

Tracing ancestry using DNA

Start date 9th March 2018 **End date** 11th March 2018

Venue Madingley Hall
Madingley
Cambridge

Tutor Dr Peter Forster **Course code** 1718NRX001

Director of Programmes Emma Jennings

For further information on this course, please contact Public Programme Co-ordinator, Clare Kerr
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To book See: www.ice.cam.ac.uk or telephone 01223 746262

Tutor biography

Peter Forster's research concerns the molecular population genetics of humans. Born in 1967, he studied chemistry at the universities of Kiel and Hamburg, specialised in genetics at the Heinrich-Pette-Institute of Virology and Immunology in Hamburg and received his PhD in Biology in 1997. After postdoctoral research at the Institute of Legal Medicine in Muenster until 1999, he was appointed a Fellow at the McDonald Institute for Archaeological Research in Cambridge. From 2006-2009 he was a university senior lecturer in forensics and life sciences. Peter Forster is currently Director of Research at the Institute for Forensic Genetics in Muenster (Germany), and an editor of the International Journal of Legal Medicine (Springer, Heidelberg).

Peter Forster has co-developed phylogenetic network analysis of mitochondrial DNA, Y-chromosomal DNA, and linguistic data. He also specialises in DNA ancestry tests. In 2011, the Cambridge Philosophical Society awarded Dr. Peter Forster the William Bate Hardy Prize for his work on human origins, jointly with Dr. Beverley Glover (plant sciences). In 2013 he was elected a life member of the German National Academy of Sciences, and in 2016 a Fellow of the Royal Society of Biology.

Course programme

Friday

Please plan to arrive between 16:30 and 18:30. You can meet other course members in the bar which opens at 18:15. Tea and coffee making facilities are available in the study bedrooms.

19:00	Dinner
20:30 – 22:00	Course Introduction. Lecture: DNA and world prehistory
22:00	Terrace bar open for informal discussion

Saturday

07:30	Breakfast
09:00 – 10:30	Introduction to DNA
10:30	Coffee
11:00 – 12:30	mtDNA profiling
13:00	Lunch
14:00 – 16:00	Free
16:00	Tea
16:30 – 18:00	Y chromosomal profiling
18:00 – 18:30	Free
18:30	Dinner
20:00 – 21:30	Ancient DNA and European origins
21:30	Terrace bar open for informal discussion

Sunday

07:30	Breakfast
09:00 – 10:30	Scriptural research using DNA/Phylogenetic Language Analysis
10:30	Coffee
11:00 – 12:30	British Origins
12:45	Lunch

The course will disperse after lunch

Course syllabus

Aims:

As a result of the course the student should:

- acquire a working knowledge of DNA profiling techniques.
- be informed on the prehistory of each inhabited continent.
- appreciate that methods developed in one discipline can be applied to others.

Content:

DNA and world prehistory: Using mtDNA and Y chromosomal DNA to trace the human species from its African origin some 200,000 years ago to the current spread of peoples, races and languages across the world.

Continent-specific prehistory: Explaining how ancient DNA and modern DNA fits with archaeological and linguistic theories on the population prehistory of each inhabited continent.

Interdisciplinary application: Using DNA-based methods to approach problems in Biblical history

British Origins: Piecing together linguistic and genetic evidence to build a picture of British origins.

Presentation of the course:

The course consists primarily of lectures.

Outcomes:

As a result of the course, within the constraints of the time available, students should be able to:

1. Outline the prehistoric events leading to the genetic variation seen in humans today,
2. Explain the biological fundamentals of mitochondrial and nuclear DNA,
3. Explain the origins of Africans, Australians, Eurasians and Amerindians, in the light of DNA,
4. Form an opinion on the origins of the British based on DNA and linguistics.

Reading and resources list

Listed below are texts that might be of interest should you wish to supplement your learning on the course. Any essential reading is marked with an asterisk *

Author	Title	Publisher and date
Colin Renfrew & Paul Bahn	<i>The Cambridge World Prehistory</i>	Cambridge University Press 2014
Colin Humphreys	<i>The Mystery of the Last Supper</i>	CUP 2011

Website addresses

www.rootsforreal.com

Note Students of the Institute of Continuing Education are entitled to 20% discount on books published by Cambridge University Press (CUP) which are purchased at the Press bookshop, 1 Trinity Street, Cambridge (Mon-Sat 9am – 5:30pm, Sun 11am – 5pm). A letter or email confirming acceptance on to a current Institute course should be taken as evidence of enrolment.

Information correct as of: 26 February 2018