

UC **SANTA BARBARA**
Department of Earth Science

Earth Science Colloquium

WEBB 1100 • THURSDAY November 7th. • 2:00 PM

Using multiple geochronometers to refine the age of the Old Crow tephra, a key marker for reconstructing Pleistocene paleo-environments and climate in Alaska

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Tephrochronology is used to correlate and reconstruct geographically disparate sedimentary sections containing records of changing environment, climate, and landscape throughout geologic time. Single tephra layers represent isochronous markers across broad regions, and thus accurate and precise radiometric constraints on eruption timing are critical to their utility. The Old Crow tephra is the largest preserved Pleistocene ashfall event in Alaska and the Yukon (eastern Beringia), and for three decades has been the primary marker for Marine Isotope Stage 5 in the region. Despite its large volume and significance as a stratigraphic marker, the provenance of this tephra is unknown, and the interpreted eruption age of ~125 ka has vacillated. In this seminar, I will detail our attempt to corroborate this eruption age via application of coupled U/Pb, U/Th, and (U-Th)/He zircon geochronology, and to better constrain the likely source volcano via titanomagnetite geochemistry.