

A.G.I.

Associazione Genetica Italiana

Scuola di Genetica in Cortona

The ancient DNA revolution: from the initial attempts to the Nobel Prize

Course organizers: Alessandro Achilli, Eugenia D'Atanasio e Beniamino Trombetta

12-13 June 2023

Sala Pancrazi, Centro Convegni S. Agostino, Via Guelfa 40

During the last decade genomics and archaeogenomics took off uncovering the genetic treasure contained in countless remains from pre-history to modern times. These data are unlocking the information embedded in the genomic sequences and, together with emerging archeological and paleontological discoveries, are reshaping our understanding of humankind's history and evolution as well as the past of many other species. By fostering this new research avenue paved by the pioneering works of the neo-Nobel Laureate Prof. Svante Pääbo, the course will focus on recent and upcoming methods for ancient DNA analysis to reconstruct human and animal evolutionary history and migrations and the ecology and evolution of plants and ancient pathogens. Each lesson will take approximately 35-40 minutes, with an additional 5-10 minutes for questions and comments.

MONDAY JUNE 12

14.00-14.15 SERGIO PIMPINELLI (Direttore della scuola di Cortona) and Michele Morgante (presidente AGI): **Course presentation**

14.15-14.45 DAVID CAMELLI (Department of Biology, University of Florence): **An overview of the ancient DNA revolution**

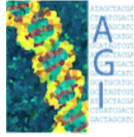
14.45-15.30 MARTINA LARI (Department of Biology, University of Florence): **Optimal sources of ancient DNA from human remains: conservation needs versus destructive sampling**

15.30-16.15 MARCO ROSARIO CAPODIFERRO (Smurfit Institute of Genetics, Trinity College Dublin): **Knowledge discovery from ancient reads: aDNA from the American tropical area, Panama**

16.15-16.30 **Coffee break**

16.30-17.15 FRANCESCO MONTINARO (Department of Biology, University of Bari): **Methods and challenges in the analysis of ancient DNA: Reconstructing past admixture events**

17.15-18.00 LUCA PAGANI (Department of Biology, University of Padova): **Methods and challenges in the analysis of ancient DNA: using ancient genomes as reference for modern populations**



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18.00-18.45 LEHTI SAAG (Institute of Genomics, University of Tartu): **Migration, admixture and natural selection: shaping human genetic diversity**

18.45-19.30 GUIDO BARBUJANI (Dept. Life Sciences and Biotechnology, University of Ferrara): **Ancient DNA, coalescent theory, and demographic models**

19.30 **Ceremony in honor of Prof. Polsinelli and welcome party**

TUESDAY JUNE 13

8.30-9.15 VALENTINA COIA (Institute for Mummy Studies. Eurac research, Bolzano): **Analysis of ancient DNA from mummies: challenges and opportunities**

9.15-10.00 FRANK MAIXNER (Institute for Mummy Studies. Eurac research, Bolzano): **Analysis of ancient DNA of mummies: microbiome and diet**

10.00-10.15 **Coffee break**

10.15-11.00 COSIMO POSTH (Institute for Archaeological Sciences, Tübingen University): **Thirty thousand years of European hunter-gatherer demography**

11.00-11.45 MARIA SPYROU (Institute for Archaeological Sciences, Tübingen University): **Ancient pathogen genomics as a window into past pandemic origins and progression**

11.45-12.30 CLAUDIO OTTONI (Department of Biology, University of Rome "Tor Vergata"): **From the wild to the barnyard - Paleogenomic insights into animal domestication**

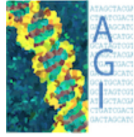
12.30-14.00 **Lunch break**

14.00-14.45 SAHRA TALAMO (Department of Chemistry G. Ciamician, Alma Mater Studiorum, University of Bologna): **The new Radiocarbon 3.0 approach reveals valuable new insights about key events in the earliest human history**

14.45-15.30 LAURA PARDUCCI (Department of Environmental Biology, Sapienza University of Rome): **Plant ancient DNA studies from lake sediments: What we know and what we want to know**

15.30-16.15 ANDREA QUAGLIARIELLO (Department of Comparative Biomedicine and Food Science, University of Padua): **Ancient Microbiomes: Tracing the evolution of our symbionts**

16.15-16.30 **Concluding remarks**



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Course Participation

Participation is **free of charge**. In order to be able to prepare official certificates of attendance, interested students are requested to register until the 30th of May 2023 using the following link: <https://forms.gle/Z1N6R3dauPn3sPzt9>

The school program will be available on the website of the Italian Genetic Association: <http://www.associazionegeneticaitaliana.it/>

Further information should be requested to Prof. Mario Ventura
(Phone: +39 080 5443583; e-mail: mario.ventura@uniba.it).

The course will be held at the Convention Centre in Via Guelfa, 40, 52044 Cortona (AR): <http://www.cortonasviluppo.it/centro-convegni>

Due to the high season, it is warmly advised to reserve the hotel room by [booking.com](https://www.booking.com) or [Airbnb.it](https://www.airbnb.it) as soon as you can.