

## **Combined organic residue and trace element analysis of Late Neolithic, and Chalcolithic ceramic vessels excavated from the Tehran Plain, Iran.**

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### **Abstract**

We will present the results of both organic residue and ceramic trace element analysis of an assemblage of more than eighty sherds from five different sites on the Tehran Plain dating from the Late Neolithic, through the Transitional, Early and Middle Chalcolithic.

Organic residue analysis (GC-MS) of both the internal and external sherd surfaces will be used to; 1) determine the preservation of organic residues, 2) to identify biomarkers and thereby identify original contents and determine vessel use, 3) to examine variations between different vessel types and between different parts of the same vessel. ICP-MS analysis of the ceramics will be used to group the sherds according to their trace element composition and to provide supporting evidence of the source(s) of the raw materials.

These combined analyses will characterise the social and economic transformations of the plain during the Chalcolithic period in order to assess the degree of the community centralisation, the craft specialisation and standardisation, as well as the relationship and exchange of goods between these sites and abroad.