

Data bank launched for global access to ancient DNA

June 17 2015, by Robyn Mills

Medical and other researchers and science teachers around the world will be able to compare ancient DNA from humans from thousands of years ago with the genetics of modern day humans, thanks to a new world-first open access databank at the University of Adelaide's Australian Centre for Ancient DNA (ACAD).

The [Online Ancient Genome Repository \(OAGR\)](#) catalogues a significant collection of DNA data from ancient human skeletons and microbes found in their dental plaque. Both raw and analysed data, along with details about the individual humans such as where they were found and how the data was produced, will be freely accessible in a searchable format.

OAGR will enable researchers to investigate key genetic and microbial changes over [human evolution](#) and the potential relationships to modern health. It may also be of interest as an education tool for [science teachers](#) who could direct a class in comparing ancient individuals with the genetic makeup of humans today.

"This unique and globally significant resource will be of great value for the medical research community in particular, and others doing research in the field of human evolution," says Dr Jimmy Breen, ACAD Senior Research Associate.

"It will allow users to track the evolution of particular genes that are important in human disease through time and geography—potentially

opening the way for the design of new therapeutic treatments against these diseases.

"The microbiome data taken from the bacteria in calcified plaque also provides unique insights into human dietary changes and the pathogens that were in existence when these humans were living."

The genome repository is funded by the Australian National Data Service (ANDS), which is supported by the Australian Government through the National Collaborative Research Infrastructure Strategy (NCRIS) program.

ACAD (led by Australian Laureate Fellow Professor Alan Cooper) collaborated with the University of Adelaide Libraries and eResearch SA on this project. The initial data is sourced from ACAD and Harvard Medical School's Department of Genetics, the Wellcome Trust Sanger Institute and the Institut de Biologia Evolutiva in Barcelona, Spain.

The data is published in major research papers from these leading research groups and includes the DNA of 125 individual humans from 2000-8000 years ago, found in various locations around the world. There are DNA samples from babies and infants, through to adults. The repository will also be loading more datasets in the coming months.

"It's no longer good enough to just have a publication that talks about data," says Dr Breen. "This will enable underlying files to be made available to facilitate other research. This database puts ACAD at the head of the ancient DNA field in terms of displaying publicly available data."

Provided by University of Adelaide

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