



Stone tools for breaking bones: the 130,000-year-old Cerutti Mastodon site, California

SEMINAR PRESENTED BY THE CENTRE FOR ARCHAEOLOGICAL SCIENCE (CAS)

DATE: FRIDAY 26TH MAY
 TIME: 3:30-4:30PM
 VENUE: 41.G03A, UOW
 PRESENTER: PROF RICHARD FULLAGAR



Richard has a PhD in Archaeology from La Trobe University, and held ARC fellowships at the Australian Museum and research positions at the University of Sydney. A main interest has been the study of usewear and residues to determine stone tool function. He has been director of an archaeological consulting company since 2007. Richard was appointed Professorial Research Fellow (2014–2018) in the Centre for Archaeological Science to study stone artefacts at key sites in eastern Asia, including Denisova (Siberia) and Liang Bua (Indonesia)—under the auspices of Prof Bert Robert’s ARC Australian Laureate Fellowship.



UNIVERSITY OF WOLLONGONG AUSTRALIA

SEMINAR OVERVIEW: STONE TOOLS FOR BREAKING BONES

The Cerutti Mastodon (CM) site has compelling evidence for in situ hammerstones and stone anvils in spatio-temporal association with fragmentary remains of a single mastodon (*Mammut americanum*). The CM site contains spiral-fractured bone and molar fragments, indicating that breakage occurred while fresh. Several of the bone fragments also preserve evidence of percussion, including notches, cones and cone flakes typically associated with human activities to (1) produce bone tools; and (2) to extract bone marrow. The occurrence and distribution of bone, molar and stone refits suggest that breakage occurred at the site of burial. Five large cobbles (hammerstones and anvils) in the CM bone bed display use-wear and impact marks, and are hydraulically anomalous relative to the low-energy context of the enclosing sandy silt stratum. ²³⁰Th/U radiometric analysis of multiple bone specimens using diffusion–adsorption–decay dating models indicates a burial date of 130.7 ± 9.4 thousand years ago. Most scientists currently think humans first arrived in the Americas during or after the Last Glacial Maximum (MIS2). However, evidence from the CM site suggests the presence of Homo in North America ~100,000 years earlier, during the last interglacial (MIS 5e).

