Griffith UNIVERSITY
Queensland, Australia

ARCHE Seminar Series 2023

Associate Professor Glendon Parker

"Leveraging Proteomic Data for Sex Estimation and Forensic Genotyping"

Australian Research Centre for Human Evolution Seminar Series 6.

Abstract: Proteins contain genetic information in the form of variant peptides, the result of non-synonymous SNPs. Detection of these peptides in proteomic datasets therefore can be used to develop genotypes of non-synonymous SNP loci. As with any genotype, this information can be used to estimate human identity and ancestry. This seminar will demonstrate the use of genetically variant peptides from hair shafts to develop forensically useful non-synonymous SNP genotypes. The seminar will also demonstrate a second mechanism to extract useful forensic information from protein: the use of the enamel proteome to detect the X- and Y-chromosome isoforms of amelogenin. The most robust human tissue contains the most characterized sex-chromosome specific proteins. Proteomic sex estimation is robust, highly sensitive and out-performs genomic and osteologic sex estimation techniques.

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: *Monday 12th June, 2023 - the seminar will commence at 12pm and will be followed by a networking lunch.*

Room: *G01_ 3.55 Lecture Theatre (Gold Coast Campus)*