUESDAY, 27th OCTOBER

10:00 PRESENTATION.

10:15 INTRODUCTION: "Mastering materials (or Science and ancient materials)". **M. S. Tite** (*University of Oxford, United Kingdom*).

11:00 Coffee break.

11:30 TECHNIQUES FOR THE MICROEXAMINATION OF MATERIALS.
M. Vendrell (*Universidad de Barcelona, Spain*).

13:00 Discussion.

15:30 ANALYTICAL TECHNIQUES IN CULTURAL HERITAGE.
P. Mirti (*Università di Torino, Italy*).

17:00 Discussion.

17:30 Laboratory: Analysis using ICP-Atomic Emission Spectrometry and IPC-Mass Spectrometry.

WEDNESDAY, 28th OCTOBER

MATERIALS CHARACTERIZATION AND PROBLEM SOLVING IN CULTURAL HERITAGE:

9:00 CERAMICS & GLAZES: "Glazed Ceramics in the West from 1500 BC to 1500 AD". **M. S. Tite** (*University of Oxford, United Kingdom*).

10:30 Coffee break

11:00 METALS: "Metal processing, craftsmen and workshops in ancient societies: some protohistoric and roman examples".
M. Pernot (*Université Bordeaux 3, France*).

13:00 Discussion.

15:30 GLASS. **P. Mirti** (*Università di Torino, Italy*).

17:00 STONES: "What to analyze and why?".
M. Vendrell (*Universidad de Barcelona, Spain*).

18:00 Discussion.

THURSDAY, 29th OCTOBER

9:00 ORGANIC COMPOUNDS: "Analytical techniques for characterization of organic materials in cultural Heritage".
F. Modugno (*Università di Pisa, Italy*).

10:45 Coffee break.

11:15 ORGANIC COMPOUNDS: "Gas chromatographic and Mass spectrometric investigations of organic residues from archaeological findings". **E. Ribechini** (*Università di Pisa, Italy*).

13:00 Discussion.

15:30 Laboratory: Analysis using Scanning Electron Microscopy and X-ray Energy-Dispersive Spectroscopy/Analysis using ICP-AES and ICP-MS.

FRIDAY, 30th OCTOBER

9:00 METHODS OF DATATION: "Dating ceramics through their Light emission". (Part I - Basis and techniques). **E. Sibilìa** (*Università di Milano Bicocca, Italy*).

10:30 Coffee break.

11:00 METHODS OF DATATION: "Dating ceramics through their light emission". (Part II - Applications). **E. Sibilìa** (*Università di Milano Bicocca, Italy*).

13:00 Discussion.

15:30 INSIGHTS INTO A MUSEUM'S LABORATORY: "Investigating artworks at the Kunsthistorisches Museum Vienna". **M. Griesser** (*Kunsthistorisches Museum mit MVK und ÖTM, Wien, Austria*).