



HSAcademy

1st Training Camp

July 11th - 15th, 2022

CENIEH, Burgos and
Atapuerca UNESCO fossil sites (Spain)

FINAL PROGRAMME

Organized by National Research Centre
on Human Evolution



1st HS Academy Training Camp

A hands-on experience to learn FIXLAB techniques applied to paleontological and paleoanthropological heritage

The National Centre on Human Evolution (CENIEH) is organizing the 1st IPERION HS Academy Training Camp, which is to be held at the CENIEH (Burgos, Spain) from 11th to 15th July 2022.

For whom

The 1st Training Camp is open to a wide audience interested in learning material characterization and dating techniques applied to palaeontological and palaeoanthropological heritage.

Participants are welcome to actively participate in the discussions and must attend the Training Camp for its entire duration. All sessions will be conducted in English, so fluency in speaking and writing is crucial.

Due to the practical nature of the course, places are limited to 25 attendees who will be selected by the Training Camp Organization from the candidate applications based on merits, background and other criteria.

Goals & structure

This Training Camp will show trainees the cutting-edge tools for materials characterization and dating applied to Paleontological and Paleoanthropological heritage with a problem-solving approach. The trainees will learn how to use different methodologies to delve into the most relevant dating techniques (Electron Spin Resonance, Optically Stimulated Luminescence, Paleomagnetism, Uranium series) and materials characterization (nano and micro computed tomography).

The Training Camp will be structured around 5 days of general lectures and specific case studies that will include fieldwork session and laboratory analysis. The case studies will be addressed in small groups of 5 people maximum and will lead to the application and use of different FIXLAB facilities. They will involve direct interactions with the reference expert scientist for each technique, encouraging thorough discussions and constructive debate amongst the participants.



Programme

Monday, 11th July: theory and practical sessions

At the National Research Center on Human Evolution

9:00-9:30: Registration

9:30-10:00: Welcome and opening of the course

10:00-11:00: Theory - micro computed tomography (microCT)

11:00-11:30: Coffee break

11:30-12:30: Theory - importance of microCT in Palaeoanthropology

12:30-14:00: Visit to the CENIEH facilities

14:00-15:30: Lunch

15:30-16:30: Practical session - microCT case studies

16:30-17:30: Discussion and wrap-up

Tuesday, 12th July: fundamentals and theory

At the National Research Center on Human Evolution

9:00-9:05: Welcome

9:05-9:30: Introduction to Quaternary Geochronology

9:30-11:30: Theory - Luminescence dating (OSL/IRSL) and Electron Spin Resonance (ESR)

11:30-12:00: Coffee break

12:00-13:00: Theory - Uranium-series dating

13:00-14:00: Theory - direct dating of fossil remains: case studies

14:00-15:30: Lunch

15:30-17:30: Theory - Archaeomagnetism



Wednesday, 13th July: practical sessions

At the National Research Center on Human Evolution

9:00-9:05: Welcome

9:05-11:00: Case studies with actual samples and data - Archaeomagnetism, Luminescence and ESR (part I)

11:00-11:30: Coffee break

11:30-13:30: Case studies with actual samples and data - Archaeomagnetism, Luminescence and ESR (part II)

13:30-15:00: Lunch

15:00-17:00: Case studies with actual samples and data - Archaeomagnetism, Luminescence and ESR (part III)

17:00: Visit to the Museum of Human Evolution (optional)

Thursday, 14th July: practical sessions

At the UNESCO Atapuerca sites

9:00-9:05: Welcome

9:05-11:30: Visit to UNESCO Atapuerca sites

11:30-12:00: Coffee break

12:00-14:00: Geological sampling - Archaeomagnetism/Luminescence/ESR (part I)

14:00-15:30: Lunch

15:30-17:30: Geological sampling - Archaeomagnetism/Luminescence/ESR (part II)

17:30-18:30: Discussion about the field work experience



Friday, 15th July: results and closing session

At the National Research Center on Human Evolution

9:00-9:05: Welcome

9:05-10:00: Advanced analytical methods to map collagen in archaeological bones
(online lecture)

10:00-11:00: General wrap-up discussion with attendees

11:00-11:30: Coffee break

11:30-12:30: Closing lecture

12:30-13:30: Delivery of certificates of attendance

Speakers & staff involved

Alicia Medialdea (OSL)

Altug Hasözbeğ (Uranium series)

Belén Notario (microCT)

Davinia Moreno (ESR)

Josep M^a Parés (Archaeomagnetism)

Laura Martín-Francés (microCT)

María Martín (Director CENIEH)

José María Bermúdez de Castro
(Paleobiology and Co-Director of the
Atapuerca sites)

Mark Sier (Archaeomagnetism)

Mathieu Duval (ESR)

Nohemi Sala (Paleontology)

Pilar Fernández (microCT)

Raquel Lorenzo (microCT)

Rocco Mazzeo (Chemistry for CH)

Chitina Moreno-Torres (ER manager)

Isabel Sarró (Lab manager)

María Jesús Alonso (Lab staff)

Miren del Val (Lab staff)

About CENIEH

The CENIEH is a research centre open to scientific and technological use by the international scientific and technological community. Its research activities are primarily focused on human evolution during the Late Neogene and Quaternary, and include collaborative projects at sites of these periods worldwide. Special attention is given to raising awareness and knowledge transfer in society. In addition, the CENIEH is responsible for the conservation, restoration, management and the recording of archaeological and paleontological collections, in particular from Atapuerca.

In 2000, the archaeological site of the Sierra de Atapuerca joined the list of UNESCO Heritage sites. After that, the Spanish government promoted the construction of the Human

Evolution Complex in Burgos, three independent but interdependent buildings: the National Research Centre on Human Evolution (CENIEH), the Museum of Human Evolution (MEH) and the Auditorium and Congress (Forum Evolución Burgos).

The CENIEH was officially inaugurated in July of 2009 and is world-renowned because of the technological equipment that it houses and the cutting-edge scientific investigation carried out within its walls. Laboratories, multipurpose rooms, large, open spaces, and work zones have all been designed to facilitate multidisciplinary research within the field of human evolution from different perspectives: the biochronological, paleoecological, geological, and technological, among others.





About FIXLAB platform by CENIEH

The goal of FIXLAB platform is to provide access for the Heritage Science community to key fixed research facilities, as well as to the associated scientific experience of their staff that develop and maintain sophisticated state-of-the-art instrumentation for advanced diagnostics.

Access is offered to researchers in Heritage Science to help address the major questions raised by the materiality of Heritage Science artefacts in terms of their genesis, manufacturing processes, alterations, conservation and preservation. The unique FIXLAB services offered to the HS community embrace advanced state-of-the-art instrumentation; dedicated facilities with teams of experts in the field of micro-analysis of HS artefacts; novel developments resulting from IPERION HS joint research activities to improve access progressively; development of both new sample-positioning devices at a micro-scale and software tools for the integration of imaging data

This 1st Training Camp is a hands-on experience on the functioning, use and applications of the FIXLAB facilities offered by CENIEH within IPERION HS.

These FIXLAB services of CENIEH in IPERION HS are available at:
<https://www.iperionhs.eu/provider/34/>
<https://www.iperionhs.eu/provider/38/>





Practical information

Registration

The application deadline is **April 30th, 2022**. Selected candidates will be informed of their acceptance by **May 15th, 2022**.

To register, follow the link
<https://www.eventbrite.it/e/1st-hs-academy-training-camp-tickets-259323642997>

After completing the course, a certificate of attendance will be provided.

Fee

The HS-TC participation costs are fully covered by the IPERION HS project, but a **fee of 50 €** will be paid to cover course materials and transfer by bus to the Atapuerca sites. Travel expenses, subsistence and hotel accommodation expenses are not included and will need to be met by the participants.

Venue

The 1st IPERION HS Training Camp will be held at the Centro Nacional de Investigación sobre la Evolución Humana (CENIEH) and Atapuerca UNESCO fossil sites.



Paseo Sierra de Atapuerca, 3
09002 Burgos, Spain

Arrangements

Official website for Burgos:
<http://turismo.aytoburgos.es/en/>.
The nearest airports are Madrid-Barajas Adolfo Suarez, Valladolid and Bilbao.

You can get to Burgos by bus
(<https://www.alsa.com/en/web/bus/bus-stations/burgos-station>)
or by train
(<https://www.renfe.com/es/en>)

Covid-19 regulations:

The participants are required to verify and be compliant with the Spanish entry health requirements available at the following link:
<https://www.spth.gob.es/>



Organizing committee

Marina Martínez de Pinillos González - Centro Nacional de Investigación sobre la Evolución Humana, Burgos (ES)

Mark Sier - Department of Earth Sciences, University of Oxford, Oxford (UK)

Jana Striova - IPERION HS Coordination Office (IT)

Laura Benassi - IPERION HS Communication Office (IT)

Scientific committee

Rocco Mazzeo - University of Bologna (IT)

Adam Gibson - University College London (UK)

Matija Strlič - University of Ljubljana (SI)

JoAnn Cassar - University of Malta (MT)

Elizabeth Muscat Azzopardi - University of Malta (MT)

Ralf Kilian - Fraunhofer Institut für Bauphysik IBP (DE)

Marina Martínez de Pinillos González - Centro Nacional de Investigación sobre la Evolución Humana (ES)

Gill Campbell - Historic England (UK)

Organized by: National Research Centre on Human Evolution



In collaboration with:



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HS Academy

<http://www.iperionhs.eu/academy-events/>

