Contribution ID: **140** Type: **Poster report**

STRONTIUM ISOTOPE EVIDENCES

Monday, 20 September 2021 18:10 (5 minutes)

Abstract-
Four outstanding multiple burials were discovered near Eulau, Germany. The 4,600-year-old graves contained groups of adults and children buried facing each other. Skeletal and artifactual evidence and the simultaneous interment of the individuals suggest the supposed families fell victim to a violent event. In a multidisciplinary approach, archaeological, anthropological, geochemical (radiogenic isotopes), and molecular genetics methods were applied to these unique burials. Using autosomal, mitochondrial, and Y-chromosomal markers, it was identified genetic kinship among the individuals. A direct child-parent relationship was detected in one burial, providing the oldest molecular genetic evidence of a nuclear family. Strontium isotope analyses point to different origins for males and children versus females. It tells insight into a Late Stone Age society, which appears to have been exogamous and patrilocal, and in which genetic kinship seems to be a focal point of social organization.
Cotton (Gossypium sp.), a plant of tropical and sub-tropical origin, appeared at several sites on the Arabian Peninsula at the end of the 1st mill. BCE -beginning of the 1st mill. CE. Its spread into this nonnative, arid environment is emblematic of the trade dynamics that took place at this pivotal point in human history. Due to its geographical location, the Arabian Peninsula is connected to both the Indian and African trading spheres, making it complex to reconstruct the trans-continental trajectories of plant diffusion into and across Arabia in Antiquity. Key questions remain pertaining to: provenance, i.e. are plant remains of local or imported origin and the precise timing of cotton arrival and spread. The ancient site of Mleiha, located in modern-day United Arab Emirates, is a rare and significant case where rich archaeobotanical remains dating to the Late Pre-Islamic period (2nd–3rd c. CE), including cotton seeds and fabrics, have been preserved in a burned-down fortified building. To better understand the initial trade & production of cotton in this region, strontium isotopes of leached, charred cotton remains are used as a powerful tracer and the results indicate that the earliest cotton finds did not originate from the Oman Peninsula, but were more likely sourced from further afield, with the north-western coast of India being an isotopically compatible provenance. Identifying the presence of such imported cotton textiles and seeds in southeastern Arabia is significant as it is representative of the early diffusion of the crop in the region, later to be grown extensively in local oases.

Primary author: Dr CHOUDHURY, Krishna (University of Calcutta)

Co-author: Mr AGARWAL, NARAYAN PRASAD (UNIVERSITY OF CALCUTTA,INDIAN SCIENCE NEWS ASSOCIATION)

Presenter: Mr AGARWAL, NARAYAN PRASAD (UNIVERSITY OF CALCUTTA,INDIAN SCIENCE NEWS ASSOCIATION)

Session Classification: Poster session (Mixed)

Track Classification: Section 9. Nuclear-physical methods in the study of cultural heritage objects.