# A. GLUTAMINE DEAMIDATION RATES OF BONE COLLAGEN AT THREE LATE PLEISTOCENE SITES IN ISTRIA (CROATIA)

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### **Abstract format: Poster**

In the last decade, palaeoproteomics has been increasingly used in studies of archaeological material, especially for taxonomic identification of highly fragmented faunal assemblages. Yet, the mechanisms of protein conservation, or rather decay, require better understanding. Therefore, the efforts to correlate these processes with posttranslational modifications (PTMs) in protein, most commonly collagen, are under way. Glutamine deamidation is one of the most common PTMs and has been proven to indicate the state of preservation of collagen in osseous tissues. The deamidation of glutamine to glutamic acid results in a mass shift of +0.984 Da that can be calculated from mass spectrometry data, a key step in all proteomic analyses. These do not rely solely on their position in the collagen chain, but also on the age of the tissue, the characteristics of the sediment, microclimate of the site and other taphonomical agents.

In our analysis, we compare glutamine deamidation rates of faunal samples from three Late Pleistocene sites from Istria, Croatia: Romualdova pećina (Middle Palaeolithic cave site), Abri Kontija (early Upper Palaeolithic rockshelter) and Ljubićeva pećina (late Upper Palaeolithic cave site), as a part of the PREHISTRIA project (HRZZ IP-2019-04-7821) and iNEAL Cost Action (CA-19141). Bone collagen was extracted with ammonium bicarbonate and analysed through MALDI-ToF mass spectrometry. By examining glutamine PTMs at these sites and comparing the results with published data, we infer about the influence of site features, antiquity and other taphonomic factors, on the preservation of collagen in bones. This approach can be used as a low-cost prescreening method, helping to plan further biomolecular analyses (aDNA, radiocarbon dating, isotopes etc.) but also be a valuable contribution in understanding protein decay dynamics related to different contexts, periods and diagenetic processes.

# 327 VARIATIONS ON 'THE ISLAMIC': ALTERNATIVES, RESISTANCE AND CONTESTATION IN ISLAMIC ARCHAEOLOGY

Session theme: 6. Contested Pasts & Presents

Session organisers: Carvajal Lopez, Jose (University of Leicester) - Shingiray, Irina (University of Oxford) - Govantes Edwards, David (Universidad de Cordoba) - Hernandez Robles, Alicia (Universidad de Murcia) - Dikkaya, Fahri (TED University, Ankara)

## Session format: Regular session

Islamic societies have been all too often portrayed and analysed from the perspective of orthodoxy, towns and elitism. Groups within Islam that did not participate in mainstream religious practices and beliefs or who lived beyond the networks of interest of urban elites and dominant dynasties are usually considered 'heterodox' and 'outsiders'. Following recent criticism by Shahab Ahmed, the perspective on "what is Islam" needs to be widened to fit the variations on 'the Islamic' within. Islam is not a programme or a set of principles imposed from the top, but a medium and a vocabulary from which the hermeneutical engagement of the believers generates multiple meanings connected by a shared commonality.

In this session we search to shed light on this variation by focussing on processes and communities belonging to 'the Islamic' but working in the margins of, or against established powers and structures. We aim to get to know and to discuss case examples of social groups that contested states and institutions within the Islamic world, that offered alternative or dissident social, economic or religious organisations to those that were hegemonic.

We invite colleagues to present case studies, for example, about groups considered 'heterodox' in their context, and even about non-Muslim groups as long as they expressed their faith in Islamic terms. Another possibility is the analysis of groups weaving alternative forms social organisation to those usually considered 'central' by mainstream approaches: nomads, peasants, gendered groups, ethnic minorities, etc.

This session continues a successful chain of sessions in EAA on Islamic archaeology, where different regions and their connections have been considered in the past.



# EAA 2023

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30<sup>TH</sup> AUG - 2<sup>ND</sup> SEPT 2023

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