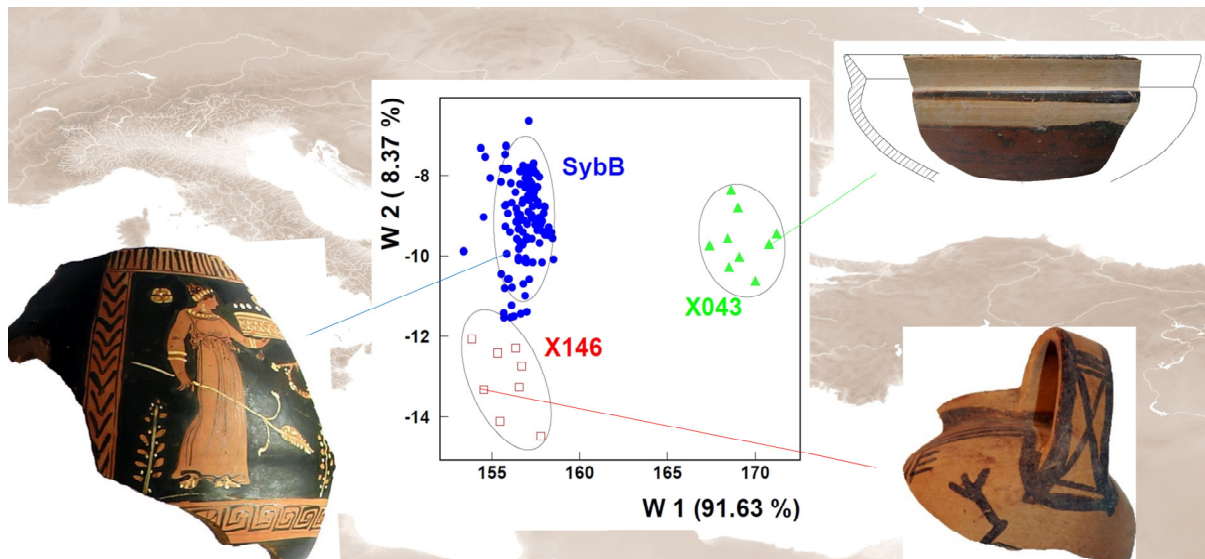


Institut für Klassische Archäologie



# Neutron activation analysis (NAA) and its relevance to the Archaeology of the ancient Mediterranean

Current state and perspectives of research

**BBB-Workshop, June 17<sup>th</sup>–18<sup>th</sup> 2021**

Organisation

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## Framework

One of the fundamental questions of archaeological research is the origin of ceramic artefacts. For more than half a century, chemical analyses have been applied for their examination in addition to archaeological classification. Thus, it is possible to identify both production sites and products, regardless of where they were found. Neutron activation analysis (NAA) has proven to be a reliable and indispensable tool among the different scientific methods available since the 1960s. Extensive data have been collected by different laboratories, although different technical and statistical procedures and often just small numbers of samples impede comparisons between individual studies. However, in regions and periods of intense connectivity as the ancient Mediterranean, such comparisons are urgently needed as they permit not only the identification of potters' workshops, but the tracking of traded vessels as well.

How much archaeology can gain from a large basis of comparison is shown in particular by the "Bonn Method" of the NAA, developed by Hans Mommsen and applied for more than 30 years. The results obtained at Bonn not only provided some surprises with regard to previous postulates of origin. Rather, they shed light on the immense potential of the NAA for current questions concerning concepts of archaeological research, such as cultural contacts, cultural transfer, economic and/or social networks and an Archaeology of Consumption. Whereas in the past the focus was mainly on the Eastern Mediterranean and the Aegean Sea, it is only recently that more attention has been paid to the Central Mediterranean and Black Sea areas. In almost all regions, however, the spatial and temporal distribution of some chemical patterns detected requires a view beyond the boundaries of archaeological disciplines, hampered by a dispersed state of publications.

The workshop, thus necessarily interdisciplinary, aims to provide an overview of current NAA-based research across the whole Mediterranean, covering the pre-Roman periods up to the Late Bronze Age. What centres of pottery production can be identified, what vessels were produced there, and where were they traded? Do assumptions of provenance previously believed to be certain have to be revised or discarded? Furthermore, it should be discussed what provenance analyses can contribute to questions of cultural contacts, spatial and social mobility or the negotiation of identities. Do zones of cultural contacts also reveal culturally heterogeneous production spectra? In what contexts were certain goods used and what does this mean for questions concerning the formation of social groups and identities?

In addition to the specific applications of the NAA for archaeological research, questions about the comparability of data sets from different laboratories will also be discussed. What are the possibilities of merging different datasets, where are the obstacles and how can they be overcome?

It is the principal aim of the workshop to emphasize the immense potential of NAA-based research for the archaeology of the ancient Mediterranean and to link it to current issues in order to ensure its future viability.

# Program

**Thursday, June 17<sup>th</sup>**

**10:00 Erich Kistler & Richard Posamentir (Universities of Innsbruck/Tübingen)**

Welcome

**10:10 Kai Riehle (University of Innsbruck/Tübingen)**

Introduction

## ***Section 1: Contacts & Exchange (Chair: Kai Riehle)***

**10:30 David Ben-Shlomo (Ariel University)**

Inter-Regional and Intra-Regional Trade in Pottery according to NAA Studies in the Southern Levant

**11:00 Alexander Fantalkin (Tel Aviv University)**

Neutron activation analysis of the Aegean Iron Age Pottery from Israel: A state of current research and future perspectives

**11:30 Stefanos Gimatzidis (OEAI, Vienna)**

Early Iron Age Greek pottery overseas: origin and circulation patterns of the Protogeometric and Geometric pottery in the Mediterranean

**12:00 Gunnar Lehmann (Ben-Gurion University, Beer Sheva)**

NAA at Kinet Höyük: Iron Age Assemblages in Cilicia and Mediterranean Exchange

**12:30 Break**

## ***Section 2: Contexts & Consumption (Chair: Birgit Öhlinger)***

**14:00 Penelope A. Mountjoy (British School at Athens)**

The application of NAA results to LBA pottery in the east Mediterranean

**14:30 Susanne Prillwitz (University of Heidelberg)**

„The Mycenaean, the Grey and the Ugly“ – Das Verhältnis fremder und lokaler Elemente in der Keramikproduktion von Tiryns

**15:00 Jan K. Jacobsen (Danish Institute, Rome)**

NAA investigations on misfired ceramics from a 6<sup>th</sup> century BC kiln context in Area Aita, Francavilla Marittima, southern Italy

**15:30 Kai Riehle (University of Innsbruck/Tübingen)**

Local Potter's Reactions in Italy and Sicily

**Schedule is given in Central European Time (CET)**

# Program

**Friday, June 18<sup>th</sup>**

## ***Section 3: Problems & possible solutions (Chair: Christian Heitz)***

**10:00 Anno Hein (NCSR Demokritos, Athens)**

Compositional variation of clays and archaeological ceramics in the Eastern Mediterranean

**10:30 Reinhard Jung (OEAI, Vienna)**

Mykenische Keramik in Italien: Probleme von Import und Produktion

**11:00 Hans Mommsen (HISKP, University of Bonn)**

Important facts about Neutron Activation Analysis (NAA) and the problems of provenancing Sicilian pottery

**11:30 Break**

## ***Section 4: Reflexions & new applications for NAA-based research (Chair: Kai Riehle)***

**13:00 Leonhard Geißler (University of Tübingen)**

„Paint it black“ – Neue Erkenntnisse zu den schwarzfigurigen Werkstätten in Italien

**13:30 Udo Schlotzhauer (DAI, Berlin)**

Real or fake? Can we use the NAA as a method for verifying fakes of ancient pottery?

**14:00 Johannes Sterba (TU Wien)**

Experimental Archaeology? – Simulated NAA-Datasets for deeper understanding

**14:30 Bartłomiej Lis (PAN, Warsaw)**

Results of NAA analyses – an archaeologist's perspective from the pottery shed

**15:00 Break**

**15:15 Final discussion (Chair: Erich Kistler & Kai Riehle)**

**Schedule is given in Central European Time (CET)**