

E-RIHS is the European Research Infrastructure for Heritage Science, supporting the study, interpretation, conservation, documentation, and management of cultural heritage. As a European Research Infrastructure Consortium (ERIC), it offers **access to cutting-edge laboratories, tools, and data**, and provides **training opportunities in heritage science**.

E-RIHS.hu is the national consortium led by the **Institute for Nuclear Research (ATOMKI)**, with the participation of the **Centre for Energy Research (HUN-REN CER BNC)**, **Wigner Research Centre for Physics**, the **Hungarian National Museum (HNM)**, and the **University of Szeged** representing Hungary.

E-RIHS.hu provides museums, research institutes, and universities with access to specific research infrastructures.



The techniques and methods offered can be viewed in the **Catalogue**

CONTACTS

The five partner institutes welcome inquiries regarding archaeological and museum-related analyses and the museum's archives at the following contact details:



ATOMKI – ion beam analytical techniques, micro-XRF, electron microscope, Raman microscope, 3D digital microscope
szikszai.zita@atomki.hu

ATOMKI – Radiocarbon dating, stable isotope analysis
major.istvan@atomki.hu



BNC – neutron-based techniques
kasztovszky.zsolt@ek.hun-ren.hu



HNM – Archaeology Database:
<https://archeodatabase.hnm.hu/>
peter.reka@hnm.hu

HNM – Archaeometry Laboratory
kreiter.attila@hnm.hu



University of Szeged
– Luminescence dating
gysipos@geo.u-szeged.hu

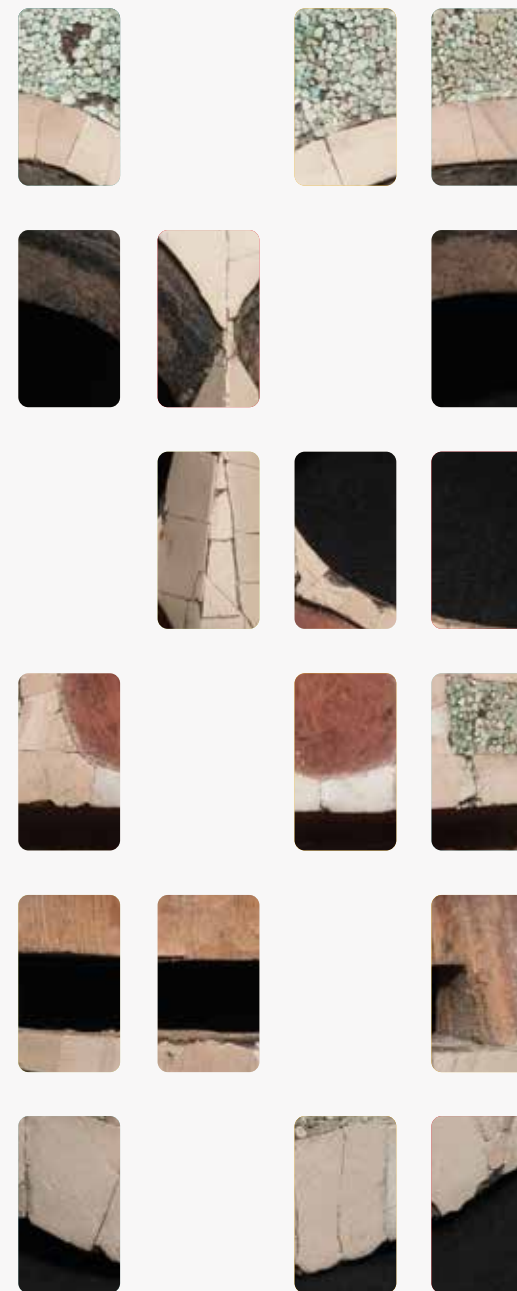


Wigner RCP – ion beam analytical techniques
kocsonya.andras@wigner.hu



<https://e-rihs.hu/en/infrastructure>

Cover illustration: Aztec Period Mask from the Museum of Ethnography, Budapest / Photo: Gábor Nyíri (HNM)



PROVENANCE INVESTIGATION BY ELEMENTAL AND PHASE ANALYSIS AND CHEMICAL CHARACTERIZATION

A wide range of cultural heritage materials, including archaeological stone, ceramics, glass and metals can be investigated through elemental, isotopic, and phase analysis. The results can be used to characterize raw materials, investigate their geological or geographical provenance, identify technological choices and workshop practices, and reconstruct production recipes and manufacturing processes.

Platform: **Fixlab**

Service:

- ATOMKI Ion Beam Analysis
- ATOMKI Material Characterization with Microscopic Methods
- HNM Archaeometry Laboratory
- BNC Image-driven prompt gamma neutron activation analysis
- BNC Neutron-based elemental analysis
- BNC Time-of-flight neutron diffraction
- WIGNER External milli-beam PIXE

RECONSTRUCTION OF ENVIRONMENTAL AND LIVING CONDITIONS

Stable isotope analysis can provide valuable insights into dietary practices and food resources, as well as reconstructing aspects of past climate and local environments..

Platform: **Fixlab**

Service:

- ATOMKI Stable Isotope Ratio Measurement

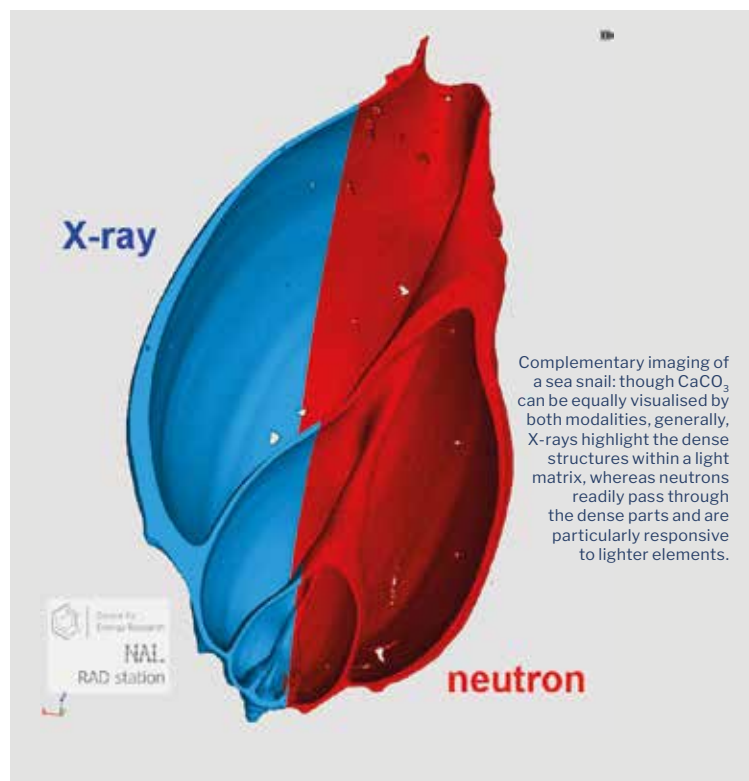
TECHNOLOGICAL INVESTIGATION BY STRUCTURAL CHARACTERIZATION

A wide range of cultural heritage materials (metals, ceramics, stone and glass) can be investigated to characterize their structure from nano- and microscopic to the macroscopic scale. The data can help identify technological choices and manufacturing processes.

Platform: **Fixlab**

Service:

- ATOMKI Material Characterization with Microscopic Methods
- HNM Archaeometry Laboratory
- BNC Neutron and X-ray-Imaging
- BNC Small angle neutron scattering
- BNC Time-of-flight neutron diffraction



DATING

The age of artefacts or sediments containing organic or inorganic carbonaceous materials, or mineral grains, can be determined using radiocarbon (AMS ^{14}C) or luminescence dating.

Platform: **Fixlab**

Service:

- ATOMKI Radiocarbon Dating
- University of Szeged Luminescence Dating of Ceramics and Sediments



ARCHIVE, SHARING DIGITAL DATA

Access to the archives including images, scientific data and reports on archaeological sites in Hungary.

Platform: **Digilab**

Service:

- Access to the Hungarian National Museum Archaeology Database