

ARCHE Seminar Series 2024

Australian Research Centre for Human Evolution Seminar Series

"Leveraging the human enamel proteome: sex-bias and insights into human biology and anthropology."

Presented by Associate Professor Glendon Parker

Enamel, the most robust mammalian tissue, contains amelogenin peptides that are expressed from genes on the X- and Y-sex chromosomes. Because of this biological sex can be estimated across forensic, archaeological, and even paleontological time. Sex biases in human and faunal material can highlight biological and anthropological factors at play in the lives of past populations. This presentation will discuss the biological underpinning, sample processing and proteomic mass spectrometry involved in sex estimation from enamel. Validation of the technique will be demonstrated as well as a discussion of limitations. The use of sex bias and its resulting inferences will also be explored with life histories of pre-contact Central Californians and an alignment of gender and biological sex in a non-adult mass sacrificial context from the pre-Incan Chimú culture.

Bio:

Glendon Parker PhD, a graduate of Monash University, is a biochemist whose focus is on the overlap and interplay between proteomic and genomic data. In the bioanthropological space he has pioneered the use of the enamel proteome to estimate the sex of ambiguous skeletal material and obtain phylogenetic information. In the forensic space he is the inventor of proteomic genotyping, the use of genetically variant peptides in DNA-poor evidence types to infer non-synonymous SNP genotypes. He is currently based at the University of California, Davis.



Date/Time: Tuesday 28th May @ 2pm
Room: N29_0.03 (Nathan Campus)