

ARCH/BIOANTH LUNCH TALK
WEDNESDAY, **JANUARY 19TH**, 2022, 12-1 PM,
ON ZOOM

RENEE BOUCHER
PHD CANDIDATE – UCSC

***The application of trace metal isotopes (Sr, Zn, Fe, Cu)
to hominid ecology, physiology and behavior***

In this talk Renee will present the framework and preliminary data from three separate projects involving trace metal isotope analysis (Sr, Zn, Fe, Cu) and their application to a wild population of chimpanzees (*Pan troglodytes versus*) from Taï National Park, Côte d'Ivoire. The first project uses strontium isotope values as a means of tracking sex-specific dispersal patterns in wild



female chimpanzees, by relying isotopic data obtained from skeletal remains to the first strontium isoscape for this region within West Africa. The second project will explore if zinc isotope values record variations in trophic position from infrequent meat consumption in primarily frugivorous chimpanzees. Additionally, this project will explore the potential using zinc isotope values to trace trophic enrichment resulting from breastfeeding and to pinpoint age at weaning in the Taï chimpanzees. The third project will analyze the relationship of iron and copper isotope values to metabolic differences between the sexes with a focus on reproductive investment in female chimpanzees. This

research is the first to apply these isotope systems to a wild population of chimpanzees for future applications to paleoanthropology, with the potential to address broader evolutionary questions on female reproductive biology and fossil hominin meat consumption.

Renee Boucher is a Ph.D. candidate in the Anthropology Department at UCSC. She is an archaeologist with a background in paleoanthropology, specifically focusing on the Middle-Upper Paleolithic and has excavated sites in Gibraltar, Spain, Italy, and Israel. Her main research interests include trace metal stable isotope analysis (Fe, Cu, Zn) and their relationships to trophic position, age at weaning, female longevity, reproductive senescence, and reproductive investment. She encourages more inclusive research and balanced clinical trials to improve the female experience with healthcare and kinder pharmacological developments that will ease the increased risks associated with reproductive senescence, or menopause.

