



Australian Research Centre for Human Evolution

"Palaeoproteomic analysis of Australian faunal assemblages: potentials and challenges"

Presented by Dr Carli Peters, Max Planck Institute for Geoanthropology

The advent of biomolecular studies in archaeology has opened up the possibility to answer a range of research questions that could not be addressed previously. ZooMS (Zooarchaeology by Mass Spectrometry), a high-throughput proteomics-based approach, is one of these new methods that is becoming increasingly widespread to study highly fragmented faunal assemblages. However, most applications of ZooMS to date have focused on Eurasian contexts. In this talk, I will focus on Australia, a region of the world where ZooMS studies have remained limited so far. I will discuss the main challenges associated with the application of ZooMS in Australia, and explore the potential of the method to study Australian faunal assemblages



"What can molecules tell us? Multiproxy evidence for Late Pleistocene environmental stability in the Lesser Caucasus"

Presented by Dr Mariya Antonosyan, Max Planck Institute for Geoanthropology

The scarcity of suitable environmental archives within the Lesser Caucasus significantly impedes our ability to evaluate the impact of past glacial climate peculiarities on the disappearance of Neanderthals and the expansion of anatomically modern humans in the region. To deepen our knowledge of the Late Pleistocene environmental conditions we endeavored a multidisciplinary exploration Karin Tak cave, Lesser Caucasus, which we dated between 48,000 and 22,000 cal BP. In particular, we examined biostratigraphic changes in the site by looking at the taxonomic composition of faunal materials using traditional zooarchaeological approaches combined with novel molecular method

of faunal identification such as aDNA metabarcoding and collagen fingerprinting. To gain further insights into environmental conditions of the region we applied stable carbon and oxygen isotope analyses to faunal tooth enamel (n=82). The obtained results suggest that cold and arid MIS 2 conditions did not cause a dramatic change in regional environment, indicating that the Lesser Caucasus was a climatically and ecologically stable region despite significant global climatic changes during the last glaciation.



*Banner artwork by Melissa Stannard

Date/Time: Thursday 17th August 2023 @ 2pm
Location: N29_0.03 Seminar Room (Nathan Campus)