



Επιστημονικό Σωματείο,
Έτος Ίδρυσης 1982, έδρα:
Κάνιγγος 27, 106 82 Αθήνα
(Ένωση Ελλήνων Χημικών)
<http://archaeometry.org.gr>

**ΔΟΙΚΗΤΙΚΟ
ΣΥΜΒΟΥΛΙΟ:**

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γραμματέας),
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Ι. Μπασιάκος (μέλος),
Γ. Φακορέλλης (μέλος)

Πληροφορίες:

Γ. Φακορέλλης (σύνταξη,
επιλογή ύλης)
E-mail: yfacorel@uniwa.gr

Scientific Association, Year
of Establishment 1982,
Headquarters: Kaniggos 27,
106 82 Athens (Association
of Greek Chemists)
<http://archaeometry.org.gr>

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Υ. Facorellis (member)

Information:

Υ. Facorellis (editor)
E-mail: yfacorel@uniwa.gr

Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

- Αύγουστος 2024 -

**The source from which existing things derive their
existence is also that to which they return at their
destruction.**
(Anaximander)

Newsletter of the Hellenic Society of Archaeometry

- August 2024 -

Nr. 281

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ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS
MICADAS WORKSHOP, 2024. UNIVERSITY
OF CALIFORNIA – IRVINE, YALE
UNIVERSITY AND WOODS HOLE
OCEANOGRAPHIC INSTITUTION, WOODS
HOLE CAMPUS, SEPTEMBER 16-17, SECOND
ANNOUNCEMENT

Dear Colleagues,

You are cordially invited to attend a 2-day workshop on the MICADAS, September 16-17, 2024. The workshop is being organized by the University of California – Irvine, Yale University, and the Woods Hole Oceanographic Institution and will be held on the Woods Hole campus. The goal of the workshop is to discuss MICADAS standard best practices, share experiences in optimizing MICADAS performance, and identify a collective path toward improvements. The format of meeting will be morning sessions for presentations with afternoons reserved for break out into smaller working groups to for specific items/topics. Morning sessions will have the option of being virtual, while afternoons will be in-person.

More information about the workshop can be found here:
<https://www2.who.edu/site/nosams/micadas-workshop/>

Should you wish to attend the workshop either in-person or virtually, please register here:
<https://docs.google.com/forms/d/e/1FAIpQLSdSktUUQ9vmSETqMEazbLugcfyT9nf8pm17TAFMiVeLp3R-Cg/viewform>

Best regards,

Guaciara dos Santos (UC-Irvine) gdossant@uci.edu
Claudia Czimczik (UC-Irvine) czimczik@uci.edu
Brad Erkkila (Yale University) brad.erkkila@yale.edu
Susan Q. Lang (WHOI) sqlang@who.edu
Mark Roberts (WHOI) mroberts@who.edu

**THE FURTHER EVOLUTION OF
AUTHENTICITY THROUGH THE LENS OF
HERITAGE ECOSYSTEMS: HERITAGE,
COMMUNITIES, AND SUSTAINABLE
DEVELOPMENT, 10TH ANNIVERSARY
INTERNATIONAL SYMPOSIUM OF THE
TOMIOKA WORLD HERITAGE SITE, CALL
FOR ABSTRACTS**

2024 marks the 10th anniversary of the World Heritage inscription of the Tomioka Silk Mill and Related Sites. Efforts have been made in Gunma Prefecture not only to preserve and promote the component properties and other silk-related heritage sites but also to promote the silk industry within the prefecture and to engage in educational activities that convey silk culture.

2024 also marks the 30th anniversary of the Nara Document, an international declaration that addressed the need to respect the diversity of culture and heritage in contemporary society. In 2004, a decade after Nara, the Yamato Declaration was adopted, emphasizing the necessity of an integrated approach for tangible and intangible cultural heritages. In 2014, the need to explore authenticity in relation to society from five perspectives—protection, value, stakeholders, consensus-building, and sustainable development—was proposed as "NARA+20."

We live in a socio-economic environment different from the era in which heritage sites were created. Nevertheless, heritage serves as a source and treasure trove of past information, providing inspiration for the present and future. Therefore, as we look towards the future, we must address the universal challenge of authenticity. This involves maintaining the characteristics and qualities of heritage while allowing local communities to add various forms of value—economic, social, cultural, environmental, educational and technical—to achieve sustainability.

Against these backgrounds, this symposium aims to explore the challenges we face by focusing on the concept of a heritage ecosystem. A heritage ecosystem is understood to encompass the cyclical and organic relationships among various elements that constitute the rich cultural and natural environment of the region and that are connected to the heritage. Because challenges to heritage are ever-changing, the concept of a heritage ecosystem offers a powerful framework for better coping with the challenges that confront us today and those to come.

This approach also enables us to ponder and discuss heritage futures in relation to the site: For instance, how can the site contribute to future-making? What kinds of futures can we imagine for the site, its environment, and indeed, for World Heritage and authenticity more broadly? How long away is that future we are interested in now? What contribution can the site make to visible trends and scenarios over the coming decades in

relation to climate change, advancement of technology and AI and digitalisation, population growth and demographic shifts, economic collapse, pandemics, etc.? Which challenges described in the forthcoming *UN Pact for the Future* and the *Declaration on Future Generations* relate to the site, and what do these challenges imply for its management?

We will discuss the directions, goals and strategies to simultaneously achieve the protection of the "Tomioka Silk Mill and Related Sites" as a World Heritage site. Drawing on related cases and insights from around the world presented at this conference, we aim to formulate 2

guidelines for the next ten years of the "Tomioka Silk Mill and Related Sites" and ultimately adopt the "Gunma Declaration" (tentative title) with a global perspective.

Four themed sessions as a framework of discussions:

1. Preservation and Management of Modern Buildings and Industrial Heritage

The core of the heritage ecosystem is the heritage itself. What is the current state of preservation and management of modern buildings and industrial heritage in other countries? What challenges do they face, and how are these challenges being addressed? It is essential to gather global insights and examine the following key issues to inform future efforts:

Keywords:

Preservation and replacement of materials; Adaptive reuse of heritage; Compliance with today's standards; Preservation and transmission of physically fragile heritage; Intangible aspects of heritage; Other inherent values

2. Mechanisms and Systems of the Heritage Ecosystem

The heritage ecosystem is a developing concept. In Gunma Prefecture, efforts have been made to honor and promote not only the World Heritage sites but also various tangible and intangible silk industry-related heritage, thereby planting the seeds of the heritage ecosystem in many places. It is essential to reveal the multifaceted functions and roles these heritages have played, as well as the impacts of external factors. It is also crucial to recognize that more people and organizations are stakeholders. It is desirable to contribute to the formation and expansion of the heritage ecosystem.

Keywords:

World Heritage sites and the various tangible and intangible heritages; Heritage and ecology; Various actors; Supporting industries; Cost-sharing; Management of changes and transmission of values; Collaboration in the heritage ecosystem; The relationship between environmental protection and heritage preservation

3. Formation and Role of Heritage Communities

The community is a core element of the heritage ecosystem alongside the heritage itself. Building a heritage ecosystem to preserve the "Tomioka Silk Mill and Related Sites" involves numerous people and organizations. Startups centered on silk are emerging.

Amid diverse perspectives, rights and values, it is essential to form, expand and develop communities that can achieve consensus-building and collaborative cooperation for the sustainable development of heritage and the region.

Keywords:

Transmission of traditional management and preservation methods; Adjustment of differing values; Expansion, development and collaboration of actors; Mechanisms to support the formation and development of heritage communities; Decision-making processes in heritage management 3

4. Technology and the Future of Heritage

Technological exchange and innovation are crucial not only for understanding the Outstanding Universal Value (OUV) of the "Tomioka Silk Mill and Related Sites" but also for considering its future preservation. Some kinds of technology hold potential to become pillars of support for the future of the heritage ecosystem. By examining the progress and application of cutting-edge digital technologies, we can expand the possibilities for the future of heritage and enhance the heritage ecosystem.

Keywords:

Significance, potential, risks and challenges of advanced technologies; Preservation and utilization with digital technology; Application of technology in the heritage ecosystem; Use of digital technology in heritage communities; Virtual and real authenticity; Authenticity in the era AI

Key Information

The conference website with concept notes: <https://www.heritage-ecosystem.com/html/en/>

The convener of the symposium: Prof. Toshiyuki Kono, honorary president of ICOMOS

Co-sponsored by Gunma Prefecture and ICOMOS Japan

Main venue: Gunma Music Center, Takasaki City, Gunma, Japan

Date: 10-11 January 2025

Working language: English

Each session will consist of short presentations, a panel discussion, and breakout sessions. Presenting authors are expected to take an active part in the discussion.

Prospective authors should submit a max. 300-word abstract by 20 August 2024 through the following link or QR code.

<https://officekit.form.kintoneapp.com/public/heritage-tomioka-abstracts>

Authors of accepted papers will be notified by 20 September.

Papers submitted after the symposium will be peer-reviewed, and accepted papers will be published by a renowned publisher.

**8TH SYMPOSIUM OF NEOHELLENIC
ECCLESIASTICAL ART, DEPARTMENT OF
THEOLOGY OF THE SCHOOL OF
THEOLOGY OF THE NATIONAL AND
KAPODISTRIAN UNIVERSITY OF ATHENS,
IN COLLABORATION WITH THE
DEPARTMENT OF ARCHITECTURE OF THE
UNIVERSITY OF PATRAS, 28TH AND THE
30TH OF MARCH 2025, CALL FOR PAPERS**

The Department of Theology of the School of Theology of the National and Kapodistrian University of Athens, in collaboration with the Department of Architecture of the University of Patras and faculty members from other University Departments, is pleased to announce the *8th Symposium of Neohellenic Ecclesiastical Art*, which will be held in Athens between the 28th and the 30th of March 2025. The Symposium will have a hybrid character and will run in-person and virtually.

The program will include scientific papers on subjects relevant to Neohellenic Ecclesiastical Art (from the 19th century up to the present). The Symposium consists of the following thematic sessions: a) architecture, b) painting, c) sculpture and d) miniature art. Papers must be original and should not exceed 15 minutes in length. The presentations may be delivered either in Greek or English. The Organizing Committee intends to publish the Proceedings of the Symposium.

Those interested are requested to send their paper proposal with their full name and the title in capital letters, using Times New Roman (font size 12). The abstract should not exceed 500 words and must be submitted as a pdf or word file by Friday, January 31, 2025.

The Symposium's Honorary Committee is composed of His Beatitude Hieronymos II, Archbishop of Athens and All Greece, Professor Emeritus Emmanuel Konstantinidis, Professor Emeritus Efthymios Tsigaridas, and Professor Emerita Maro Kardamitsi-Adami.

The Organizing Committee is composed of the Professor and Chair of the Department of Theology of the National and Kapodistrian University of Athens Demetrios Moschos, as Chair of the Organizing Committee, Professor Emerita Ioanna Stoufi-Poulimenou and ex Assistant Professor of the Department of Theology of the National and Kapodistrian University of Athens Georgios Kordis, Professor of the Department of Architecture of the University of Patras Stavros Mamaloukos, Professor of the Department of History and Archaeology of the School of Philosophy of the National and Kapodistrian University of Athens Dimitris Pavlopoulos, and DPhil Ioannis Frilingos.

We kindly ask the University Department Heads and the Faculty Chairs, as well as the Directors of Ephorate of Antiquities, Research Centers, Museums, and other Scientific Institutions to notify their members accordingly.

Submissions should be sent via email to the address:
symp.neoell.ekkl.technis@gmail.com

Contact numbers: +30 210 7275758, +30 6936846068,
fax 210 7275758 (I. Stoufi-Poulimenou)
+30 210 6132821, +30 6944849909 (St. Mamaloukos)
+30 2107277656, +30 6946004861 (D. Pavlopoulos)

The Symposium Organizing Committee

**DECODING REPRESENTATIONS OF STATUS
IN THE BRONZE AGE AEGEAN - PATTERNS,
DEFINITIONS AND INTERPRETATIONS,
DOKUZ EYLÜL UNIVERSITY
ARCHAEOLOGY AND ARCHAEOLOGY
APPLICATION AND RESEARCH CENTER IN
TÜRKIYE AND THE IRISH INSTITUTE OF
HELLENIC STUDIES AT ATHENS, 28-29
NOVEMBER 2024**

The symposium will be hosted online by Dokuz Eylül University Archaeology and Archeometry Application and Research Center in Türkiye and the Irish Institute of Hellenic Studies at Athens on 28-29 November 2024 via Zoom platform. The symposium language will be English and the presentations will have a duration of 20 minutes. All abstracts should not exceed 300 words and include name, title and affiliation. Abstracts should be sent to vergakia@tcd.ie

Deadline to send the abstracts: 01.09.2024;
Announcement of the accepted papers: 15.09.2024

The papers will be published in Dokuz Eylül University Press and therefore specific deadlines will be announced after the symposium ends for the preparation of the relevant articles.

For further information, please click on the link: Call for Papers:
Decoding Representations of Status in the Bronze Age Aegean — IIHSA
<https://www.iihsa.ie/news/call-for-papers-decoding-representations-of-status-in-the-bronze-age-aegean>.

Best wishes to all.

Dr Anastasia Vergaki

Assist. Director
IRISH INSTITUTE OF HELLENIC STUDIES AT ATHENS
Agras 23, Athens 11636, Greece
irishinstitute@gmail.com
Phone: (+30) 2108848074, (+30) 6988718100
Website: <http://www.iihsa.ie/>

Director: Joanne M.A. Murphy
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**WORKSHOP: PRACTICAL INTRODUCTION
TO MECHANICAL ANALYSIS OF
CULTURAL HERITAGE MATERIALS,
IMAGE PERMANENCE INSTITUTE,
ROCHESTER INSTITUTE OF TECHNOLOGY,
ROCHESTER, NY, OCTOBER 15-17, 2024**

3 full days - 9am-5pm each da)

Cost: \$675

Instructors: Marvin Cummings, Jacek Olender, and Emma Richardson

Audience

The target audience is conservation professionals new to mechanical analysis who wish to perform laboratory analysis or conservation professionals working in collaboration with heritage scientists and engineers wishing to equip themselves with a fundamental knowledge to inform discussions.

Workshop Details

This workshop will provide a theoretical and practical understanding of static mechanical analysis and dynamic mechanical analysis, with a view to characterizing the physical properties of heritage materials, and developing appropriate methodologies for conservation and preservation applications. Over the course of three days, participants will be introduced to the fundamental concepts of mechanical analysis and data analysis, and participate in practical laboratory sessions using tensile testers, dynamic mechanical (thermal) analysis, and dynamic mechanical (humidity) analysis. These sessions will be supplemented with case study examples from the field of conservation and preservation, providing tangible examples of how mechanical properties can inform the treatment, storage and display of objects, mechanical test method development, and test limitations.

The workshop will be limited to a maximum of 10 attendees. Registration per individual is \$675 and participants are responsible for their own travel, meals, and lodging costs. Registration ends September 15, 2024 or when the workshop is full.

Register online at: [Image Permanence Institute | Workshop: Practical Introduction to Mechanical Analysis of Cultural Heritage Materials](#)

**SARX2024 - THE XVII LATIN AMERICAN
CONFERENCE OF ANALYSIS BY X-RAY
TECHNIQUES, NOVEMBER 4TH TO 6TH, 2024,
RIO DE JANEIRO, BRAZIL
VII BRAZILIAN SCHOOL OF
ARCHAEOLOGY AND SCIENCES APPLIED
TO HERITAGE CONFERENCE (EBRARQ),
NOVEMBER 7TH AND 8TH, RIO DE JANEIRO,
BRAZIL**

Dear Colleagues,

Following a hiatus since 2018, we are delighted to announce the return of SARX2024 - the XVII Latin American Conference of Analysis by X-ray Techniques. The event will take place in Rio de Janeiro from November 4th to 6th, 2024 (Monday to Wednesday). Immediately succeeding SARX, we will host the VII Brazilian School of Archaeology and Sciences Applied to Heritage Conference (EBRARQ) on November 7th and 8th (Thursday and Friday).

The purpose of SARX2024 is to provide an international scientific platform for presenting and advancing the use of X-ray analytical techniques. It aims to foster networking and the exchange of expertise across the globe.

Simultaneously, EBRARQ aims to establish a dynamic discussion forum by bringing together students and experts from diverse fields to explore a broad spectrum of experimental techniques. These techniques are pivotal for understanding, restoring, and conserving cultural heritage assets.

Thus, we kindly invite you to seize this opportunity and take part in these two significant events to be hosted in Brazil. Engage with peers, expand your knowledge, and contribute to the advancements in our field.

For further details and updates, please visit our website: <https://sarxebrarq.com/>

For any contact: sarx.ebrarq2024@gmail.com

We look forward to welcoming you in Rio de Janeiro!

Best regards,

On behalf of the SARX/EBRARQ2024 Organizing Committee.

9TH PURPUREAE VESTES INTERNATIONAL
SYMPOSIUM - WEAVING TOGETHER
TRADITIONAL AND NEW APPROACHES TO
TEXTILE PRODUCTION AND
CONSUMPTION IN THE ANCIENT
MEDITERRANEAN AND BEYOND, 22ND – 24TH
OF OCTOBER 2025, LISBON, PORTUGAL,
FIRST CIRCULAR

Organizing Committee:

FRANCISCO B. GOMES (UNIARQ; School of Arts and Humanities of the University of Lisbon)
PAULA NABAIS (LAQV-Requimte; NOVA School of Science and Technology)
CATARINA COSTEIRA (UNIARQ; Municipality of Sintra)

Secretariat:

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LEYRE MORGADO-RONCAL (University of Granada – ES)
MARA SANTO (LAQV – Requimte; NOVA School of Science and Technology)

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STELLA SPANTIDAKI (ARTEX - GR)

Dear colleagues,

We are happy to announce that the 9th Purpureae Vestes International Symposium will be held between **the 22nd and 24th of October 2025 in Lisbon**. This will be the first time in its 20+ years of history that the Symposium will come to Portugal, and we look forward to welcoming you all.

This edition will be co-organized by **UNIARQ – Centre for Archaeology of the University of Lisbon**, the **School of Arts and Humanities of the University of Lisbon**, the **LAQV-Requimte – Associated Laboratory for Green Chemistry – Network of Chemistry and Technology**, and the **NOVA School of Science and Technology**, with the institutional support of the **project TEXTLUS: The Economy of Textile Crafts in Roman Lusitania** (PID2022-136663NB-I00) and the **University of Granada**.

The theme of this edition reflects this collaboration between a research centre focused on archaeological research and a laboratory known for applying groundbreaking research methods to Heritage studies. Under the motto **‘Weaving Together Traditional and New Approaches to Textile Production and Consumption in the Ancient Mediterranean and Beyond’**, this new edition will explore and showcase the complementarity between, on the one hand, tested and tried, traditional approaches, and, on the other, innovative, interdisciplinary methods for the study of ancient textiles in the Mediterranean area and its surrounding regions.

The goal is to further cement the role of the *Purpureae Vestes* Symposia as a meeting place for researchers and practitioners hailing from different disciplinary, theoretical, and methodological backgrounds, and to reflect, as a community, on a common language to foster research and improve knowledge on ancient Mediterranean textiles in their social, cultural, and technological context.

After the summer, a **second circular** with information regarding the **Call for Papers** and the Symposium venue will be made available. In the meantime, remember to save the date! We look forward to meeting you in Lisbon next year.

CONFERENCE LANGUAGE: English

REGISTRATION FEES: €120 (includes coffee breaks and lunches)

VISITS AND EXCURSIONS: To be announced

POSTERS: The upcoming Call for Papers will include further information about the submission of poster proposals and expected poster formats.

CONTACT E-MAIL: purpureaevestelisbon@gmail.com

WEBSITE: <https://purpureaevestis.weebly.com/next-edition.html>

**EMBEDDED IN CLAY: IDENTITY AND
PERFORMANCE IN FIGURINES AND
CERAMIC OBJECTS FROM ANCIENT
SOCIETIES (ANCIENT NILE VALLEY,
EASTERN MEDITERRANEAN AND
WESTERN ASIA, C. 2000–1200 BC), 04-06
FEBRUARY 2025, PISA, ITALY,
CONFERENCE ANNOUNCEMENT AND CALL
FOR PAPERS**

Submission deadline for abstracts: 30 September

The P.I.P.E. project at the Universities of Pisa and Padova announces the international conference “Embedded in Clay: Identity and Performance in Figurines and Ceramic Objects from Ancient Societies”, and invites interested researchers to submit papers for the presentation. The conference will be held at the University of Pisa from 4 to 6 February 2025, and will bring together diverse methodological approaches used to understanding how identity and performance are expressed in ancient clay artefacts.

Historically neglected, the study of ancient clay figurines has developed considerably in recent years, in part through the application of methodologies used in ceramic studies. Researchers have employed a wide variety of approaches to tackle questions regarding the production methods, use, and social and economic systems connected to clay objects. While analysis on figurines has most often focused on their iconography and basic use, there is a growing acknowledgement that they had complex meanings with their own agency that require diverse interpretations.

From their creation to their final deposition, clay objects encapsulate various levels of identity (e.g. the identity of artefact itself, the identity of the maker, socio-cultural identity) and performance (e.g. the process of creation/production, their employment in daily life activities, in rituals, in social events or human interactions). On a surface level, we can examine what clay objects represent and provide a determination of their use. Their plastic nature, typological variety, and the diversity of their find contexts, however, allow us to also explore the hidden identities and traces of action that are embedded within the clay. Analysis of fingerprints and technological traces, for example, have made significant steps towards profiling the producers of clay figurines, their craft knowledge and skill, and the cognitive processes behind their creations. By examining manufacturing techniques we can explore the performative aspects of production, such as the gestures used in the forming and decoration of clay artefacts, which are associated with distinct groups and knowledge transmission. Ceramic petrography and geochemical analyses inform us about the selection and manipulation of raw materials, and, in turn, how the material properties may have influenced the choices of the producers, and therefore the final outcome of the object. Typological differences and diversity of

archaeological contexts further invite us to reflect on the evolving nature of the processes of identification and to (re)consider the degree of interaction between the worlds of the ‘producer’, ‘user’ and ‘owner’.

The conference will be split into two sessions, each with a round of discussion afterwards to facilitate collaboration and the generation of ideas in that field of study. A final round-table will take place at the end of the conference to help build and develop strategies that all the participants will be able to use in their ongoing and future research.

The conference will explore the following research topics:

Session 1. Identity and performance in clay artefacts through the lens of archaeometry

Note: This session includes studies on clay objects (not only figurines) from various ancient societies (Ancient Nile Valley, Eastern Mediterranean and Western Asia):

Study of raw materials (e.g. ceramic petrography and geochemical analyses: pXRF, SEM-EDS, NAA etc.), residue analysis

Analysis of manufacturing techniques and operational chains (chaînes opératoires)

Use-wear and break patterns

Session 2. Identity and performance in clay artefacts through the lens of archaeology:

Note: this session focuses more specifically on clay figurines from the Nile Valley

Analysis of archaeological contexts (funerary, cultic, domestic, production) and their implications for exploring identity and performance (e.g. identifying the owners, users and social contexts of clay figurines; examining the acts of burial, deposition or discard)

Typological classification of clay figurines (anthropomorphic and zoomorphic), studies of human/animal embodiment and abstraction processes (e.g. how a being materialises into a recognisable figure to its audience)

Analysis of the symbolism of the different forms of figurines and the rituality of its performance at different stages of its life (creation, (re)use, and disposal).

Please note that, although the PIPE Project has a focus on ancient clay figurines from the Nile Valley, we will incorporate comparative strands of research in the conference and therefore encourage applications from speakers who are addressing similar research questions for other types of clay objects and/or from other ancient societies (Eastern Mediterranean and Western Asia).

Guidelines for abstracts:

Please provide the author's name, affiliation and a short 200-300 word abstract.

Deadlines and dates:

Abstract submission: 30 September

Notification of acceptance: 20 October

Article submission for proceedings: October 2025

Contacts and Further Information:

For further information about the conference and to submit your abstract, please email: pipe.project.prin@gmail.com

Project PIPE – “Profiling the Identity of the Producers in ancient Egypt and Nubia through the “aura” of clay figurines" (PRIN2022 PNRR, PI: Prof. Gianluca Miniaci),
University of Pisa,
<https://nam04.safelinks.protection.outlook.com/?url=https%3A%2F%2Fprinproject.wixsite.com%2Fpipe-project&data=05%7C02%7Cagade%40list.vanderbilt.edu%7C36e116d95d6449c87b7108dcacbc425%7Cba5a7f39e3be4ab3b45067fa80faead%7C0%7C0%7C638575173676084523%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6IjEhaWwiLCJXVCI6Mn0%3D%7C0%7C%7C%7C&sdata=KWckssllbrvtErj1ORFwzJ%2FNlosfIFXfb9KWnC6jGmE%3D&reserved=0>

Conference organised by:

Gianluca Miniaci, Massimo Vidale, Vanessa Forte, Georgia Long, Hannah Page, Beatriz Noria-Serrano

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –
JOB VACANCIES/FELLOWSHIPS

FUNDED PHD OPPORTUNITY AT QUEEN'S
UNIVERSITY BELFAST

The 14CHRONO radiocarbon laboratory, Queen's University Belfast, are advertising for a PhD position that examines how effective different chemical and thermal pretreatment methods are in the removal of consolidants/treatments that have been applied to typical museum artefacts of wood, bone. These consolidants/treatments, if incompletely removed distort the accuracy of radiocarbon dating estimations. As such, understanding how effective existing pretreatments are, as well as developing new techniques, is critical to accessing the wealth of chronological information that exists in cultural heritage collections. It is also vital to future conservation studies in relation to identifying potential consolidants that leave permanent, irremovable or irreversible effects on the wealth of chronological and isotopic information stored in these artefacts. The 14CHRONO welcome applications from candidates with natural sciences or a conservation related qualifications (more complete detail on the project can be found in the link below).

[Investigating the Effectiveness of Chemical and Thermal Treatment Methods in the Radiocarbon Dating of Consolidated Museum Artefacts | PhD Opportunities | Queen's University Belfast \(qub.ac.uk\)](#)

Shannon Campbell
Objects Conservator
National Museums Northern Ireland
Holywood

THE BRITISH MUSEUM - VACANCY FOR HORSEPOWER METAL POSTDOCTORAL RESEARCHER ROLE SUMMARY

Salary: £33,803 per annum

Location: Bloomsbury

Horsepower Metal Postdoctoral Researcher

Scientific Research

Full-time (41 hours per week)

Fixed term (until 30 September 2028)

£33,803 per annum/ pro rata

Application deadline: 12pm (midday) on Wednesday 31 July 2024

About the role:

The role will focus on the scientific examination and analysis of metal objects in line with the aims of the Horsepower project and to take a role in the preparation of publications and project outreach. Horsepower is ERC-UKRI co-funded project to examine the rise of early states in China and Mongolia through the flow of horses and metals. This is a six-year ten-million-euro synergy project between the University of Oxford, University of Toulouse France, Leibniz Institute of Archaeology Germany and BM, starting from May 2023. BM is responsible for chemical and isotopic chemistry of the bronze objects from both museum collections and excavations, as well as chronological reconstruction for the whole project.

Key areas of responsibility:

To undertake compositional analysis of metal objects, primarily those made of copper-based alloys.

To determine the provenance, flow, recycling, and manufacturing technology of the metal objects according to research goals and priorities.

To sample various archaeological sites in Mongolia, China and other related regions for metal artefacts and related remains to be analysed.

To critically evaluate the existing modelling methods for used in the interpretation of metal compositions and produce new statistical modelling for the potential mixing and recycling of metal objects and high-quality reports including data visualisation and statistical analysis.

About you:

PhD research in a relevant subject including archaeological science, material sciences, analytical science, computer science

Experience in archaeometallurgy

Proficiency in modelling complex data

Research and publication

Open, effective communicator with good spoken and written English

Ability to work as part of an interdisciplinary team but to lead on key aspects of role

Archaeological Fieldwork experience (Desirable)

Experience in modelling complex data, either spatial or temporal (Desirable)

About the British Museum:

Founded in 1753, the British Museum's remarkable collection spans over two million years of human history and culture. The Museum is a leading visitor attraction, and its world-famous collection includes the Rosetta Stone, Egyptian mummies, the Sutton-Hoo finds, and the Lewis Chessmen. The Museum also holds an extensive collection of prints and drawings spanning 600 years, including works by the greatest graphic artists Dürer, Michelangelo and Rembrandt.

You can view a selection of our impressive collection of prints and drawings in our [virtual gallery](#).

The Museum offers a competitive benefits package including:

Generous annual leave allowance of 25 days (rising to 30 days after 10 years' service) plus 2.5 privilege days and plus bank holidays.

Membership of the civil service defined benefit pension scheme (find out [here](#) what benefits a civil service pension provides).

Free entry to a wide range of museums and exhibitions

Participation in private and public Museum activities, including talks by leading curators from around the world and behind-the-scenes opportunities to learn how museums care for and manage their extraordinary collections.

Interest-free travel, bicycle, and rental deposit loans

Professional and personal development opportunities

Employee Assistance Programme

Discounts on food and gift shop purchases

Additional details:

For more information about this role, please see the job description.

If you have any additional needs that we should be aware of to support you with your application, please provide details to bmrecruit@britishmuseum.org.

We have a legal responsibility to ensure that employees have the right to work in the UK. If you currently do not hold the right to work in the UK, we can only sponsor a limited number of roles that meet eligibility criteria. To offer a sponsorship, the job role you apply needs to be in the list of eligible occupations: <https://www.gov.uk/government/publications/skilled-worker-visa-eligible-occupations>. Additionally (with some limited exceptions), the role will need to meet the minimum salary threshold of £38,700 or the going rate for the job, whichever is the highest. You can find more information here: <https://www.gov.uk/skilled-worker-visa/your-job>

The British Museum is committed to promoting equality of opportunity for all staff and job applicants. We aim to create a working environment in which all individuals can make best use of their skills, free from unlawful discrimination or harassment. We value the benefits that a diverse workforce brings to a museum which represents world culture. The Museum is committed to ensuring that no job applicant suffers unlawful discrimination because of any protected characteristics. Our recruitment procedures aim

to ensure that individuals are treated because of their relevant knowledge, skills, and experience.

Please visit the site:

https://bmrecruit.ciphr-irecruit.com/templates/CIPHR/jobdetail_7500.aspx

ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS
REGISTRATION FOR IAMS SUMMER
SCHOOL 2024 IN NICOSIA, CYPRUS NOW
OPEN

Dear All,

I am happy to announce that the registration for the IAMS Summer School 2024 in Nicosia, Cyprus is now open: <https://iams.cyi.ac.cy/about-summer-school-2024>

This year, we will focus on the archaeometallurgy of Western Eurasia, through a combination of seminars, hands-on handling sessions, lab experience, and a one-day trip to see the mining and metallurgical heritage of the Troodos.

The registration fee of €250 includes all tuition and the one-day bus tour; an additional €50 covers coffee and lunches for the week Monday to Friday.

Please note that the Summer School (Monday 9 to Saturday 14 September) still falls in the tourist season: it is advisable to book flights and accommodation early to secure good deals. The best airport is Larnaka (LCA), which is less than an hour by bus from Nicosia; Paphos (PFO) is about a two-hour drive.

Places are limited, and we recommend early registration to avoid disappointment!

Looking forward to welcoming you later this autumn,

Thilo, Miljana and Meghna

Dr.-Ing. habil. Thilo Rehren FSA
A. G. Leventis Professor in Archaeological Sciences
The Cyprus Institute
Nicosia, Cyprus

Co-EiC [Encyclopedia of Archaeology, 2nd ed](#) (Elsevier, 2024)

<https://www.cyi.ac.cy/>
<https://leventis-chair.cyi.ac.cy/>
Th.Rehren@cyi.ac.cy
<https://cyi.academia.edu/ThiloRehren>

THE LINCOLN CONSERVATION TEAM **ONLINE WEBINARS 2024-2025**

The Lincoln Conservation Team will be offering a series of free, interactive and informative Online Webinars through 2024-2025. Each session is about 1 hour in length, with ten minutes dedicated to Q&A's.

We are hosting a range of free webinars in 2024-2025. Please see below for the topics, dates and how to register.

If you are interested in the Lincoln Conservation team hosting a private online webinar for a group of colleagues or for the firm/organisation you work for, please get in touch at info@lincolnconservation.co.uk to arrange this separately. To be the first to hear about future Online Webinars, please [sign up to our mailing list here](#).

Many of our webinars have counted towards Architects' CPD points.

Planned webinars for 2024-2025

17.07.2024 *Climate Change Risk Assessment for heritage sites and properties*. [Register here](#)

10.09.2024 *Historic Wallpaper*. [Register here](#)

23.09.2024 *"Former Glory" – Architectural Paint / Finishes Research*. [Register here](#)

08.10.2024 *Conservation awareness on site*. [Register here](#)

26.11.2024 *Digital Heritage and Historic Objects*. [Register here](#)

10.12.2024 *Conservation A - Z: Understanding conservation terminology*. [Register here](#)

15.01.2025 *Digital Heritage and the built environment*. [Register here](#)

26.02.2025 *Easel painting conservation: an introduction*. [Register here](#)

Please visit the site: [https://www.lincolnconservation.co.uk/training/online-](https://www.lincolnconservation.co.uk/training/online-webinars-)
[webinars-](#)

[2020/?fbclid=IwZXh0bgNhZW0CMTEAAR2llcM_naShFIRO7EOt57hIjaEOrT2w2VS0EnibKnaV5GMrRv4MvRKg7Ls_aem_DEE3fptHsS17xXEPRXR9JQ](https://www.lincolnconservation.co.uk/training/online-webinars-2020/?fbclid=IwZXh0bgNhZW0CMTEAAR2llcM_naShFIRO7EOt57hIjaEOrT2w2VS0EnibKnaV5GMrRv4MvRKg7Ls_aem_DEE3fptHsS17xXEPRXR9JQ)

**CELEBRATING 50 YEARS – THE MARC ANS
ISMENE FITCH LABORATORY FOR
ARCHAEOLOGICAL SCIENCES, WOLFSON
ROOM, BRITISH ACADEMY, LONDON, 24
OCTOBER 2024**

We are delighted to announce that we will be celebrating 50 years of the Marc and Ismene Fitch Laboratory for Archaeological Science with a series of events kicking off in London at the British Academy!

Please Save the Date: 24th October 2024

Event: Timeless Connections: Linking Britain and Greece through Archaeological Science

Location: The British Academy, London

Time: 18:30 - 21:00

This year marks the 50th anniversary of the Fitch Laboratory, and we are thrilled to commemorate this milestone with an evening of engaging talks and a celebratory reception. The event will highlight the significant impact the laboratory has had over the past five decades, its future aspirations, and the pivotal role it has played in connecting Britain and Greece through archaeological science.

Speakers for the Evening:

Evangelia Kiriati - Director of the Fitch Laboratory

Maria Duggan - Newcastle University (BSA/British Academy Post Doctoral Fellowship 2018-2020)

Cyprian Broodbank - Vice President of the BIRIs, University of Cambridge

Chair: Carl Heron - Head of the Fitch Committee, British Museum

Please mark your calendars for this special event. Registration will open in September, and we look forward to welcoming you for an evening of reflection, discussion, and celebration.

Warm regards,

The Fitch Laboratory team

Carlotta Gardner

Fitch 2024 Research and Outreach Officer

British School at Athens

Souedias 52 | 10676 Athens | Greece

E: c.gardner@bsa.ac.uk



ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

**WHAT DO PHYTOLITHS FROM POTTERY
COOKING VESSELS REPRESENT? INSIGHTS
FROM NEOLITHIC STAVROUPOLI**

(NORTHERN GREECE),

**BY CARLOS G. SANTIAGO-MARRERO,
MARIANNA LYMPERAKI, DUSHKA UREM-
KOTSOU, STAVROS KOTSOS, JUAN JOSÉ
GARCÍA-GRANERO**

Journal of Archaeological Science: Reports

Volume 57, 2024, 104679

<https://doi.org/10.1016/j.jasrep.2024.104679>

Abstract

The analysis of charred food crust from cooking vessels offers an opportunity to recover and study residues originating from culinary practices, such as phytoliths from cereal-based meals or other plant ingredients, serving as direct evidence of past food preparation and consumption activities. However, the presence of charred food crusts is sporadic in archaeological records, making it challenging to rely solely on them to reconstruct past culinary practices through phytolith analysis. Valuable dietary evidence has also been obtained through the analysis of phytoliths in the sediment adhering to the porous surfaces of ceramic cooking vessels and utensils. However, without the contextual certainty provided by the charred food crust, determining whether the phytoliths recovered from attached sediments represent culinary practices remains a complex task. This paper explores the utility of phytoliths extracted from the sediment attached to the inner walls of cooking vessels for understanding past culinary practices. For this task, phytolith assemblages recovered from charred food crust and the sediment attached to the inner walls of cooking vessels from Neolithic Stavroupoli (ca. 5400–5000 cal. BC) were contrasted to evaluate the similarity between the two assemblages. While this study primarily demonstrates the statistical variation in phytolith assemblages from two distinct sources, the findings offer valuable insights into the feasibility and interpretative value of using phytolith analysis on sediments adhering to cooking vessels to gain insights into past culinary practices, especially in cases where direct food residues, such as charred food crust, are absent.

Please visit the site:

<https://www.sciencedirect.com/science/article/pii/S2352409X24003079>

**BEYOND THE SUM: EVALUATING THE
POTENTIAL AND LIMITATIONS OF
ANALYSING NEOLITHIC POPULATION
DYNAMICS BASED ON FLUCTUATIONS IN
RADIOCARBON DATES AND SITES
(SCHELDT BASIN, NORTHERN FRANCE AND
BELGIUM), BY VAN MALDEGEM E.,
LAURYSSSEN F., SMOLDERS E., AND
CROMBÉ P.**

Documenta Praehistorica, (2024). 51, 2-26.

<https://doi.org/10.4312/dp.51.14>

Abstract

This study presents a multiproxy palaeodemographic perspective by combining radiocarbon dates with counts of archaeological site phases in the western Scheldt basin, spanning from the beginning of the Neolithic to the Early Bronze Age. The results were assessed critically, accounting for differences in research methodology, soil conditions and changes in building traditions. The results indicate a dynamic region characterized by almost continual growth. Moreover, two distinct sub-regions of the basin could be compared, thereby elucidating the sub-regional differences. It is clear that palaeodemographic studies are only feasible when a multiproxy analysis is used on a detailed, highly scrutinized dataset.

Keywords: radiocarbon data, site count data, palaeodemographical dynamics, Neolithic period, Bronze Age

Please visit the site:

<https://journals.uni-lj.si/DocumentaPraehistorica/article/view/18622>

**NANO-MICRO CRYSTALS REVEALED ON
TANG DYNASTY GILDED BRONZES USING
ADVANCED TEM-SEM AND SYNCHROTRON
METHODS BY IOANNIS LIRITZIS, SOPHIE
CAZOTTES, THIERRY DOUILLARD,
MURIEL VERON, JOSEP ROQUE, C. MARINI,
PARTHA PRATIM DAS, ALEJANDRO
GÓMEZ-PÉREZ, ATHANASSIOS S. GALANIS,
STAVROS NICOLOPOULOS, PANAGIOTA
MANTI, JUNCHANG YANG AND XIANGYU
ZHANG**

Nanoscale, 2024

<https://doi.org/10.1039/D4NR02030H>

Abstract

Over the years, numerous gold and silver artifacts were excavated from tombs of the Tang Dynasty which gave evidence of the sophisticated metalworking techniques at that time. Few of the artifacts were thoroughly studied and their manufacturing processes were barely known. The present investigation concerns a metal headgear from a newly excavated female tomb in Xi'an of the Tang dynasty tomb (618-907 A.D.), using advanced techniques in a complementary way, especially performing a detailed analysis of the corrosion products and alloying processes. The combined state of the art methods and instrumentation used for the corrosion study included spectroscopy, diffraction, electron microscopy, synchrotron and their versions for specific measurements and sample preparation. The investigated headgear metal consists of a copper-based core which was gilded by a thin gold layer, consisting of an Au-Hg alloy with a thin layer of about 400 nm. The technique used for shaping and the hammered embellishments led to the creation of nanosized grains on the side that would eventually be the interior of the headgear. It was gilded through the mercury-amalgam process, and the liquid diffusion caused the development of intermetallic compounds. This is the first recorded instance of these nano-scale and eutectic phases being observed on objects from an archaeological context. The crystallographic analysis offered valuable insights into the formation of needle-like malachite crystals growing on a layer of cuprite found on the surface of the corroded piece. The results highlight that the artisans utilized advanced methods in the creation of funerary items during the Tang Dynasty.

**A COMMUNITY OF PRACTICE APPROACH
TO THE MANAGEMENT OF METAL
RESOURCES, METALWORKING AND
HOARDING IN BRONZE AGE SOCIETIES,
BY VANA ORFANOU, CAROLINE BRUYÈRE,
ANDREAS G. KARYDAS, DRAGAN
JOVANOVIĆ, FILIP FRANKOVIĆ, MILOŠ
SPASIĆ, JOVAN KOLEDIN, DRAGAN
JACANOVIĆ, MOMIR CEROVIĆ, JASMINA
DAVIDOVIĆ & BARRY MOLLOY**

Sci Rep **14**, 16153 (2024).

<https://doi.org/10.1038/s41598-024-65798-4>

Abstract

The burial of metals in hoards is a trademark phenomenon of prehistoric Europe that may be counterintuitive to perceptions of value nowadays. For the first time here, we establish detailed biographies of a large corpus of hoarded metal objects, providing new insights into how societies in the second millennium BC engaged with their convertible material wealth. We move beyond previous research on prehistoric hoarding commonly focussing on separate questions such as what was placed in hoards, who selected the objects, what were the origins of materials, and where and when they were buried. Analysing *ca.* 200 metal tools and weapons, we use data reduction methods to define technological pathways in the long biographies of hoarded objects extending across the sourcing of materials, production, use, decommissioning, and deposition in the Carpathian Basin. We show how the differential treatment of materials and objects was strongly biased by social decisions across artefact types. We identify shared, standardised signature treatments that crossed over social-spatial boundaries. Our findings bring new insights on the interface between communal and elite wealth management at the intersection of technological reasoning and cultural beliefs in prehistoric communities.

Please visit the site: <https://www.nature.com/articles/s41598-024-65798-4>

**MULTI-ANALYTICAL INVESTIGATION OF
HISTORIC MORTARS TECHNOLOGY FROM
WATER CISTERNS AT VRYOKASTRO,
KYTHNOS, GREECE,
BY PAPOUTSAKI A, FACORELLIS Y,
KARATASIOS I, BOYATZIS S, STEFANIS A
AND MAZARAKIS AINIAN A.**

Open Access Journal of Archaeology and Anthropology 5(4): 2024.
OAJAA.MS.ID.000618. DOI: 10.33552/OAJAA.2024.05.000618

Abstract

The present study concerns the technological characterization of mortar samples originating from water supply cisterns at the ancient site of Vryokastro on Kythnos island, Greece, in order to investigate the raw materials that were used for their production and the consequent microstructural and performance characteristics of the mortars. Understanding these characteristics is vital for safeguarding the site's heritage and guiding conservation strategies. Powdered and freshly fractured samples as well as polished sections were studied to determine the chemical and mineralogical composition of the mortars using various analytical techniques: Optical Microscopy (OM), Scanning Electron Microscopy with micro-analyzer (SEM/EDS) and X-ray diffraction (XRD). Furthermore, grain size analysis, Differential Thermal Analysis (TG/DTA), Fourier Transform Infrared Spectroscopy (FTIR) and Mercury Intrusion Porosimetry (MIP) were also conducted. The results of the analyses indicate that the samples from Vryokastro site contain both air-hardening and hydraulic mortars, containing well-graded natural aggregates.

Keywords: Archaeological mortars, Ancient cisterns, Vryokastro archaeological site, Kythnos, Multi-analytical techniques

Please visit the site: <https://irispublishers.com/oajaa/special-issue.php>

EΙΔΗΣΕΙΣ - NEWS RELEASE

ITALIANS DISCOVER 4,000-YEAR-OLD TEMPLE ON CYPRUS, BY SILVIA LAMBERTUCCI

'Oldest ever found on island' says Bombardieri of Siena uni

Lights and shade alternating in a large dark room, the tongues of fire of a brazier lighting up, day and night, the smooth, dark stone of a colossal monolith.

While in the other parts of the great workshop, dozens of people are at work spindling, weaving and dyeing textiles to be traded with all the then known world.

Discovered by an Italian mission, the Erimi Archaeological Project of the University of Siena, a temple from 4,000 years ago is re-emerging on Cyprus.

"It's the oldest sacred space ever found on the island," archaeologist Luca Bombardieri tells ANSA in a sneak preview.

He has been leading the digs for 15 years, carried out in collaboration with the Department of Antiquities of Cyprus and the ministry of foreign affairs and international cooperation.

It is, in fact, a sort of 'temple before a temple', a place for the holy set out inside the working environment, which sheds fresh light on the extraordinarily well-articulated and 'modern' life of this community of artisans who lived four millennia before us, just a few centuries before the first cities were born on the island in the heart of the Mediterranean. But that's not all.

Among the novelties of the latest fortunate excavation campaign, there is also a cold case pregnant with disquieting mystery: the remains of a young woman killed and walled up at home, perhaps so that her ghost would not come back and disturb the living.

The femicide "may be linked to other cases recorded in the past in other parts of Cyprus," says the archaeologist.

The victims were always young women. Killed and separated from their communities, held far from even the dead, the expert thinks, "perhaps for issues linked to maternity".

The girl of Erimi was not more than 20 years old. Her killers smashed in her skull, with a lance or a rock. Then they laid her body on the ground, placing a heavy stone on her breast "as if to keep her still", says Bombardieri. There are no accompanying grave goods next to her, nothing that makes one think of a normal burial. The door of the small dwelling, on the other hand, was sealed with care, just like that of a tomb. We are in the Bronze Age, between 2000 and 1600 BCE.

With its over 1,000 square metres of workshops, warehouses and large dyeing vats, the Erimi atelier occupied the entire summit of a hill on the southern coast of Cyprus, not far from the modern city of Limassol. An ideal position for the activity that animated it, always well ventilated and a stone's throw from the fresh water of a river, with earth where plants grew spontaneously that served to dye the textiles that beautiful red colour that made them unique and precious.

A little farther down, huddled one against the other, there were the homes. Still farther down, at a due distance, the dead were buried, the richest in large chamber tombs filled with grave goods, and the poor in plain ditches.

The temple was in the innermost part of the atelier and in order to get to it you had to go through the working sections. But here, with respect to the rooms in which people were busy with spindles and looms, the atmosphere must have been very different, with the monolith, over two metres tall, which stood proud in the centre of the room. In front of the stone there were just the brazier and a large amphora, full of water perhaps, which, Bombardieri reckons, must have been used for the rituals linked to the cult. It is not clear if there was a full-blown priest, he explains, and it is likely that the ones guaranteeing the link with the divinity was the same person or group of people who led the productive activities and the whole community. A clan whose importance has been found in one of the richest tombs of the necropolis, immediately outside the tall ring of stone and wooden walls which, at least in the final phase of its history, protected the village from enemy attacks and at the same time exalted its importance, making it visible from land and sea.

Thanks to those wine-coloured textiles, Erimi had grown in fame and power. And perhaps, who knows, together with the new wealth, enemies also came, internal and external. The fact remains that its history suddenly ends, the village is abandoned and the atelier sealed off with all its precious trove of objects, including the temple with its monolith. A fire, perhaps set off by the fleeing villagers, brings its roof crashing down. And paradoxically, it is the very act of abandonment that hands down the adventurous story of these skilled weavers.

"The collapse of the structure, sealing off those remains, has enabled us archaeologists to rediscover them after four thousand years," says Bombardieri.

And to tell the story of an exceptional community and a village that had almost become a city.

And who knows if the next digs won't help us understand more about the mystery of the murdered maiden and the others, at least 15, who more or less in the same time, in various parts of the island, seem to have shared her fate.

Please visit the site: <https://tinyurl.com/mr3wk3kt> [Go there for pix]

DIVERS EXPLORING ANCIENT SHIPWRECK WHERE HUMAN REMAINS WERE FOUND OFF GREECE DISCOVER SECOND WRECK, NEW TREASURES, BY STEPHEN SMITH

A new survey of an iconic ancient shipwreck off the coast of Greece has revealed new treasures — and the remains of a second sunken vessel — more than 2,000 years after it plunged to the bottom of the Aegean Sea.

During a recent expedition at the site of the Antikythera shipwreck, marine archaeologists uncovered about 300 new objects, including 18 marble statue fragments, a previously undiscovered part of the vessel's hull and the remains of a wooden ship that was "beneath the crushed cargo it was carrying," the Greek Ministry of Culture announced last week.

The Antikythera shipwreck, which dates to the 1st century BC, was originally discovered in the Aegean Sea by sponge divers in 1900. In the decades since, researchers have tried to identify human remains found in the wreck, as well as learn more details about the mysterious fate of the Roman-era ship.

The most recent survey, conducted from May 17 to June 20, revealed the wreckage of a second ship and new artworks, which scientists said triggered brand new questions.

"Was there only one ship involved in this ancient maritime tragedy? How exactly did the wreck happen? Did the human remains recovered in recent years belong to passengers or crew members?" the ministry wrote in a news release, which included seven images from the expedition.

The archaeologists, aided by exceptionally good weather conditions, were able to study two sites, Area A and Area B, which are more than 600 feet apart and over 150 feet below the water's surface. Researchers said "the most important find" in Area A was a previously unseen part of the ship's hull that combines important nautical features, including wooden planks and copper pins, which confirmed the exact orientation of the ancient ship.

The video player is currently playing an ad. You can skip the ad in 5 sec with a mouse or keyboard

"Through the ongoing comparative study of data, the question arises whether more than one ship sank during the same event in Antikythera," the ministry said.

In Area B, archaeologists discovered pottery very similar to that recovered over the decades from the main wreck site — and further excavation confirmed the presence of the remains of a wooden ship, found under its crushed cargo.

At both sites, divers found marble fragments from sculptures, including several marble fingers, a part of a palm, and fragments of clothing. Researchers were able to determine that all the fragments were parts of different statues.

Divers also uncovered more than 200 ceramic fragments, including an oil lamp, a two-handled vase and table pottery.

The recent expedition, led by Angeliki G. Simosi and Lorenz Baumer, was part of the Swiss School of Archaeology in Greece's (ESAG) 2021-2025 research program, the ministry said. The site is perhaps most famous for the discovery of the Antikythera mechanism, a mysterious device with interlocking gears that appears to be an "astronomical calculation machine of immense complexity," according to Scientific American. It is often referred to as the world's oldest analog computer.

Countless shipwrecks are scattered off the coast of Greece. Earlier this year, Greek researchers using Homer's "Iliad" as a guide announced they found 10 shipwrecks, including one estimated to be more than 5,000 years old and another from the World War II era.

Please visit the site: <https://www.cbsnews.com/news/antikythera-shipwreck-greece-divers-find-second-wreck-new-treasures/> [Go there for pix]

THE 1,500-YEAR-OLD LADY’S SANDALS **WITH SWEET MESSAGE IN GREEK,** **BY TASOS KOKKINIDIS**

The ancient sandals were discovered almost intact in the Istanbul dig. Credit: Twitter/@NkayaMuhittin

A pair of 1,500-year-old lady’s sandals with a sweet message in Greek was discovered during a dig in Istanbul. The sandals have become one of the major attractions of the city’s archaeological museum.

There is a message in Greek on them which reads: “Use in health, lady, wear in beauty and happiness.”

The astonishing find was discovered during digs prompted by the Marmaray project, the undersea railway tunnel connecting the Asian and European sides of Istanbul under the Bosphorus.

The excavations, which started in 2004, have revealed new historical aspects of Constantinople, the capital of the Byzantine Empire. Some sixty thousand artifacts, unearthed over a span of around nine years, are being preserved in the Istanbul Archeological Museum until a special museum is built to house them, the Turkish newspaper Daily Sabah reports.

The Byzantine Empire was the continuation of the Roman Empire in its eastern provinces during Late Antiquity and the Middle Ages. It survived the fragmentation and fall of the Western Roman Empire in the fifth century AD and continued to exist for another thousand years until it fell to the Ottoman Empire in 1453. During most of its existence, the Empire was the most powerful economic, cultural, and military force in Europe.

Sandals belonged to a Greek woman

Scientists say the sandals discovered are more than 1,500 years old, and they belonged to a woman. The Byzantines loved color and patterns, and they made and exported very richly patterned cloth, especially Byzantine silk, which was woven and embroidered for the upper classes and resist-dyed and printed for the lower.

Modesty was important for all, and most women appeared to be almost entirely covered by rather shapeless clothes. There has been a considerable amount of footwear recovered in this excavation project, with sandals, slippers, and boots to the mid-calf, commonly seen in manuscript illustrations, which were also found in the dig. Many of the items are richly decorated in various ways.

The color red, reserved for Imperial use in male footwear, is actually by far the most common color for women’s shoes. Purses are rarely found and seem to have been made of textile matching the dress or perhaps tucked into the sash.

Istanbul excavations reveal gems from Byzantine Empire

The excavations have found the first traces of civilizations from different periods, including the skeletons of the first Istanbulites. Other finds included 8,500-year-old footprints; the Harbor of Eleutherios (Theodosius), a port known in world literature—no traces of which had been found previously; and the world’s largest medieval sunken ship collection. In addition, there were sixty thousand animal bones of fifty-seven species, along with plant fossils.

The Harbor of Eleutherios, which was one of the ports of ancient Constantinople, is located beneath the modern Yenikapi neighborhood of Istanbul. It was built at the mouth of the Lycus River, which ran through the city to the Propontis.

The harbor was built in the late fourth century, during the reign of Theodosius I and was the city’s major point of trade in Late Antiquity. It continued to be used until the eleventh century. Silt from the Lycus eventually filled the harbor entirely, and the area was later transformed for agricultural use due to the effects of upstream erosion and deposition. In Ottoman times, the area was entirely built over.

In November 2005, workers on the Marmaray project discovered the silted-up remains of the harbor. Excavations produced evidence of the fourth-century Portus Theodosiacus. There, archaeologists uncovered traces of the city wall of Constantine the Great, and the remains of over thirty-five Byzantine ships from the seventh to tenth centuries, including several Byzantine galleys, remains of which had never before been found.

Furthermore, the excavation has uncovered the oldest evidence of settlement in Constantinople, with artifacts, including amphorae, pottery fragments, shells, pieces of bone, horse skulls, and nine human skulls found in a bag, dating back to 6000 BC.

Please visit the site: <https://greekreporter.com/2024/07/08/1500-year-old-sandals-greek/> [Go there for pix]

THE OLDEST MAP OF THE KNOWN WORLD **IS FILLED WITH MONSTERS AND** **MYSTERY, BY TOM HALE**

The Babylonian Map of the World features a strange land “where the Sun is not seen.”

Imago Mundi, also known as the “Babylonian Map of the World,” is often said to be the oldest map of the known world ever found. Granted, it isn’t as scientifically accurate as Google Maps, nor as gloriously illustrated as cartography from Medieval times, but it does provide a unique glimpse into the way ancient Babylonians saw themselves and the world around them.

It was likely crafted between 2,600 to 2,900 years ago, a time when the Neo-Babylonian Empire was leading the world in architecture, culture, mathematics, and early forays into science.

The rediscovery of the map in the 19th century is almost as mysterious as the object itself. As per Encyclopedia Britannica, the artifact was discovered by Hormuzd Rassam, a renowned archaeologist who excavated some of the finest Assyrian and Babylonian antiquities ever recovered, including the tablets that contained the Epic of Gilgamesh, the world's oldest piece of literature.

The Babylonian Map of the World was found in a box related to Rassam’s 1881 excavation at Sippar in present-day Iraq around 40 kilometers (25 miles) southwest of modern Baghdad. However, some believe it may have originally been discovered in Borsippa, another ancient city located about 115 kilometers (70 miles) south of Baghdad. It's currently in the possession of the British Museum in London.

The cracked tablet measures 12.2 by 8.2 centimeters (4.8 by 3.2 inches) and features a circular map alongside pieces of text written in cuneiform. Given its fractured state, some information is missing from the artifact, although decades of scholarly study have managed to piece together much of its contents.

The map depicts Mesopotamia, a historical region in the Middle East often referred to as the “cradle of civilization” because it hosted several prominent civilizations and cultures throughout ancient history, including the Babylonians and Assyrians.

Most believe the city of Babylon is shown in a rectangle strip near the top of the inside of the map (labeled 13 in the illustration above). Parallel lines cut through this rectangle from top to bottom, appearing to represent the Euphrates River. The famous river originates from mountains in the north, passes through Babylon, and then leads into an area of swampy outflow in the south.

We can also find the location of numerous other cities and kingdoms, including Assyria, Der, and Urartu, according to a 1988 paper. All of these settlements are enclosed with a near-perfect circular band that represents “Bitter Water” or “Bitter River,” usually translated as the ocean.

At the top of the map beyond the ocean, it's labeled as a place "where the Sun is not seen." Perhaps they believed this was a land of everlasting darkness, just like the strange spaces described in the Epic of Gilgamesh, or maybe this is a cryptic comment about the movement of the Sun.

Part of the text alludes to different monsters and fantastic creatures that live in the different regions, including a winged horse, a great sea serpent, a scorpion-man, and a bull-man. There are also mentions of less surprising beasts, like gazelle, panthers, deer, monkeys, ibex, water buffalo, and wolves.

Human characters inhabit the map too. The text alludes to several different people, including Utnapishtim, the legendary hero who survived the Babylonian flood, and the first ruler of the Akkadian Empire, Sargon.

If you were attempting to navigate West Asia today, it's safe to say that the Babylonian Map of the World would be pretty useless – the mention of mythical animals would certainly be misleading. However, as a historical document, the object holds many intriguing insights into the dominance of the Neo-Babylonian Empire at the time of its creation.

In the words of British Museum expert Dr Irving Finkel, Babylon is depicted as "awesomely vast in comparison with the other cities on the map", showing that "the map's content undoubtedly reflects Babylon as the center of the world."

Please visit the site: <https://www.iflscience.com/the-oldest-map-of-the-known-world-is-filled-with-monsters-and-mystery-74917> [Go there for map & fig]

ARCHAEOLOGISTS FIND ROMAN DEFENSIVE WALL BUILT TO TRAP SPARTACUS

A team of archaeologists, led by Dr. Paolo Visona of the University of Kentucky, have discovered a Roman defensive wall built to trap Spartacus in south-central Calabria, southern Italy.

Most historical accounts of Spartacus comes from the writings of Plutarch of Chaeronea (AD 46 – 119 AD) and Appian of Alexandria (AD 95 -165). According to their texts, Spartacus was an escaped slave and former gladiator, who led a major slave uprising against the Roman Republic.

The seeds of the uprising began in 73 BC, when Spartacus and a group of gladiators escaped a gladiatorial school (ludus) somewhere near Capua in the region of Campania. They roamed the surrounding countryside and freed slaves to swell their ranks, amassing an army of around 70,000 people.

The rebellion posed a significant challenge to Roman authority, forcing the Senate to send a force of eight legions led by Marcus Licinius Crassus. Spartacus' forces were defeated in 71 BC in the Senerchia region, which at that time was part of Lucania.

Plutarch and Appian both state that Spartacus died in battle, however, Appian also adds that the body was never found. In the aftermath of the revolt, 6,000 surviving rebels were crucified along the Appian Way, serving as a stark deterrent against any further thoughts of rebellion or sedition.

A recent study of the Dossone della Melia forest in south-central Calabria has uncovered a stone wall and earthwork extending over 2.7 km. Additionally, traces of a Roman fossa (defensive ditch) and an agger (double rampart or embankment) system have also been identified.

According to a statement by the Archaeological Institute of America: “The wall has now been conclusively identified as part of the structures built by the Roman general Marcus Licinius Crassus to contain the slave revolt leader Spartacus and his forces.”

Excavations have also unearthed numerous broken iron weapons, sword handles, large curved blades, javelin points, a spearhead, and other metal debris, indicating a pitched battle at the site between the Romans and Spartacus' forces to break free of the trap.

According to Dr. Visona:

“The discovery was made possible by a tip from a local group of environmentalists who knew of the wall's existence but were puzzled as to what it could be. The team investigated the wall and ditch using Ground-Penetrating Radar, LIDAR, magnetometry, and soil core sampling.”

Please visit the site: <https://www.heritagedaily.com/2024/06/archaeologists-find-roman-defensive-wall-built-to-trap-spartacus/152490> [Go there for pix]

UNPRECEDENTED NECROPOLIS SITE FOUND IN CAPPADOCIA, ONE OF TÜRKIYE’S MOST IMPORTANT TOURISM CENTERS, BY OGUZ BUYUKYILDIRIM

In Cappadocia, located in the Central Anatolia Region of Türkiye, known for its unique moon-like landscape, underground cities, cave churches, and houses carved into the rocks, an unprecedented archaeological discovery of a necropolis, unlike the distinctive rock-carved graves, was uncovered.

Excavations in the Central Anatolian province of Nevşehir began two years ago, following the closure of the region’s open-air museum due to archaeologists’ suspicions about potential new discoveries in the area.

Graves appear throughout Cappadocia’s cave churches. These are oval pits dug into the floors and walls of churches to bury dead saints. Graves were often part of the original design of the church. In such cases, an arched recess (acrosolium) was carved into the wall for the deceased’s body.

However, most graves were carved into the floor after the completion of the church. Occasionally, the geological landscape required graves to be outside the church. For example, Karabulut Kilise (Zemi Valley, Göreme) was carved into a singular fairy chimney; therefore its graves are around the outside. The unique “graveyard” near Deer Monastery (Geyikli Monastir, Soğanlı) is six fairy chimneys covered with acrosolia.

In front of the Tokalı Church (Buckle Church) in Cappadocia, a necropolis area without rock-carved graves was reached for the first time.

North Wall and Side Church of Tokalı Church (Buckle Church).

“Currently, in front of the Tokalı Church, for the first time in Goreme, we have reached a necropolis area that is not a rock-carved grave. The most recent discovery was a child’s grave with various artifacts. We will exhibit them in our Nevşehir Museum when the works are completed,” Cappadocia site head Birol İnceciköz stated.

“We came across various findings exactly as we predicted in the excavations. The cellar, kitchen and workshop areas of the Balkonlu Church located just above Tokalı Church, were uncovered,” said Birol İnceciköz.

Tokali Church is an enormous church crafted into the rock near the Göreme Open Air Museum. Because of its sheer size, impressive underground chapel, and ninth-century frescoes that depict the life of Christ, it is regarded as even more remarkable than the numerous other carved churches in the vicinity.

The road connecting the towns of Ortahisar and Göreme, built in 1956, was closed two years ago when a new road was commissioned. Excavation works, which began on the

old road, continue with consultation from the Art History Department of Nevşehir Hacı Bektaş Veli University.

Excavation work continues in the area.

“We know scientifically that the archaeological sites yield larger areas. We will reveal the area of Göreme Open Air Museum in a larger area and present it to visitors as an archaeopark,” İnceciköz said.

The excavation project is a part of the “Heritage for the Future” initiative, which includes the excavation in front of the Göreme Open Air Museum and the ancient city of Sobessos in Ürgüp.

The project plans to open an area in Göreme in 2025 and expand further in 2026. Additionally, Cappadocia authorities are actively combatting illegal construction in the region, having eliminated nearly 500 illegal structures to date.

İnceciköz highlighted the importance of preserving the region’s natural landscape and stated, “This region is very important. We are fighting against the elements that cause irreversible damage. Among our determinations, we identified 600 illegal structures. We have notified all relevant parties and have removed the first stage of these within the last 15 days.”

Please visit the site: <https://arkeonews.net/unprecedented-necropolis-site-found-in-cappadocia-one-of-turkiyes-most-important-tourism-centers/>

ARCHAEOLOGISTS DISCOVER ONE OF THE EARLIEST CHRISTIAN BUILDINGS IN BAHRAIN, BY KERRA MADDERN

Archaeologists have uncovered one of the earliest Christian buildings in the Arabian Gulf—the first physical evidence of a long-lost community.

Christianity today is not something usually associated with the Gulf, but the Church of the East, sometimes referred to as the Nestorian Church, thrived there until large-scale conversion to Islam began to occur after the religion was established in 610 CE.

Radiocarbon dating indicates the building, in Samahij, Bahrain, was occupied between the mid-4th and mid-8th centuries when it was abandoned after the population converted to Islam.

The excavations, by British and Bahraini archaeologists, under a mound in a village cemetery revealed a large building with eight rooms surviving. These included a kitchen, a refectory or dining room, a possible work room, and three living rooms. It had survived as it had a later mosque built on top of it.

It is possible that the building was the palace of the Bishop of the diocese of which Samahij was part, called Meshmahig or Mašmahig in the historical sources, and a corruption of "Samahij." Records indicate that the relationship between Meshmahig and the central church authorities was not always smooth, with a bishop there excommunicated in 410 and in the mid-7th century another bishop condemned for challenging the unity of the Church.

Previously, the handful of Christian buildings—churches, monasteries, residences—dotted around the Gulf were found in small remote locations in Iran, Kuwait, the United Arab Emirates and eastern Saudi Arabia, the majority later in date. Samahij is different because it is in the heart of a modern settlement.

The building was very well-constructed with stone walls, plastered inside, and with plaster floors. Sockets and holes indicated where doors and benches had been fixed internally, and the kitchen contained several hearths made from the bases or tops of amphorae like storage vessels.

The occupants had a good standard of living, eating pork, which ended after Islamic conversion, fish, shellfish, and various crops which are in the process of being analyzed.

The discovery of carnelian semi-precious stone beads and numerous broken sherds of pottery of Indian origin indicates they were involved in trade, particularly with India.

The community also used glassware, including small wine glasses, a habit which ended in the Islamic era. The dozen copper coins recovered by archaeologists suggest they used coins minted in the Sasanian Empire.

Spindle whorls and copper needles were found in the building, so textiles may have been produced there for use in worship.

The Christian identity of the inhabitants is shown by three plaster crosses found, two that would have decorated the building, and one that could have been carried or kept as a personal memento, and by graffiti scratched into the plaster that includes part of what appear to be a Chi-Rho and a fish, both early Christian symbols.

The building was excavated between 2019 and 2023 as part of a project jointly led by Professor Timothy Insoll of the Institute of Arab and Islamic Studies at the University of Exeter and Dr. Salman Almahari of the Bahrain Authority for Culture and Antiquities.

Professor Tim Insoll said, "We were amused to find someone had also drawn part of a face on a pearl shell in bitumen, perhaps for a child who lived in the building.

"This is the first physical evidence found of the Nestorian Church in Bahrain and gives a fascinating insight into how people lived, worked and worshiped."

A museum is now being developed at the site to preserve and present this remarkable survival and is planned to open in 2025.

Please visit the site: <https://phys.org/news/2024-07-archaeologists-earliest-christian-bahrain.html> [Go there for pix]

CROC'S DEADLY LAST MEAL IN ANCIENT EGYPT UNEARTHED, BY MIKE ADDELMAN

Scientists have used state of the art 3D imaging technology to piece together the life—and probable death—of a 2.2 meter-long crocodile mummified by the ancient Egyptians.

The researchers from The University of Manchester, along with Loughborough and Birmingham City Universities, revealed a freshly eaten fish still attached to its hook in the beast's stomach, which probably killed it.

Using specialist software in combination with X-ray and CT scanning, the scientists were able to virtually extract the hook from the mummy, and then construct a replica first in plastic and then cast in its original material, bronze.

The age of the animal mummy—kept at Birmingham Museum and Art Gallery and known by its accession number, 2005.335—could be anything from between 2,000 and 3,000 years old, when the practice of mummifying animals was at its peak.

The study is published in the journal *Digital Applications in Archaeology and Cultural Heritage*.

The croc had swallowed considerable numbers of small stones known as gastroliths while alive to break down chunks of meat and regulate buoyancy.

The presence of more gastroliths higher up in the digestive tract, say the authors, indicates an attempt to break down the animal's last meal, and shows it died before they reached its stomach.

X-ray showing hook in the animal Credit: University of Manchester

The skeletal integrity of the fish also suggests that it was swallowed whole and had not yet been affected by the harsh digestive enzymes present in the first chamber of the crocodile's stomach or the abrasive action of the gastroliths.

The apparent short time span between the ingestion of the fish and the death of the crocodile also suggest, say the researchers, it was deliberately caught in the wild and processed for mummification as an offering to the crocodile god Sobek shortly afterwards.

Healthy crocodiles were associated with fertility and plentiful agriculture. The Egyptians also believed you could protect yourself from danger by wearing clothing made from the skin of the animal.

Lead author Dr. Lidija Mcknight Research Fellow from The University of Manchester, said, "Crocodile mummy 2005.335 was a unique opportunity to apply scientific analysis to a large animal mummy.

"Our work revealed a great amount of information, both about the life of the crocodile and the post-mortem treatment of its remains.

"Mummies have long been a source of fascination for museum visitors of all ages. Our work provides a unique opportunity to connect visitors to the story of this animal."

The reconstructed hook Credit: University of Manchester

She added, "Whereas earlier studies favored invasive techniques such as unwrapping and autopsy, 3D radiography provides the ability to see inside without damaging these important and fascinating artifacts.

"We took the process a step further by replicating the hook in its original material, bronze.

"The Egyptians probably used a hardened clay mold into which the molten metal, melted over a charcoal-based heat source, would have been poured.

"Despite the passing of several millennia between the production of the ancient fish hook and the modern replica, the casting process remains remarkably similar."

Please visit the site: <https://phys.org/news/2024-07-croc-deadly-meal-ancient-egypt.html> [Full study at <https://www.sciencedirect.com/science/article/pii/S2212054824000419>]

A 4000-YEAR-OLD FABRIC FOUND IN A CAVE OF SKULLS IN THE JUDEAN DESERT IS THE OLDEST DYED WITH INSECT DYE, BY OGUZ KAYRA

Researchers discovered an ancient textile dyed with kermes (*Kermes vermilio*) in Israel's Cave of Skulls that dates back to the Middle Bronze Age.

This textile, found in the Judean Desert and made of linen and wool dyed red, has been dated by direct radiocarbon to the Middle Bronze Age, specifically between 1954 and 1767 BC. What makes this find unique is the use of red dye derived from the insect *Kermes vermilio*, a luxurious and rare source of color in ancient times.

In a study of textiles discovered in the Cave of the Skulls in the Judean Desert, researchers conducted dye analyses using High-Pressure Liquid Chromatography (HPLC) and identified a unique, red-dyed textile dyed with scaly insects.

This technique allowed for the detection of the dye's presence and verified that the red dye originated from the scale insect *Kermes vermilio*, which parasitizes oak trees, particularly *Quercus coccifera*. Despite being destructive, this method only needs a small sample, protecting the integrity of the antiquated object.

Textiles are rare items in the archaeological record due to their perishable nature and the rapid decomposition to which they are subject, making their preservation under special conditions, such as those in the caves of the Judean Desert, exceptionally valuable.

Detailed examination of this textile, despite its small size, enables researchers to trace the origin of the red color back to the insect species used, a significant discovery not only for its age but also for what it reveals about ancient civilizations' knowledge and technology in the handling and application of natural dyes.

Given that using dyes made from scale insects, such as *Kermes vermilio*, was an expensive and labor-intensive process, it is possible that these textiles served as status and power symbols in prehistoric societies.

In addition to reflecting individual preferences, textile color was used in ancient societies as a nonverbal communication system about a person's social and economic standing.

The study was published in the *Journal of Archaeological Science: Reports*.

<https://doi.org/10.1016/j.jasrep.2024.104673>

Please visit the site: <https://arkeonews.net/experts-believe-the-7000-year-old-circular-stone-structures-were-once-houses-complete-with-doorways-and-roofs-in-saudi-arabia/> [Go there for pix]

EXPERTS BELIEVE THE 7,000-YEAR-OLD CIRCULAR STONE STRUCTURES WERE ONCE HOUSES, COMPLETE WITH DOORWAYS AND ROOFS IN SAUDI ARABIA, BY LEMAN ALTUNTAŞ

Archaeologists have excavated eight ancient “standing stone circles” in Saudi Arabia that they say were used as houses.

Eight of the 345 stone circles identified by aerial surveys in the Harrat ‘Uwayrid lava field in Saudi Arabia have been analyzed by researchers from the University of Western Australia and the University of Sydney, who suggest that the structures may have been roofed and served as dwellings.

These findings were published in the scientific journal “Levant” by a research team led by archaeologist Jane McMahon from the University of Sydney. The study examined 431 standing stone circles at various sites in Harrat Uwayrid in AlUla, with 52 undergoing field surveys and 11 being excavated.

This study, supervised by the Royal Commission for AlUla (RCU), reveals that the region’s inhabitants were more stable and advanced than previously believed.

The circles date back around 7,000 years and have the remains of stone walls and at least one doorway.

These dwellings consisted of vertically erected stone slabs with diameters ranging from four to eight meters. The outer circumference had two rows of stone slabs, likely used as foundations for wooden columns, possibly made of Acacia, supporting the roof.

A central slab within these stone circles supported a main wooden column. This architectural feature suggests a sophisticated understanding of weight distribution and structural support among the ancient inhabitants. Tools and animal remains found at these sites suggest that ceilings might have been made from animal skins.

During their excavations, the archaeologists discovered the remains of many stone tools made of basalt. In addition, excavations have unearthed tools linked to animal husbandry, including implements for wool shearing and sheep slaughter.

“These structures – which we think of more as shelters than ‘houses’ – were used for any and all activities. Inside, we found evidence of stone tool-making, cooking, and eating, as well as lost and broken tools used for processing animal hides,” said Jane McMahon from the University of Sydney.

The shelter foundations were formed by massive basalt blocks weighing up to a tonne each. Image credit: RCU/University of Western Australia/University of Sydney.

The team concluded that many, if not all, of the standing stone circles are also domestic structures based on the artifacts discovered within and the circles' resemblance to ancient homes excavated in Jordan.

Also among the finds were a variety of seashells, all of which came from the Red Sea, which is located about 75 miles (120 kilometers) to the west. Other artifacts include sandstone and limestone ornaments and bracelets, as well as a piece of red sandstone chalk, possibly used for drawing.

Arrowheads discovered match types used in southern and eastern Jordan, indicating clear interaction between the regions.

McMahon highlighted that these early inhabitants were not merely shepherds but had sophisticated architecture, domesticated animals, ornaments, decorations, and various tools. The number and size of stone circles suggest a larger population than previously estimated.

The research team included experts from King Saud University, local AIUla residents like Youssef Al-Balawi who provided ethnographic and cultural insights, and students from the University of Hail.

Please visit the site: https://arkeonews.net/experts-believe-the-7000-year-old-circular-stone-structures-were-once-houses-complete-with-doorways-and-roofs-in-saudi-arabia/#google_vignette [Go there for pix]

ARCHAEOLOGISTS UNEARTH INCREDIBLE ROMAN HARBOR FACILITY IN ANCIENT PORT TOWN, BY DECLAN GALLAGHER

Archaeologists excavating an ancient site in the port city of Parion, Turkey were shocked to unearth a Roman-era harbor facility which may have acted as a military compound, Anatolian Archaeology reported.

Excavations have been conducted on Parion for the last 20 years or so and have led to many notable finds, including a separate harbor located earlier, but this latest discovery reshapes the exploration as it was found beyond the coastline and underwater. Scientists believe that it served a completely different purpose than the earlier-discovered harbor, meaning Parion was likely an even more active port town than previously thought.

Parion was a main trading hub for all goods coming from ancient Greece and the Aegean Sea into Istanbul and beyond. The excavations, sponsored by Turkey's Ministry of Culture and Tourism, and have been led by Dr. Vedat Keleş, are taking place in Turkey's Canakkale province near the village of Kemer.

Keleş explained that the harbor dates back to the Romans' time in Parion. The city was founded in 709 B.C., but the Romans came into possession of the town in 133 A.D. and ruled it for several hundred years.

“This harbor, compared to the southern harbor, which served as a commercial port, is slightly smaller and filled with alluvium deposited by the river running through the city,” Keleş explained. “Parion was a legion colony, so there is a possibility that this harbor could have been a military port.”

An overview of the recently discovered harbor

Keleş is hopeful that recently launched underwater investigations will turn up specific information as to the port's use, and whether it did in fact house soldiers and store military cargo.

In addition to their underwater endeavors, Keleş and his team are also conducting several prominent excavations on land. They are honing in on two particular areas of Parion, one which was a cultural hub and the other a commercial post.

“One is the theater, the other is the agora,” Keleş confirmed. “The theater work is difficult because it is destroyed. Because a city wall was built over the stage building and almost all the seating rows and architectural parts of the theater were used within this city wall,” he explained. “Therefore, the structure seems to have changed considerably in the late period. Even though we have some trouble due to this destruction, our work progresses slowly.”

Keleş and his team hope to establish Parion as a tourist destination on par with Pompeii and other ancient cities, but they won't be able to do it alone. “As a young excavation

team, the city we are excavating has a high level of destruction. We need to fully uncover the city. Therefore, we need labor support. I would like to appeal to local authorities. If they support us, especially by providing labor support, we can continue our excavations uninterrupted throughout the year, as the climate permits.”

Please visit the site: <https://www.yahoo.com/news/archaeologists-unearth-incredible-roman-harbor-175724953.html> [Go there for pix]
