



## ABSTRACT SUBMISSION

# Metallurgical remains from the metalworkers workshop at Gonur Depe, Turkmenistan: preliminary data

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## Abstract

At the Bronze Age site of Gonur Depe in ancient Margiana (2300-1600 BC, Turkmenistan) a significant number of copper-based metal objects have been discovered. Furthermore, the well-preserved workshop excavated by Dr. Sarianidi on the north-western shore of the main southern pool at North Gonur has been characterised as a metallurgical workshop based on the presence of moulds, crucibles, and slags.

This paper presents the preliminary results of the study of eleven crucible fragments and four slags recovered from Areas 8, 9, 13, and 15 of the site. X-ray fluorescence, Optical, and Scanning Electron Microscopy (SEM) were implemented for their archaeometric study. The analytical examination revealed their association with copper melting and alloying practices. Based on this evidence, the reconstruction of copper-based alloy production at the site was attempted, aiming to a better understanding of the metallurgical practices and their role in the development of complex societies in the region during the Late Bronze Age.

## Keywords

crucibles, slag, alloy, XRF, SEM

## Session

1. Advances in Near Eastern Archaeology

## Type of paper

Oral presentation