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(Ένωση Ελλήνων Χημικών)
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Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

- Μάρτιος 2025 -

The worst of all deceptions is self-deception.

(Plato)

Newsletter of the Hellenic Society of Archaeometry

- March 2025 -

Nr. 288

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ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

BYTES AND BYGONES: DIGITAL AND COMPUTATIONAL ANALYSES OF ANCIENT CULTURES, 15-18 SEPTEMBER, 2025, GHENT AND BRUSSELS, BELGIUM, CALL FOR ABSTRACTS

The Cune-iiif-orm project and the Digital Ancient Near Eastern Studies Network are delighted to invite you to the third DANES conference in Ghent and Brussels from 15 to 18 September 2025.

We welcome papers on digital and computational methodologies applied to studies of ancient cultures.

The deadline for abstracts is 21 March 2025 at 23:59 UCT.

We welcome long papers (20 min), project presentations (10 min) and posters.

For more information see the conference website: <https://www.bab.ugent.be/>.

Feel free to forward to all colleagues and students who might be interested.



ARCHAEOOMETRY **CONFERENCE ON STONE, GLASS,** **CERAMICS AND METALS AT THE CHANIA** **ARCHAEOLOGY MUSEUM (CRETE,** **GREECE) NOVEMBER 6–8, 2025, CALL FOR** **PAPERS**

The UISPP Commission on Archaeometry of Prehistoric and Protohistoric Inorganic Artefacts, Materials and Their Technologies (<https://uispp.net/en/commissions/archaeometry>) invites you to an ARCHAEOOMETRY CONFERENCE ON STONE, GLASS, CERAMICS AND METALS to be held at the Archaeological Museum of Chania in western Crete as a UISPP Archaeometry colloquium for the year 2025.

The Commission on Archaeometry of Prehistoric and Protohistoric Inorganic Artefacts, Materials and Their Technologies belongs to the International Union of Prehistoric and Protohistoric Sciences (<https://uispp.net/en>).

The University of Miskolc, Hungary, also takes part in the conference, through its colleagues who are in charge of the IT background (website, messages, coordination of registrations, abstracts and proceedings).

Topics and Abstracts

We welcome contributions on topics related to the materials listed above and participants from other UISPP commissions and from other institutions working on related topics. Both oral presentations and posters are welcome. Abstracts should be no more than 250 words.

Registration and submission are now online at <https://chania2025.sciencesconf.org/>

Deadline

Deadline for registration and abstract submission is 16th May!

Conference Details

The conference will take place at the new Archaeological Museum of Chania in western Crete, from the 6th to the 8th of November 2025. In this period the weather in Crete is still warm and sunny, and there are less tourists and less expensive rates for hotels and restaurants.

The Archaeological Museum of Chania (<https://amch.gr/en/>) is brand new: it was opened in 2022. It is located in the neighborhood of Halepa, one of the historic parts of Chania, near the Venetian Old Town, and it offers a magnificent view over much of the city and the seafront. The coffee breaks will take place in the museum cafe on the covered terrace of the top floor, overlooking the port of Chania. The auditorium of the museum has a capacity of about 100 people. Please, keep in mind that the space is limited: book early!

Conference Fees

100 Euro in person or online (as an author).

30 Euro to attend in person (not as an author) **if there is enough space.**

Free for online attendance (as an audience member).

We currently encourage on-site payment, but we are working on online solutions, too.

Accommodations

Near the museum there are several possibilities for accommodation. The participants will book and pay for themselves. We can give a few suggestions (all within 10 minute walk of the museum):

Belle Epoque: <https://epoquechalepa.gr/>

Camara Residence: <https://camararesidence.gr/>

Doma Hotel: <https://hotel-doma.gr/en/>

Domus Blanc Hotel with all day bistro: <https://domusblanc.com/accommodation/>

Endless Blue suites: <https://www.booking.com/hotel/gr/eternity-blue-suites.html>

The Tanneries Hotel: <https://thetannerieshotel.gr/>

Villa Andromeda: <https://villandromeda.gr/>

Halepa Hotel (<https://www.halepa.com/>)

There are several more possibilities.

Halepa Neighborhood Cafes and Tavernas for lunch, dinner, and drinks (all within a 10-minute walk of the museum)

Blue Taverna: <https://www.bluerestaurantchania.com/>

Dagkli by M&Co.: <https://www.instagram.com/explore/locations/239911270/dagkli-by-mco/> and <https://www.facebook.com/p/DAGKLI-BY-MCO-100063624911157/>

Kross café: <https://www.krosscoffeeroasters.com/dagkli-6/>

Mama's Kitchen:

https://www.google.com/search?q=mama%27s+kitchen+chania+halepa&rlz=1C1SQJL_enUS842US842&oq=mama%27s+kitchen+chania+halepa&gs_lcrp=EgZjaHJvbWUyBg_gAEEUYOTIHCAEQIRigATIHCARigAdIBCDY3MzFqMGo0qAIAAsAIA&sourceid=chrome&ie=UTF-8

Nafsitheia all day coffee bar: https://www.instagram.com/nafsitheia_chania/ and <https://www.facebook.com/p/Nafsitheia-all-day-coffee-and-wine-bar-100067903686286/> and <https://g.co/kgs/RTwvnVZ>

Periplous restaurant: <https://periplousrestaurant.gr/>

Saligaros café: <https://g.co/kgs/nMVTqbt>

Halepa Neighborhood Grocery Store (5-minute walk from museum)

Synka grocery store: <https://g.co/kgs/SzxKwvE>

Useful Links

<https://chania2025.sciencesconf.org/>

<https://chaniaroutes.gr/>

<https://amch.gr/en/>

<https://www.venizelos-foundation.gr/en/museums/museum-venizelos-residence/>

https://matzentakuzinadelsol.gr/?gad_source=1&gclid=Cj0KCCQjw3vO3BhCqARIsAEWblcBJX-

[kdgQgyBDUEaYQEjtUxJE3vDrZPZJyXoDV8D5aCv2izCHASeVQaAsbBEALw_wcB](https://matzentakuzinadelsol.gr/?gad_source=1&gclid=Cj0KCCQjw3vO3BhCqARIsAEWblcBJX-kdgQgyBDUEaYQEjtUxJE3vDrZPZJyXoDV8D5aCv2izCHASeVQaAsbBEALw_wcB)

Conference Organizing Committee

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epapadopoulou@culture.gr

Head of the Ephorate of Antiquities of Rethymno,

We are looking forward to the conference and your participation!

Partners:

Archaeological Museum of Chania

INSTAP Academic Press

University of Miskolc

AGM - Archeoanalisi

**25TH INTERNATIONAL RADIOCARBON
CONFERENCE, JUNE 29–JULY 4, 2025,
KRAKÓW, POLAND**

The 25th International Radiocarbon Conference will be held June 29–July 4, 2025, in Kraków, Poland, and hosted by AGH University of Kraków.

Registration, abstract submission, accommodations, early-bird payments (via wire transfer) and more are now open: <https://radiocarbon25.online>

Questions? E-mail radiocarbon25@agh.edu.pl

Follow 14C-25 on social media: X @Radiocarbon_25 & Bluesky
<https://bsky.app/profile/radiocarbon25.online>

**2ND INTERNATIONAL SYMPOSIUM ON THE
METALLURGY OF THE EUROPEAN IRON
AGE (SMEIA II), 28TH TO 30TH OF OCTOBER
2025, LEIBNIZ-ZENTRUM FÜR
ARCHÄOLOGIE, MAINZ, GERMANY**

The 2nd International Symposium on the Metallurgy of the European Iron Age (SMEIA II) will be held at the Leibniz-Zentrum für Archäologie in Mainz from Tuesday, 28th to Thursday, 30th of October 2025.

The call for papers is out now:

<https://www.leiza.de/forschung/forschungsfelder/zusammenleben-in-komplexer-werdenden-sozialen-gefuegen/international-symposium-on-the-metallurgy-of-the-european-iron-age-ii-smeia-ii>

We are looking forward to contributions on European Iron Age iron and non-ferrous metallurgy!

Martin & Roland

TECHNART 2025 INTERNATIONAL
CONFERENCE ON ANALYTICAL
TECHNIQUES FOR HERITAGE STUDIES
AND CONSERVATION, 6TH - 9TH MAY, 2025,
PERUGIA, ITALY

Dear TECHNART 2025 Participants,

We are pleased to inform you that the **deadline for abstract submission for oral contributions** has been **extended to March 2nd, 2025**. This extension offers you additional time to prepare and submit your valuable research.

If you haven't already submitted your abstract, we encourage you to take advantage of this opportunity by visiting our website: <https://technart2025.com/>. Detailed submission guidelines are available on the same page.

Updated Important Deadlines:

Abstract submission for oral contributions: 2 March 2025

Abstract submission for poster contributions: 20 March 2025

Early registration deadline: 20 March 2025

Final registration and payment deadline: 25 April 2025

We look forward to your contributions, which are essential for enriching the discussions at TECHNART 2025.

For any questions or support, please reach out via our [Contact Us page](#)

Thank you for your engagement.

We look forward to seeing you in Perugia!

Best regards,

Bruno Brunetti & Costanza Miliani

Co-Chairs of TECHNART 2025

(*) INSTM, University of Perugia & CNR-SCITEC

(**) Institute of Heritage Science - National Research Council of Italy(CNR-ISPC)

7TH HISTORIC MORTARS CONFERENCE **(HMC 2025) – CALL FOR EXTENDED** **ABSTRACTS NOW OPEN!**

Dear Colleagues,

It is our pleasure to announce the 7th edition of the **Historic Mortars Conference (HMC 2025)**, to be held at the **University of Padova, Italy, September 2nd – 4th, 2025**.

HMC 2025 will focus on research concerning technology and characterization of historic mortars, conservation and restoration issues in historic masonry structures and archaeological sites, development of heritage-inspired building materials for sustainable architecture, design of repair materials, and test methods for historic and repair mortars. HMC 2025 will constitute a gateway of interaction between the academic and professional worlds involved in the fields of study of historic mortars and formulation, application and testing of restoration materials for built heritage, linking advanced scientific research to state-of-the-art industrial production and development.

HMC 2025 is co-organized by the [University of Padova](#), the [Politecnico di Milano](#), the [Institute of Condensed Matter Chemistry and Technologies for Energy of the Italian National Research Council \(CNR-ICMATE\)](#), and the [Associazione Italiana di Archeometria \(AIAr\)](#), and co-sponsored by the [International Union of Laboratories and Experts in Construction Materials, Systems and Structures \(RILEM\)](#).

Call for Extended Abstracts is now open and will close on March 15th, 2025. You can submit your contribution through the dedicated platform accessible from HMC 2025 website, <https://hmc2025.com>.

All accepted Extended Abstracts will be published in a Special Issue of the bookseries “[Costruire nel mondo antico](#)”, published by Edizioni Quasar. Furthermore, a selection of the best contributions presented to HMC 2025 will be considered for publication in a Special Issue of [Journal of Cultural Heritage](#) (Elsevier, 2023 Impact Factor: 3.5).

Please feel free to check the conference website <https://hmc2025.com> for details and important dates, and do not hesitate to contact us via e-mail at info@hmc2025.com for more information.

On behalf of the Organizing Committee, we are eager to welcome you to the beautiful city of Padova for three days of intensive scientific and technological knowledge sharing in the field of historic mortars,

Michele Secco and Cristina Tedeschi

Co-Chairs of HMC 2025

**12TH INTERNATIONAL CONFERENCE ON
THE APPLICATION OF RAMAN
SPECTROSCOPY IN ART AND
ARCHAEOLOGY (RAA2025), SCHOOL
"SPECTRA REVEALED: RAMAN
SPECTROSCOPY FOR ART AND
ARCHAEOLOGY", 1-2 SEPTEMBER 2025,
PISA, ITALY**

Dear All,

We are pleased to announce that the final program for the school "Spectra Revealed: Raman Spectroscopy for Art and Archaeology" is now available.

<https://www.raa2025.it/traininig-school>
<https://www.raa2025.it/training-school/programme>

We are excited to host international experts in a two-day event featuring both theoretical lectures and hands-on laboratory sessions.

<https://www.raa2025.it/lecturers>

On the official website, you will also find important information regarding the school organization and special opportunities for participants. Through a special arrangement, the University Residence "Le Benedettine" has set aside 8 rooms (available for single or double occupancy) exclusively for participants of the RAA School and Conference at special rates. These rooms will be held until June 1st, with reservations processed on a first-come, first-served basis. We encourage you to contact the residence to reserve your room. More information is available on the official website.

<https://www.raa2025.it/useful-information>

Don't forget! The abstract submission deadline for contributing to the Raman Art and Archaeology International Conference is March 31, 2025.

<https://www.raa2025.it/abstract-and-publication-guidelines>

We look forward to welcoming you to Pisa!

On behalf of the organizing committee of the 12th International Conference on the Application of Raman Spectroscopy in Art and Archaeology (RAA2025).

The Chairs of RAA2025

Dr. Simona Raneri, University of Florence & Dr. Stefano Legnaioli, CNR Italy

SESSION CALL FOR PAPERS, ASOR
ANNUAL MEETING, 19–22 NOV 2025,
ANCIENT CLIMATE AND ENVIRONMENTAL
ARCHAEOLOGY, BOSTON, USA

Session Chairs: Brita Lorentzen (Brita.Lorentzen@uga.edu), University of Georgia and Kathleen Forste, Brown University (kathleen_forste@brown.edu)

Our session welcomes paper submissions that examine past human interactions with climate, environment, and the earth system within west-central Asia and the wider Mediterranean world. Topics in paleoclimate and environmental archaeology are broadly defined and may include research using archaeobotany/paleoethnobotany, zooarchaeology, geoarchaeology, including macrobotanical studies, anthracology, dendrochronology, pollen, phytolith and other micro-remain analyses, geochemical approaches, isotope analyses, remote sensing and other archaeological science methods. We also welcome papers focusing on broader theoretical and historical debates and connections between regional paleoenvironmental/paleoclimate studies and modern environmental and sustainability challenges in the Anthropocene.

Papers from early career and internationally based researchers are especially welcome. This is a hybrid session, so there is the option to present and attend the session virtually, as well as in person at the conference venue in Boston.

Abstracts may be submitted now through March 15
(<https://www.asor.org/am/2025/call-for-papers-2025>)

[Note: If it is impossible for you to renew or purchase membership and register for the Annual Meeting AND you are a scholar from a country such as Jordan, Iran, Iraq, Lebanon, Egypt, etc., please contact meetings@asor.org to make an exceptional circumstance request.. Decision Process. Session chairs will accept papers on the basis of the quality of the abstract and its conformity to the ...
<https://www.asor.org/>]

Please note that in order to present a paper at the Annual Meeting, you must be a current member of ASOR and must register for the Annual Meeting when submitting your abstract.

Scholarships through ASOR are available to cover all or part of the registration fee. Contact programs@asor.org with requests and a brief explanation.

Please feel free to contact session chairs Brita Lorentzen (Brita.Lorentzen@uga.edu) or Kathleen Forste (kathleen_forste@brown.edu) with any questions.

ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –
JOB VACANCIES/FELLOWSHIPS

ADVERTISEMENT FOR POSTDOC POSITION
"CRAFT INTERACTIONS IN A NEW
KINGDOM INDUSTRIAL LANDSCAPE
(EGYPT, 1550–1069 BCE)", HOSTED BY THE
BRITISH MUSEUM AND FREIE
UNIVERSITÄT BERLIN

Dear colleagues,

Anna Hodgkinson and I are pleased to share the job advert below for a postdoc position in the framework of our new AHRC/DFG-funded project “Craft Interactions in a New Kingdom industrial landscape (Egypt, 1550–1069 BCE)”.

We are specifically looking for a candidate with experience or a specialisation in archaeological fieldwork in Egypt (settlements and workshops) and SEM-based analysis of metals or vitreous materials.

While the project will be hosted by the British Museum and Freie Universität Berlin, this specific position will be based in Berlin.

Another position, based at the British Museum, will be advertised in due course.

Here are the links to the advertisement:

German: https://www.fu-berlin.de/universitaet/beruf-karriere/jobs/wiss/13_fb-geschichts-und-kulturwissenschaften/GK-PostDoc_2025_Craft-Interactions_D.html

English: https://www.fu-berlin.de/universitaet/beruf-karriere/jobs/english/GK-PostDoc_2025_Craft-Interactions_E.html.

A summary of the project aims can be found here:

<https://gepris.dfg.de/gepris/projekt/547419350?context=projekt&task=showDetail&id=547419350&>

We would be very grateful if you could circulate the advert widely or pass it on to anyone you consider a suitable candidate.

All the best,

Frederik and Anna

ir. Frederik Rademakers, PhD | Department of Scientific Research

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Research Fellow, [KU Leuven, Department of Earth and Environmental Sciences](#)
Research profiles: [Academia](#) | [ResearchGate](#) | [GoogleScholar](#) | [ORCID](#) | [LinkedIn](#)

2025 RICHARD SEAGER AND HARRIET BOYD HAWES FELLOWSHIPS, INSTAP STUDY CENTER FOR EAST CRETE (INSTAP SCEC)

We are happy to announce the 2025 Richard Seager and Harriet Boyd Hawes Fellowships at the INSTAP Study Center for East Crete (INSTAP SCEC).

The Seager Fellowship is intended for scholars in the field of the Aegean Bronze Age/Early Iron Age who are working to complete their PhD dissertations. The Hawes Fellowship was created to support exploratory research to detect the role of women in prehistoric society and support broader topics of gender studies, which are increasingly receiving attention in Aegean Bronze Age/Early Iron Age scholarship. The Hawes Fellowship is available for those who have completed or are close to completing their PhDs.

The amount of each fellowship is \$3,000. The recipients of the fellowships will be required to submit a final report on their research to the Fellowship Committee. They will also be asked to write an article for the Study Center's fall newsletter, Kentro.

The selected candidate will have access to the INSTAP SCEC Library, and other resources upon arrangement with the director.

Please see <https://instapstudycenter.net/about/membership-and-fellowships/> for guidelines and application forms, which are due by March 31, 2025 by e-mail to Elizabeth Shank at elizabethshank@hotmail.com. Applicants will be notified of decisions on the fellowships by April 15, 2025.

Applicants may contact Elizabeth Shank for further information.

Elizabeth Shank, PhD
United States Coordinator
INSTAP Study Center for East Crete
P.O. Box 162
Rouzerville, PA 17250
(717) 504-5043
<http://www.instapstudycenter.net/><<https://instapstudycenter.net/>

JOAN AND EUGENE VANDERPOOL FELLOWSHIP AT THE ATHENIAN AGORA

Deadline: March 15, 2025

The Joan and Eugene Vanderpool Fellowship at the Athenian Agora supports research on any aspect of the Athenian Agora, including history, archaeology, literature, epigraphy, architecture, art history, and biodiversity. The fellowship was established by family and friends of Joan and Eugene Vanderpool to honor their lifelong commitment to Greece and the Agora Excavations in particular.

Eligibility: PhD holders and graduate students working on any aspect of the Athenian Agora from antiquity to the present are eligible. As noted, the fields of study may include, but are not limited to, all aspects of the history and material culture of the site. Open to all nationalities.

Terms: The School awards at least one fellowship each year. The fellowship includes a stipend of \$5,000 and a waiver of up to two months of membership fees for the duration of residency in Athens while working on the proposed project. Costs of travel, lodging, board, visas, and incidentals can be paid from the stipend. Applicants may also include costs for the photographs/photographic permission and preparation of illustrations in their budgets. Applicants should specify and justify the proposed duration of work in Athens and related costs. The award is to be used between July 1, 2025 and June 30, 2026. A final report is due at the end of the award period. The ASCSA expects that all publications that result from research conducted as a Fellow of the ASCSA acknowledge the support of the ASCSA and that copies be contributed to the appropriate library of the School and to the research library of the Agora.

Application: Submit an online application form for the “Joan and Eugene Vanderpool Fellowship.” An application consists of a curriculum vitae, description of the proposed project (up to 750 words), a timeline and budget of the proposed project, and two letters of reference to be submitted online. Student applicants must submit transcripts. Scans of official transcripts are acceptable.

Link to online posting <https://www.ascsa.edu.gr/fellowships-and-grants/postdoctoral-and-senior-scholars#Vanderpool>

The American School of Classical Studies at Athens does not discriminate on the basis of age, color, disability, gender identity or expression, genetic information, national or ethnic origin, pregnancy, race, religion, sex, or sexual orientation when considering admission to any form of membership or application for employment.

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instagram.com/ascsathens/ <http://instagram.com/ascsathens/>

RI FREER PRIZE FELLOWSHIPS - APPLICATIONS NOW OPEN

Deadline 31st March

Founded in 1799, the Ri is a world-famous independent charity dedicated to enhancing public understanding of science and the role of science in society. Among its many luminaries, the analytical chemist and pioneer of modern experimental physics, Michael Faraday, is the most famous. Philip Freer was a collateral descendant of Faraday and a great philanthropist who established the Philip Freer Trust to support postgraduate students to “make a difference in the world”

Type of award: Prize Fellowship for doctoral candidates in their unfunded writing-up year.

Areas of research supported: history of science and technology; heritage conservation science; history of the Royal Institution.

Stipend: £18,000 (the Fellowship will pay maintenance but not fees).

Duration of Fellowship: 12 months (commencing 1 October 2025).

Type of award: Prize Fellowship for doctoral candidates in their unfunded writing-up year.

How to apply: To apply, please send the following documents via this application form - <https://rigb.tfaforms.net/33> All written application materials should be in PDF format All files must be clearly labeled to include the name of the applicant and the name of the document.

For more information on the application materials please refer to the Ri Website <https://www.rigb.org/about-us/work-us/ri-freer-fellowship>

Any queries should be directed to Freer Administrator Hannah Pratt h.pratt@ri.ac.uk

Deadline for applications: 31/03/2025

Ri Freer Prize Fellowship purpose: The Ri Freer Prize Fellowships are intended as writing-up awards for doctoral candidates researching the history of science; history of the Royal Institution; or heritage conservation science. Ri Freer Prize Fellowships are awarded based on candidates’ ability to identify and communicate the significance and potential of their research in a compelling way that can engage a general interest audience. For further details see the Criteria for Assessment.

Ri Freer Prize Fellow support: Ri Freer Prize Fellows will benefit from significant opportunities to promote their research on Ri platforms, and to establish valuable new contacts and collaborations in academia, industry, heritage, policy, charity and media sectors. There will also be opportunities to engage with the Ri’s public lecture programs, archives, masterclasses and education programs. Any Freer Prize Fellowship winners will also be introduced to the Ri’s network and receive training for professional development.

Ri Freer Prize Fellow commitments: Ri Freer Prize Fellows will commit to a number of general interest outputs to promote their research. The precise nature of these outputs will be decided in discussion with the Ri but will include short films; tours for visitors to Ri collections; and blogs. Ri Freer Prize Fellows will be supported to produce these outputs and where appropriate link their work to Ri collections and heritage as part of research promotion. Ri Freer Prize Fellows are not required to live in London but will be expected to attend key events.

Application Process:

Applications will be reviewed by a panel of experts in the specified subject areas.

There will be no interview.

Referees are only contacted at the short-listing stage.

Two Ri Freer Prize Fellows will be announced by June 2025 All queries should be directed to Freer Administrator Hannah Pratt - hpratt@ri.ac.uk

W.D.E. COULSON & TONI M. CROSS **AEGEAN EXCHANGE PROGRAM**

Deadline: March 15, 2025

W.D.E. Coulson and Toni M. Cross Aegean Exchange Program is offered for Greek Ph.D. students and scholars in any field of the humanities and social sciences, from prehistoric to modern times, to conduct research in Turkey, under the auspices of the American Research Institute in Turkey (ARIT) in Ankara and/or Istanbul during the academic year. The purpose of these fellowships is to provide an opportunity for Greek scholars to meet with Turkish colleagues and to pursue research in museums, archives, and library collections and at the sites and monuments of Turkey. Fellowships are funded by the U.S. Department of State Bureau of Educational and Cultural Affairs through the Council of American Overseas Research Centers, which also provides funding for Turkish graduate students and senior scholars to study in Greece, under the auspices of the American School of Classical Studies at Athens (Turkish applicants applying to study at the ASCSA should visit the ARIT website <https://aritweb.org/fellowships/the-coulson-cross-aegean-exchange-fellowships/>).

The ARIT library in Istanbul focuses on Ottoman and Byzantine Studies and the American Board of Missions. In Ankara, the library collections focus on Mediterranean and Near Eastern Archaeology. ARIT helps visiting researchers access the many Turkish (and other) libraries, archives, museums, sites accessible to visiting researchers. ARIT also supports research in fields outside of Turkish studies when significant materials are held in institutions within the country (e.g. Ottoman Egypt, Islamic studies, World War I history, various archaeological fields).

Eligibility: Greek nationals, including staff of the Ministry of Culture, doctoral candidates/graduate students, Ph.D. holders, and faculty members of Greek universities and research institutes.

Duration: From two weeks to two months.

Terms: Stipend of \$250 per week plus up to \$500 for travel expenses. Four to eight awards are available. ARIT, located in Istanbul and Ankara, will provide logistical support and other assistance as required, but projects are not limited to those two cities. For further information about ARIT: <https://aritweb.org/>. A final report to ASCSA and ARIT is due at the end of the award period, and ASCSA and ARIT expect that copies of all publications that result from research conducted as a Fellow of ASCSA/ARIT be contributed to the relevant library of ASCSA/ARIT.

Application: Submit an online application <https://ascsa.submittable.com/submit/269783/w-d-e-coulson-toni-m-cross-aegean-exchange-program-fellowship>. The application includes a curriculum vitae, statement of the project to be pursued during the period of grant (up to three pages, single-spaced in length), a proposed timeline (including proposed dates of research) and budget, and two letters of reference from scholars in the field commenting on the value and feasibility of the project. For more information about the application, visit:

<https://www.ascsa.edu.gr/fellowships-and-grants/graduate-and-postdoctoral#CoulsonCross>.

Questions? Email: application@ascsa.org The awards will be announced in late spring.

The American School of Classical Studies at Athens does not discriminate on the basis of age, color, disability, gender identity or expression, genetic information, national or ethnic origin, pregnancy, race, religion, sex, or sexual orientation when considering admission to any form of membership or application for employment.

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ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS

ERCIM NEWS NO. 141 (APRIL 2025)

DEADLINE FOR CONTRIBUTIONS: Thursday 6 March 2025

Please read the [guidelines](#) below before submitting an article.

A [Word template for ERCIM News articles](#) is available for download.

The Special Theme and the Research and Innovation sections contain articles presenting a panorama of European research activities. The Special Theme focuses on a sector that has been selected by the editors from a short list of currently "hot" topics whereas the Research and Innovation section contains articles describing scientific activities, research results, and technical transfer endeavours in any sector of Information and Communication Science and Technology (ICST), telecommunications or applied mathematics. Submissions to the Special Theme section are subjected to an external review process coordinated by invited guest editors whereas submissions to the Research and Innovation section are checked and approved by the ERCIM News editorial board.

Special Theme: AI in Cultural Heritage

Guest editors:

- Laura Hollink, CWI
- George Pavlidis, Athena RC

Preliminary description: The increasing convergence of Artificial Intelligence (AI) and cultural heritage marks a transformative era in how we preserve, interpret, and engage with human history. This special issue explores "Cultural AI" — a domain that both applies AI to the cultural heritage sector and draws inspiration from cultural contexts to enhance AI systems. It covers a wide spectrum of topics, including AI-driven cultural heritage preservation, analysis, and user engagement, alongside ethical and cultural considerations for AI technologies.

Topics of Interest:

AI for Cultural Heritage: Advanced digitization methods for tangible and intangible cultural assets. Applications of AI in heritage analysis, such as automated classification, restoration, and interpretation. AI-driven predictive modeling for archaeology and heritage risk assessment. Intelligent systems for personalized, inclusive cultural tourism and virtual museums.

Cultural Contexts in AI Design: Embedding cultural and ethical values in AI development. Addressing cultural biases in AI models and data. Utilizing cultural heritage knowledge to design more human-centered and trustworthy AI systems.

Innovative Tools and Approaches: Machine learning applications in 3D digitization, data enrichment, and extended reality for cultural engagement. AI-based gamification and educational tools to enhance public interaction with cultural heritage. Integrative solutions for multi-dimensional heritage datasets.

All articles have to be sent to the local editor for your country (see [About ERCIM News](#)) or to the central editor en-submission@ercim.eu

Reviewing: Articles submitted to the special theme and the research and society sections are subject to a review process.

Guidelines for ERCIM News articles

Style: ERCIM News is read by a large variety of people. Keeping this in mind the article should be descriptive (emphasize more the 'what' than the 'how') without too much technical detail together with an illustration, if possible.

Contributions in ERCIM News are normally presented without formulas. One can get a long way with careful phrasing, although it is not always wise to avoid formulas altogether. In cases where authors feel that the use of formulas is necessary to clarify matters, this should be done in a separate box (to be treated as an illustration). However, formulas and symbols scattered through the text must be avoided as much as possible.

Length: Keep the article short, i.e. 800 +/- 100 words.

Format: Submissions preferably in ASCII text or MS Word. Pictures/Illustrations must be submitted as separate files (not embedded in a MS Word file) in a resolution/quality suitable for printing.

Structure of the article: The emphasis in ERCIM News is on 'NEWS'. This should be reflected in both title and lead ('teaser'). Also: NO REVIEW ARTICLES!

- Title
- Author (full name, max. two or three authors)
- Teaser: a few words about the project/topic. Printed in boldface, this part is intended to raise interest (keep it short).
- Details describing: what the project/product is, which institutions are involved, where it takes place, why the research is being done, when it was started/completed the aim of the project, the techniques employed, the orientation of the project, future activities, other institutes involved in this project, co-operation with other ERCIM members in this field
- References:
 - 1 - max. 3 references are mandatory for special theme articles. For articles for the section "Research and Development", you can give up to three references (not mandatory)
 - Authors should preferably refer to important sources only (i.e. journal papers, books) and avoid meaningless references such as article in preparation, unpublished presentations, personal communications, research reports, patents, or local conference publications not listed in the major scientific digital libraries (such as IEEE, ACM, Springer).
 - The selected EN style is the shortened IEEE Citation Style.
 - The references should be as concise as possible and restricted to the minimal information needed. Avoid all unnecessary words (pages x pp., year, editors, location,...). Use acronyms instead of full conference names - OOPSLA x Object-Oriented Programming Systems, abbreviations (e.g. Conf. x Conference, IEEE TPAMI x IEEE Transaction on Pattern Analysis and Machine Intelligence, etc.).
 - Use et al. when three or more names are given.
- Useful Link(s) (URLs separated from the references)
- Contact address with: full name of the author - phone number

- Photos, illustrations: ERCIM News is a full-color print magazine. Each article should be accompanied by an illustration (photos, graphics), for example of the product, applications mentioned in the article, people working on the project, etc. (avoid as much as possible flow charts and screen dumps). Photos should be submitted in jpg or tiff format in a resolution suitable for printing (pictures taken from the web are usually in a quality suitable for printing), graphics in a vector format (svg, eps, pdf).

A [Word template for ERCIM News articles](#) is available for download.

Publishing in ERCIM News offers several advantages:

- ERCIM News represents an excellent opportunity to present your research to a broad audience, also outside your own research community
- ERCIM News is published in print and online and reaches about 10,000 readers
- ERCIM News is widely distributed in the European Commission
- ERCIM offers a free professional proof-reading service
- Authors can reuse their articles; the copyright of the articles remains with the authors.
- Articles of the sections "Special Theme" and "Research and Innovation" are referenced by [DBLP](#) and by [Web of Science](#) (from issue 104 onwards)

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ΔΕΛΤΙΟ ΤΥΠΟΥ ΔΙΚΤΥΟ «ΠΕΡΡΑΙΒΙΑ»

Εκδόθηκαν τα Πρακτικά του 5^{ου} Πανελληνίου Συνεδρίου Ψηφιοποίησης Πολιτιστικής Κληρονομιάς

Διατίθενται δωρεάν σε κάθε ενδιαφερόμενο

Μια μεγάλη προσφορά στην εθνική προσπάθεια για την Ψηφιοποίηση και ανάδειξη του Ελληνικού Πολιτισμού

Μια ,ακόμα, προσπάθεια που αφορά τον Ελληνικό Πολιτισμό στο σύνολό του (άυλο και υλικό), ολοκληρώθηκε, με την έκδοση των Πρακτικών του 5^{ου} Πανελληνίου Συνεδρίου Ψηφιοποίησης Πολιτιστικής Κληρονομιάς-EuroMed, που πραγματοποιήθηκε στη Δημοτική Πινακοθήκη Λάρισας Μουσείο «Γ.Ι. Κατσίγρα» στις 6-9 Μαρτίου 2024, με τη συμμετοχή 400 συνέδρων απ' όλο τον κόσμο και που περιέχουν, μέσα σε 1200 σελίδες, τη συμπυκνωμένη επιστημονική έρευνα και γνώση εκατοντάδων Ελλήνων και Κυπρίων επιστημόνων και αφορούν την καταγραφή, τη μελέτη, τη συντήρηση, την ψηφιοποίηση, τη διάσωση, την προστασία και την ανάδειξη της Πολιτιστικής Κληρονομιάς του Ανθρώπου, αλλά κυρίως του Ελληνικού Πολιτισμού, που θεωρείται, απ' όλους, ως ο υπέρτατος ακρογωνιαίος λίθος για την πορεία του Ελληνισμού προς το Μέλλον.

Το σημαντικό αυτό -για τον Ελληνικό Πολιτισμό- Συνέδριο, πραγματοποιήθηκε με την παρουσία πολλών επισήμων των κυβερνήσεων Ελλάδας και Κύπρου, μελών της επιστημονικής κοινότητας και με τη συμμετοχή Συνέδρων από την Ελλάδα, την Κύπρο και το εξωτερικό.

Τα πρακτικά είναι διαθέσιμα Δωρεάν προς κάθε ενδιαφερόμενο από την επίσημη ιστοσελίδα του Συνεδρίου www.euromed_dch.eu.

Η επίσημη έναρξη του Συνεδρίου έγινε την Τετάρτη 6/3/2024, στη Δημοτική Πινακοθήκη Λάρισας με τη υποδοχή των Συνέδρων από τον κ. Κων/νο Σκριάπα-Προέδρου του Δικτύου «Περραιβία», ο οποίος αναφέρθηκε πως ξεκίνησαν αυτά τα περίφημα, πλέον, Συνέδρια, τους σκοπούς τους, τους συμμετέχοντες, που ανέρχονται σε αρκετές χιλιάδες, τη θεματολογία τους, τα πρακτικά τους και τα επιτεύγματά τους σε εθνικό επίπεδο.

Χαιρετισμοί έγιναν από την ΑΘΠ τον Οικουμενικό Πατριάρχη Κωνσταντινουπόλεως κ.κ. Βαρθολομαίο, τον Υπουργό Εσωτερικών κ. Θεόδ.Λιβάνιο, τον τ. Γ.Γ. Απόδημου Ελληνισμού και Δημόσιας Διπλωματίας κ. Ιωάννη Χρυσουλάκη, τον Πρόεδρο της Κυπριακής Δημοκρατίας στην Ελλάδα κ. Στ. Αυγουστήδη, τον τ. Πρόεδρο της Κύπρου στην Αθήνα κ. Κυριάκο Κενεβέζο, τον Σεβασμιώτατο Μητροπολίτη Λάρισας και Τυρνάβου κ. Ιερώνυμο, τον εκπρόσωπο της Κυπριακής Αστυνομίας κ. Μιχ. Γαβριηλίδη, τον Κοσμήτορα της Σχολής Μηχανικών του Πανεπιστημίου Δυτικής Αττικής κ. Κων. Στεργίου, την Αντιπεριφερειάρχη ΠΕ Λάρισας κ. Μαρία Γαλλιού, τον Δήμαρχο Λαρισαίων κ. Αθαν. Μαμάκο, τον Δήμαρχο Ελασσόνας κ. Νίκο Γάτσα, τον εκπρόσωπο του Δήμου Βόλου κ. Νίκο Ντόκο, την προϊσταμένη της Εφορείας Αρχαιοτήτων Λάρισας κ. Σταυρούλα Σδρόλια και την Αντιπρ. της Δημοτικής Πινακοθήκης Λάρισας κ. Κατερίνας Κόσσυβα.

Οι Διοργανωτές , κατά την έναρξη της τελετής απένειμαν αναμνηστικά στους Υποστηρικτές και Συνδιοργανωτές Φορείς του Συνεδρίου 2024, που ήταν η Περιφέρεια Θεσσαλίας, ο Δήμος Λαρισαίων, ο Δήμος Ελασσόνας, το Επιμελητήριο Λάρισας και η Δημοτική Πινακοθήκη Λάρισας «Μουσείο «Γ. Ι. Κατσίγρα».

Ένα εμβληματικό Συνέδριο σε μια πόλη που αγαπάει τον Πολιτισμό

Το Συνέδριο πραγματοποιήθηκε, επί 4 μέρες, στο Αμφιθέατρο και στους εξαιρετικούς χώρους της Δημοτικής Πινακοθήκης Λάρισας-«Μουσείο «Γ.Ι. Κατσίγρα»- και συγκέντρωσε το ενδιαφέρον άνω των τετρακοσίων (400) Ελλήνων και Κυπρίων επιστημόνων απ' όλο τον κόσμο, είτε με φυσική παρουσία στην πόλη της Λάρισας, είτε μέσω διαδικτύου, με σύνδεση απευθείας με πολλές χώρες του εξωτερικού.

Αξίζει να σημειωθεί ότι όλοι οι Σύεδροι ξεναγήθηκαν στους χώρους της Δημοτικής Πινακοθήκης Λάρισας κ. Γιάννα Δεληγιάννη, όπου φιλοξενούνται εξαιρετικά έργα και έχει καταστεί σημείο πολιτισμού για την πόλη της Λάρισας.

Ξεπέρασαν κάθε όριο οι συμμετοχές

Το ενδιαφέρον των επιστημόνων ,αλλά και εκπροσώπων της Τ.Α., να παρουσιάσουν τις εργασίες τους, το έργο τους ή και τα μελλοντικά τους σχέδια, στο Συνέδριο, ξεπέρασε κάθε προσδοκία, είναι διπλάσιες σε σχέση με όλα τα προηγούμενα Συνέδρια, χαρακτηρίζονταν από το πολύ υψηλό επίπεδο και παρουσιάστηκαν όλες οι παγκόσμιες επιστημονικές εξελίξεις σε σημαντικά θέματα που απασχολούν τη διάσωση, ψηφιοποίηση και την ανάδειξη της άυλης και υλικής Πολιτιστικής Κληρονομιάς, σε δύο παράλληλες Συνεδρίες.

Συνολικά, παρουσιάστηκαν 150 επιλεγμένες εργασίες από Κριτές , πολύ περισσότερες από τα προηγούμενα Συνέδρια, που εργάστηκαν γι' αυτές 380 επιστήμονες, ενώ είχαν προσκληθεί ως Key Note Speakers σημαντικοί επιστήμονες υψηλής εξειδίκευσης, οι οποίοι και παρουσίασαν τις γνώσεις τους και τις εμπειρίες τους σε κάθε θεματικό πεδίο (καθηγητές πανεπιστημίου, υψηλόβαθμα στελέχη της δημόσιας διοίκησης, της τοπικής αυτοδιοίκησης, στελέχη της αγοράς, ερευνητές κ.ά.).

Στην πόλη της Λάρισας χτύπησε, επί τέσσερις μέρες η καρδιά του Ελληνικού Πολιτισμού, σε έναν εξαιρετικά φιλόξενο χώρο ,όπως είναι η Δημοτική Πινακοθήκη Λάρισας.

Ένα Συνέδριο-σταθμός που αγκαλιάζεται από όλους

Θα πρέπει να τονιστεί ότι τα μοναδικά αυτά Συνέδρια, που λόγω της θεματολογίας τους, χαρακτηρίστηκαν, απ' όλους, ως εθνικής σημασίας, συγκεντρώνουν το ενδιαφέρον όλου του Ελληνισμού (εντός και εκτός Ελλάδος) και το 5^ο Συνέδριο τελούσε υπό την Αιγίδα πολλών Πολιτειακών και Εκκλησιαστικών θεσμών και παγκόσμιων επιστημονικών Οργανισμών, όπως: το Οικουμενικό Πατριαρχείο Κωνσταντινουπόλεως, του Υπουργείου Ψηφιακής Διακυβέρνησης, του Υπουργείου Πολιτισμού, του Υπουργείου Τουρισμού, του Υπουργείου Εξωτερικών/Γ.Γ. Απόδημου Ελληνισμού και Δημόσιας Διπλωματίας, του Ελληνικού Οργανισμού Τουρισμού, της Πρεσβείας της

Κυπριακής Δημοκρατίας στην Αθήνα, του Υφυπουργείου Πολιτισμού της Κύπρου, UNESCO, ICOMOS, ICOM, της Κυπριακής Βιβλιοθήκης κ.ά.

Το Συνέδριο έχει χαρακτηριστεί από τα αρμόδια Υπουργεία, αλλά κυρίως από την επιστημονική κοινότητα, ως καινοτόμο και πρωτοπόρο για την Ελλάδα και έχει καταστεί θεσμός από το 2015, γιατί παρουσιάζει, όχι μόνο το τεράστιο έργο που επιτελείται από σημαντικούς Έλληνες και Κυπρίους επιστήμονες στην Ελλάδα και στο εξωτερικό, αλλά και γιατί παρουσιάζει τις παγκόσμιες εξελίξεις στον μεγάλο τομέα της Ψηφιοποίησης της Πολιτιστικής Κληρονομιάς του Ανθρώπου, στο σύνολό του.

Το 5ο Πανελλήνιο Συνέδριο Ψηφιοποίησης Πολιτιστικής Κληρονομιάς περνά στην ιστορία ως ένα μοναδικό και παγκόσμιας εμβέλειας γεγονός, έχει καθιερωθεί, πλέον, ως θεσμός για την Ελλάδα και θα αποτελεί κάθε δύο (2) χρόνια το μεγάλο ραντεβού όλων των Ελλήνων και Κυπρίων επιστημόνων απ' όλο τον κόσμο.

Το επόμενο μεγάλο ραντεβού για το 6^ο Πανελλήνιο Συνέδριο έχει προγραμματιστεί για τις 19-22 Νοεμβρίου 2025 στην Αθήνα, οι λεπτομέρειες του οποίου θα ανακοινωθούν τις επόμενες μέρες.

Για οποιαδήποτε πληροφορία ή προμήθεια των πρακτικών του Συνεδρίου στο επίσημο Site www.euromed-dch.eu και στο E-Mail: euromed.greece@gmail.com (Αρμόδιος Κων. Σκριάπας 6974-881944)

Με εκτίμηση

Η Οργανωτική Επιτροπή

ΜΑΡΙΝΟΣ ΙΩΑΝΝΙΔΗΣ - Τεχνολογικό Πανεπιστήμιο Κύπρου-Διευθυντής Έδρας UNESCO/EU-ERA Chair

ΘΕΟΔ. ΓΚΑΝΕΤΣΟΣ- Καθηγητής Πανεπιστημίου Δυτικής Αττικής

ΙΩΑΝΝΗΣ ΒΑΡΑΛΗΣ –Αναπλ.. Καθηγητής Πανεπιστημίου Θεσσαλίας,

ΗΛΙΑΣ ΝΟΜΠΙΛΑΚΗΣ - τ. Αν. Καθηγητής Πανεπιστημίου Δυτικής Αττικής ,

ΚΩΝ/ΝΟΣ ΣΚΡΙΑΠΑΣ -Οικονομολόγος -Σύμβουλος Ανάπτυξης –Πρόεδρος Δικτύου "ΠΕΡΡΑΙΒΙΑ" - Ελλάδα

THE LUCIA VAGNETTI MEMORIAL AWARD **2025 FOR RESEARCH ON TRADE IN THE** **MEDITERRANEAN DURING THE BRONZE** **AND IRON AGE**

Graduates, doctoral students, and researchers (without age limits) are invited to apply for the “Lucia Vagnetti Memorial Award 2025”, created to support research in the field of trade in the Mediterranean during the Bronze and Iron Age at the Centro Internazionale per la Ricerca sulle Civiltà Egee “Pierre Carlier” (CIRCE) in Oristano, Sardinia, for a period of two months starting on April 1st, 2025.

The amount of the scholarship is €2,250. The recipient of the award will be required to submit a final report on their research to the Director of CIRCE and present a seminar to the students of the School of Specialization in Archaeology of Oristano.

The selected candidate will have access to the CIRCE Library, one of the largest libraries in the world in the field of Aegean epigraphy and archaeology, with a special focus on Mediterranean civilizations that contains 12,000 volumes and thousands of articles by Jean-Pierre Olivier and Frieda Vandenabeele, Henri and Micheline van Effenterre, Lucia Vagnetti, Paolo Belli, and Michael Wedde. The centre also holds an extensive archive, including the Jean-Pierre Olivier archive, which contains thousands of documents related to the history of Aegean scripts and the Lucia Vagnetti archive.

Applications must include a Curriculum Vitae and a research proposal and should be submitted by February 28, 2025, by e-mail to the Oristano Foundation (direzione@fondazioneoristano.it) and to Prof. Massimo Perna, Director of CIRCE (maxperna59@gmail.com).

If a candidate is interested in a one-month research period, they can indicate this in their application.

Potential candidates may contact Prof. Massimo Perna for further information.

ANCIENT TECHNOLOGIES & MATERIALS
SEMINAR (ATMS) ON THURSDAY
6TH MARCH, 2025, TRINITY COLLEGE,
DUBLIN

Dear colleagues,

The Department of Archaeology, Classics & Egyptology at the University of Liverpool would like to invite you to the next **Ancient Technologies & Materials Seminar (ATMS)** on **Thursday 6th March at 5 pm (UK time), Rendall Building Seminar Room 10**. There will be time to chat with the speaker afterwards. This is a **hybrid event** so if you would like to join us online you can do so by signing up for the Zoom link: [Zoom Registration](#)

Pigments and Paint in the Ancient Mediterranean World

Ruth Siddall (Trinity College Dublin)

Abstract

Painting was an important part of life for people of all classes in the Mediterranean world from the Bronze age through the Roman period. Most surfaces were decorated and the trade in and production of pigments to make paint was a significant part of the economy. This talk will look at the characterisation, history and materiality of pigments and paints across the Mediterranean region, including natural and synthetic varieties derived from animal, vegetable and mineral sources. We will examine the provenance and/or manufacture of materials used and the influences of other cultures on development of the Imperial Roman-period palette.

While this talk is not metals-based, I am sure it will still be of interest to some of you. Please feel free to share.

All welcome!

Liz & Ruth

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AHRC NWC-DTP funded

Recent publications:

Thomas, E. 2024. *Shining light on Egyptian mirrors: New scientific research into their metallurgy*. Journal of Archaeological Science: Reports 58, 104744
<http://dx.doi.org/10.1016/j.jasrep.2024.104744>

Thomas, E. and Gethin, P. 2024. *An adapted method for researching ancient Egyptian mirrors*. Journal of Archaeological Science: Reports 59, 104743
<https://doi.org/10.1016/j.jasrep.2024.104743>



ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

WATER IN ANCIENT MEDITERRANEAN HOUSEHOLDS. GLOBAL PERSPECTIVES ON ANCIENT MEDITERRANEAN ARCHAEOLOGY, BY RICK BONNIE, PATRIK KLINGBORG

Abingdon: Routledge, 2024. Pp. xii, 201. ISBN 9781032213972.

Review by

Peter J. Brown, Radboud University. peter.brown@ru.nl

[Authors and titles are listed at the end of the review]

In an ancient Mediterranean context, the study of water frequently conjures images of structures on a monumental scale (such as aqueducts, bathhouses, or nymphaea). Rather than pursuing these particularly visible hydraulic projects, the essays in this volume deliberately focus on quotidian ways of using water, predominantly within domestic settings. A focus on the mundane over the monumental is a welcome shift in emphasis from what has perhaps been more typical of scholarship on water in ancient times, since the large-scale pieces of hydraulic infrastructure—which often captured the, sometimes blinkered, attention of early classical scholars and archaeologists—were always exceptional. The water supply systems that brought water to, and drained water from, ordinary houses, by contrast, were far more typical of everyday life in the ancient world and in some respects they were no less impressive.[1] Moreover, as the various contributions to this volume demonstrate, examining and comparing different forms of non-elite hydraulic infrastructure and different cultures of water use proffers revealing insights into the societies and communities that dwelled around the Mediterranean in ancient times. Frequently, by focussing on the supply of water and its management, new ways of interpreting and understanding other aspects of ancient life emerge. The analyses offered across the different chapters of this volume, for example, touch on a variety of themes of considerable contemporary relevance, including sustainability, environmental and climatic change, and how water use was impacted by social hierarchies and inequalities within ancient societies. A volume exploring water use from the perspective of mainly non-elite members of society, therefore, is a welcome contribution to the archaeology of water and settlements within the ancient world.

Such a volume can never provide uniformly detailed coverage of such a complex topic across such a wide geographic area over a long span of time. Instead, the various contributors investigate how water was used in different cultural, temporal, and geographical contexts mainly through case studies which explore a specific settlement or region. The chapters, therefore, provide keyholes through which to glimpse different aspects of everyday water use at different moments, in Greece (Chapters 2 & 3), Turkey (Chapter 4), Italy (Chapters 5 & 6), North Africa (Chapter 7), and the Levant (Chapters 8 & 9). The final chapter focusses on cultural norms imported from the Mediterranean in Late Roman Britain. As the editors acknowledge, the sample these contributions provide

is biased by the nature of the available evidence, with a particular focus on urban rather than rural water use. They raise, nonetheless, many interesting questions about water within ancient societies as well as opportunities for future research.

The volume's authors focus on a wide range of categories of water systems, associated with a variety of activities in different contexts. These include cisterns dug into the marls of Piraeus, the rainwater collection systems of houses in Roman Pompeii, stepped pools within Jewish households, and wells associated with villa estates. Moving beyond the physical remains of the water installations themselves, the contributors also seek to understand the human implications of these different water systems. The important, yet archaeologically elusive, role played by sellers and carriers of water, for example, is mentioned by Mark Locicero (pp. 126–127), while related considerations associated with the labour involved in drawing and transporting water are discussed by J. A. Baird (p. 164) and James Gerrard (p. 178). The distinction between public and private water systems is also an issue discussed by several contributors. On the whole, household water use appears to have been organised within the private sphere without civic involvement. In some cases, however, a grey area seems to have existed—in Late Hellenistic Delos, for example, some 'private' cisterns may have played a 'semi-public' role, providing water for those without access to their own, which was presumably mediated through social arrangements (Patrik Klingborg p. 49).

Strikingly similar issues, including the relative archaeological invisibility of those involved in transporting water throughout settlements and the complex interaction between public and private water provision, afflict the study of water use in more recent historical societies.[2] This suggests that, in many respects, domestic water use was strongly influenced by geography, climate, and the availability of water sources and did not change a great deal across time in the premodern world. Several authors do delve into this topic—at Notion, on the Aegean Turkish coast, for example, Angela Commito highlights how the city's depopulation prevented the development of a more sophisticated water provision system, as occurred in neighbouring cities that were continuously occupied (p. 71). Jane Millar Tully, meanwhile, discusses how, over time, wells were gradually superseded, though not entirely replaced, by cisterns within Piraeus—possibly as a deliberate strategy in response to the increased occurrence of droughts or in association with economic activities such as the irrigation of vegetable gardens (pp. 16–19).

While several authors explore the long-term development of water systems, at the other end of the scale a number of the chapters reveal their surprisingly short-lived lifecycles. This is a topic which archaeologists are uniquely well placed to address, since textual accounts can usually only provide data relating to a specific moment in time—which rarely concerns the minutiae of water management. At Pompeii, for example, detailed excavation combined with knowledge of the city's wider context suggests many of the water systems were out of use in 79 AC (Gemma Jansen, pp. 114–115). The high level of detail available from Pompeii, therefore, provides a cautionary tale that excavated hydraulic infrastructure from less well studied contexts could give a misleading picture of whether a water system was in use at a particular time.

A major take-away from the various chapters is that different water supply solutions were relied upon in different contexts around the Ancient Mediterranean and beyond. Most strikingly, such variations seem to relate to the local geography and geology, though in

some cases the cultural setting and users' place within society were also important. Ann Glennie's study of Cosa (Chapter 5), for example, cautions against thinking of a 'Roman' way of managing water, instead emphasising the local importance of topography and the agency of individual households in determining how water was managed. Commito (Chapter 4) shows that in Hellenistic towns there was rarely a single water system but rather a multitude of different water sources, such as natural springs, cisterns, and piped water supplies, which provided both a buffer, in case one became unavailable, as well as a choice of water from different sources for different purposes. Even where settlements were situated next to a water source, the water regime likely embraced multiple sources. At Dura-Europos, for example, though the city was situated directly on the banks of the Euphrates, rainwater harvesting and storage played a key role in provisioning the local population with water. Furthermore, Rick Bonnie (Chapter 8) highlights how water features, in this case stepped pools, could evolve and undergo changes in use for a multitude of reasons—including errors in construction, changes in ownership, maintenance costs, or the evolving needs of a household (pp. 144–145). All this drives home the highly complex and multifaceted nature of water use, even within a single ancient household.

Many contributors raise the difficulties associated with investigating ancient water use. These relate both to technical and methodological limitations as well as issues associated with how these sites and features have been investigated in the past. As features that were often reused over long periods, for example, dating water management installations reliably can be difficult. Any available descriptions in surviving textual sources can be problematic to match with material evidence uncovered through excavation. Furthermore, earlier archaeologists' failure to fully document their discoveries, particularly quotidian features, frequently make it more difficult to reconstruct detailed histories of the creation, use, and abandonment of water features. At Dura Europos, for example, Baird (Chapter 9) laments what might have been possible had the early excavators documented their findings to modern standards while early investigations at Pompeii (Chapter 6) likewise showed little interest in water features. Locicero (Chapter 7), meanwhile, explains that, while several studies have explored aspects of the water system at Roman Volubilis, the drainage network was likely significantly more complex than previous studies have indicated. Where more recent excavations are discussed, the level of detail we are missing from earlier excavations becomes clear. Startling micro-histories related to water use are revealed, such as the ingress of rodents into Pompeian houses through drain pipes and the grates installed to prevent their entry (Jansen p. 103). Similarly, Gerrard's (Chapter 10) discussion of the stratigraphy uncovered within several Late Roman well shafts in Britain, offers a convincing account of the social world in which these water features operated as well as their fills—including details such as moss that may have been used as toilet paper before being tossed into the well shaft (p. 186).

The volume is free from noticeable typographic errors and the text across the board is clearly written. The different chapters are each accompanied with well-chosen grayscale figures which usefully illustrate the sites and features at the centre of the discussion while making the text easier to follow. A minor criticism is that the volume lacks a conclusion. This omission does not tarnish the usefulness of the volume, however, especially for readers who will dip in and out of the different chapters. Overall, this volume is an excellent compilation with engaging contributions, each exploring interesting case studies raising different, yet complementary, themes, issues, and debates.

Authors and Titles

Water in Ancient Mediterranean Households (Rick Bonnie & Patrik Klingborg)
Household Water, Environment and Economy in Ancient Piraeus (Jane Millar Tully)
Social Stratification and Water Sharing on Late-Hellenistic Delos (Patrik Klingborg)
Surveying Notion’s Residential Water Supply: Cistern Use During Hellenistic-Roman Times (Angela Commito)
Breaking out from Imagined Household Uniformity: Diverse Rainwater Harvesting Solutions in Republican-Imperial Cosa (Ann Glennie)
Rainwater Collection Strategies in Pompeian Houses (Gemma Jansen)
Posthumanism, Social Justice and Pollution in the Waters of Roman Volubilis (Mark Locicero)
Reusing Stepped Pools in Roman Palestinian Households (Rick Bonnie)
The Significance of Household Cisterns at Roman Dura-Europos (J. A. Baird)
Water as Social Inequality in Late Roman Britain (James Gerrard)

Notes

[1] The Late-Hellenistic cisterns of Delos, for example, may have taken up to 5,000 person/hours, or more than 1.5 years, to carve out of the limestone bedrock. Klingborg in this volume, p. 44.

[2] Brown, P.J., van Berkel, M. (2024). “Water Provision in Early Islamic Cities: A Multidisciplinary Approach to Urban Water Governance.” In: Rose, E., Flierman, R., and de Bruin-van de Beek, M. (eds) *City, Citizen, Citizenship, 400–1500. The New Middle Ages*. Palgrave Macmillan, Cham.



PROCEEDINGS OF THE 3RD
INTERNATIONAL CONFERENCE ON
ANCIENT GREEK AND BYZANTINE
TECHNOLOGY, NOVEMBER 19-21, 2024,
ATHENS

Dear Colleagues,

kindly be informed that the Proceedings of the 3rd International Conference on Ancient Greek and Byzantine Technology (Athens, November 19-21, 2024) are uploaded on the EDAByT website :

<https://edabyt.gr/3o-sunedrio-arxaias-ellinikis-texnologias/>

Feel free to visit the site (which is constantly updated with the remaining papers)

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GUIDELINES FOR THE TECHNICAL EXAMINATION OF BRONZE SCULPTURE

Dear colleagues,

I would like to pass on to those of you interested in the technical study of cast bronzes the link to a new publication:-

David Bourgarit, Jane Bassett, Francesca G. Bewer, Arlen Heginbotham, Andrew Lacey, and Peta Motture (eds) 2025. *Guidelines for the Technical Examination of Bronze Sculpture*. Getty publications.

Free to download at <https://www.getty.edu/publications/bronze-guidelines/>

Aspects addressed include identifying evidence of process steps, metals used, casting defects, surface working and alterations. The analytical techniques ranging from visual examination to imaging, material analyses, and dating are covered with case studies and bibliography. It has a useful glossary of technical terms in English, German, French, Italian, and Chinese.

Best wishes,

Susan

EΙΔΗΣΕΙΣ - NEWS RELEASE

3,500-YEAR-OLD TOMB OF KING THUTMOSE II DISCOVERED: THE FIRST ROYAL BURIAL UNEARTHED SINCE KING TUTANKHAMUN, BY OGUZ BUYUKYILDIRIM

A section of tomb No. C4, identified as the burial site of King Thutmose II. Credit: Egypt's Ministry of Tourism and Antiquities Egyptian officials have announced a groundbreaking discovery: the long-lost tomb of King Thutmose II, marking the last of the royal tombs from ancient Egypt's Eighteenth Dynasty. This significant find comes over a century after the discovery of King Tutankhamun's tomb in 1922, and it sheds new light on a period that reigned from approximately 1550 BC to 1292 BC.

A joint archaeological mission comprising British and Egyptian teams uncovered the tomb, designated as No. C4, located a few miles west of Luxor in the area known as the mount of Thebes. The entrance and main passage were initially discovered in 2022, and while the team initially speculated that the tomb might belong to one of the wives of the kings due to its proximity to the tombs of Queen Hatshepsut and the wives of King Thutmose III, further excavations revealed compelling evidence linking it directly to King Thutmose II.

Among the artifacts found were several fragments of alabaster vases inscribed with the name of King Thutmose II, referring to him as the "deceased king." Additionally, sections of a religious text associated with ancient Egyptian royal burials and plaster fragments adorned with blue paint and yellow stars were discovered. These findings have led archaeologists to conclude that Tomb No. C4 was indeed the final resting place of King Thutmose II.

Dr. Mohamed Ismail Khaled, Secretary-General of Egypt's Supreme Council of Antiquities, emphasized the importance of this discovery, describing it as one of the most significant archaeological finds in recent years. The tomb, however, is in a poor state of preservation, likely due to flood damage shortly after the king's death. Initial studies suggest that many of the original contents of the tomb may have been relocated following these ancient floods.

The architectural design of the tomb is characterized by simplicity, featuring an entrance, a sloping main corridor, and a burial chamber. Dr. Piers Litherland, head of the English team at the site, noted that the mission would continue to investigate the tomb and seek to uncover any additional secrets that may lie beneath the earth.

While the mummy of King Thutmose II was discovered in the 19th century at another site known as the Deir el-Bahari Cachette, this recent discovery provides a crucial link to understanding his life and reign. As work at the tomb progresses, many questions remain

regarding the circumstances surrounding the removal of the king's mummy from its original burial site.

This remarkable discovery not only enhances our understanding of King Thutmose II's life and reign but also underscores the importance of continued archaeological efforts in revealing the complexities of ancient Egyptian history. As researchers delve deeper into the tomb and its artifacts, they are poised to uncover further insights that could reshape our knowledge of this pivotal era in Egypt's past.

Please visit the site: https://arkeonews.net/3500-year-old-tomb-of-king-thutmose-ii-discovered-the-first-royal-burial-unearthed-since-king-tutankhamun/#google_vignette [Go there for pix]

MALTA’S MEGALITHIC STRUCTURES **AMONG THE OLDEST AND MOST** **MYSTERIOUS, BY CHRISTOPHER GOMEZ**

Malta is home to some of the oldest and arguably most mysterious megalithic structures known to man, older than the Pyramids and Stonehenge.

Malta’s ancient temples date back to 3600 to 2500 BC. Some theorists, such as Graham Hancock, the host of the Netflix series “Ancient Apocalypse,” suggest that they might be around 11,000 years old and that their construction could have aligned with the placement of the star Sirius. At a minimum, the temples of Ħaġar Qim, Mnajdra, Tarxien, and Ġgantija are some of the oldest structures on Earth, and they remain an ever-growing mystery to archaeologists and history enthusiasts alike.

Malta’s megalithic structures are an enigma

The ancient temples found in the Maltese archipelago indicate the existence of an advanced Neolithic society. Not much is known about these prehistoric people, as they did not leave behind any written records, only their buildings and a few artifacts. As a result, debates have run wild, challenging preconceived timelines and beliefs about cultures that existed long ago.

“Think about it: Could those farmers, who archaeologists tell us never built anything bigger than a shack, really have achieved all this?” Hancock said in episode three of Ancient Apocalypse.

Grecian Delight supports Greece

Whether it was an unheard-of civilization from 11,000 years ago or the Neolithic people believed to have resided there, it is undeniable that if these mysterious structures could speak, they would have some incredible stories to tell.

Malta Ġgantija megalithic structure temple

The Ġgantija Temples on Malta’s Gozo island are among the world’s oldest freestanding structures, built between 3600 and 3200 BCE. Named after the Maltese word for “giant” due to the massive limestone blocks, local legend says they were built by mythical giants. The site includes two interconnected temples with a cloverleaf-shaped layout, featuring inner chambers, altars, and niches.

These elements suggest their use for religious rituals, as the ruins contain statues resembling the Mother Goddess, an ancient deity in Malta. A testament to the ingenuity of Neolithic Malta, the temples were built without metal tools or the wheel, utilizing advanced construction techniques like corbelled walls and massive upright stones. Predating Stonehenge and the Great Pyramids, this UNESCO World Heritage Site highlights the unanticipated early sophistication of Malta’s prehistoric society.

Ħaġar Qim and Mnajdra

The Ħaġar Qim and Mnajdra temples, located on Malta's southern coast, are stunning examples of Neolithic architecture, built between 3600 and 2500 BCE. Ħaġar Qim, meaning "standing stones," features massive limestone blocks, altars, and intricate carvings, suggesting its use for religious and ceremonial purposes.

Mnajdra is known for its astronomical accuracy, with its entrance perfectly aligning with the sunrise during the equinoxes and solstices. The temples, constructed without metal tools or the wheel, like the Ġgantija temples, are another example of how advanced this Neolithic society was. Both sites are surrounded by scenic views of the Mediterranean and are now recognized as UNESCO World Heritage Sites.

Tarxien Temples

The Tarxien Temples, yet another UNESCO Heritage site, are located near modern-day Paola in Malta, were constructed between 3600 and 2500 BCE, and are renowned for their intricate carvings and elaborate design. This temple complex features stone reliefs depicting spirals, animals, and patterns, along with evidence of ritualistic practices, including animal sacrifices.

The temples are believed to have served as a focal point for community worship and ceremonies, with altars and large stones likely used in religious rituals. The site reflects the skill of Malta's prehistoric builders, showcasing advanced stoneworking techniques. Numerous artifacts, including figurines and tools, have been uncovered here, providing insight into the spiritual and daily lives of the Neolithic people.

Hypogeum of Hal-Saflieni

The Hypogeum of Hal-Saflieni, located in Paola, Malta, is an underground Neolithic burial site dating back to 3300–2500 BCE. This extraordinary structure, carved entirely into limestone, consists of multiple chambers spread across three levels, with intricate red ochre wall paintings still visible in some areas. It is believed to have served as both a burial site and a ceremonial space. Over 7,000 human remains have been uncovered, along with artifacts like figurines, tools, and pottery.

Among its most famous discoveries is the Sleeping Lady, a small figurine thought to symbolize fertility or the afterlife. The Hypogeum's sophisticated architecture, including corbelled ceilings and acoustically resonant spaces, highlights the advanced skills of its builders. The site offers a rare glimpse into Malta's prehistoric culture and its complex spiritual beliefs.

Please visit the site: <https://greekreporter.com/2025/02/17/malta-megalithic-structures-oldest-mysterious/> [Go there for pix]

80% OF ANCIENT WONDER PALMYRA DESTROYED IN WAKE OF ASSAD OUSTER

A devastating new report reveals the extent of destruction in Syria's legendary city of Palmyra, where eight out of ten buildings now lie in ruins or on the verge of collapse. The ancient oasis city, whose monuments have stood for over two millennia, has been ravaged by years of conflict, with its 2,200-year-old temples reduced to rubble and its museum's priceless artifacts shattered.

The comprehensive field study, conducted following the liberation of Syria from the Assad regime, paints a grim picture of both the archaeological treasures and the modern city. A collaborative effort between the Spanish National Research Council's Milà i Fontanals Institution (IMF-CSIC) and the NGO Heritage for Peace, the research documents the systematic destruction of cultural heritage that has occurred alongside a humanitarian crisis that has displaced 90% of Palmyra's population.

"We want to raise awareness among both local communities and the international community about the serious threats facing Palmyra's heritage," says Isber Sabrine, a CSIC archaeologist of Syrian origin and one of the report's coordinators.

The assessment, covering approximately 12 square kilometers, reveals the scale of devastation across Palmyra's most significant monuments. The iconic Tetrápylon, a grand second-century structure featuring four clusters of columns, has been reduced to scattered stone fragments by explosions. Perhaps most shocking is the complete destruction of the BaalShamin Temple, an architectural marvel that had survived since antiquity until recent conflicts.

Even the city's famous Roman theater hasn't escaped damage. Researchers documented a collapsed façade from bombing and evidence of illegal excavations. The Palmyra Archaeological Museum, once home to irreplaceable artifacts, now stands badly damaged from aerial bombardment, its precious collections of statuary and funerary artifacts largely destroyed.

The city's natural heritage has suffered equally devastating losses. The Efqa Oasis, spanning 400 hectares, was burned in 2020 fires. Today, surviving palm and olive tree owners struggle to salvage what remains of their orchards in areas where water access has been cut off.

The human toll parallels the physical destruction. Of Palmyra's pre-conflict population of 100,000, only about 10,000 residents have returned to a city where basic services are virtually nonexistent. The few who have come back face severe poverty and the constant danger of unexploded ordnance, with landmines and weapons scattered throughout the area.

A small team of dedicated individuals continues to protect what remains. The Archaeological Museum, though non-operational, is guarded by personnel from the Directorate of Antiquities and local volunteers, working without support from the new administration.

The report emphasizes that Palmyra’s cultural preservation is inextricably linked to its humanitarian recovery. “Without housing, essential services and economic opportunities, the return of the population will be limited, making it difficult for local professionals and workers to be available for heritage conservation,” notes Sabine.

The study drew on observations from 15 contributors, including Palmyra citizens, archaeologists, and returning refugees, coordinated by archaeologists Hasan Ali and Mohammed Fares of the Palmyrene Voices initiative. Their findings trace the city’s struggles through multiple periods of conflict, including the Islamic State occupation and years of repression.

Looking forward, the report calls for urgent action to implement rehabilitation strategies for both the archaeological site and the modern city. The joint effort between IMF-CSIC and the Palmyra Voices Initiative represents a crucial step toward preserving this UNESCO World Heritage site, which was first inscribed in 1980, and supporting Syria’s post-conflict reconstruction.

For Palmyra to regain its former vitality and protect its remaining heritage, the researchers conclude that rebuilding basic infrastructure must take precedence. Only by restoring the city’s livable spaces can its ancient wonders hope to be preserved for future generations.

Please visit the site: <https://scienceblog.com/80-of-ancient-wonder-palmyra-destroyed-in-wake-of-assad-ouster/> [Go there for pix]

AN EGYPTIAN TEMPLE REBORN, **BY BENJAMIN LEONARD**

By removing centuries of soot, researchers have uncovered the stunning decoration of a sanctuary dedicated to the heavens

Some 100 major temples towered over the landscape of Roman Egypt, though today only six still stand. One of the best preserved sits in a residential neighborhood in the modern city of Esna on the west bank of the Nile in Upper Egypt. The temple was dedicated to the creator god Khnum, his family, and the goddess Neith. Now 30 feet below street level, the temple's red sandstone pronaos, or entrance hall, is all that survives of what was once a larger complex. The other remnants of the temple, which stood behind the hall, are now buried beneath the city. In antiquity, the hall, which measures 120 feet long and 65 feet wide and stands 50 feet high, would have dwarfed the rest of the temple. Larger-than-life scenes carved on each of its exterior walls offered ancient worshippers a mere hint of the resplendent painted reliefs that still cover nearly every inch of the hall's interior.

A painted relief on a column inside the hall features an oval cartouche containing the name of the Roman emperor Hadrian (reigned a.d. 117–138) flanked by Khnum, depicted as a ram, and Behedety, the falcon god of the midday sun.

Ahmed Amin/© Egyptian Ministry of Tourism and Antiquities

Construction of the temple's pronaos began after the emperor Augustus' conquest of Egypt in 30 b.c., but its decoration required centuries to complete. The entrance hall was constructed directly against the facade of the temple, which had been built during the rule of the pharaoh Ptolemy VI (reigned 180–145 b.c.), one of the kings in a dynasty of Macedonian royals who governed Egypt from 304 to 30 b.c. Throughout the hall, oval cartouches with the names of a long line of Roman emperors attest to the protracted time it took to finish the building and its decoration. Construction of the hall was likely completed in the mid-first century a.d., under the emperor Claudius. It took artisans until the reign of the emperor Decius, 200 years later, to finish carving and painting the building's elaborate relief decoration.

Ken Feisel

In the late third or early fourth century a.d., by which time the temple had presumably been closed, the residents of Esna began to dismantle its main sanctuary and repurpose the building blocks to build canals. They used the pronaos as a shelter for the next 1,500 years, and, in the nineteenth century, it became a warehouse for storing cotton and ammunition. Over that stretch of time, fires lit inside for illumination and warmth gradually coated the bright paintings on the ceilings, columns, and interior walls in thick layers of dirt and soot. Parts of the pronaos were buried beneath sand until the twentieth century.

In the 1950s, Egyptologist Serge Sauneron cleared away the debris obscuring portions of the exterior walls. He then turned to the interior, recording those carved reliefs and hieroglyphic inscriptions that were visible to the naked eye. Although Sauneron

gradually published the inscriptions and select drawings of the pronaos' decorations, his death in 1976 halted this documentation project. Most of the inscriptions he transcribed were never translated.

While cleaning the entrance hall, conservators revealed the original colors painted on column shafts and lotus-leaf capitals, as well as previously hidden hieroglyphic inscriptions on the crossbeams and walls.

Ahmed Emam/© Egyptian Ministry of Tourism and Antiquities

The hall's reliefs were still completely covered in soot when, in 2018, a joint Egyptian-German team, led by Egyptologist Christian Leitz of the University of Tübingen and Hisham El-Leithy, undersecretary of state for documentation of the Egyptian Ministry of Tourism and Antiquities (MoTA), began to restore the designs' vibrant colors to their former brilliance. Using primarily distilled water and alcohol, MoTA conservators supervised by Ahmed Emam have now cleaned the hall's 18 interior columns, all seven of its ceiling bays, and sections of its southern and western walls. In the process, they have revealed hitherto hidden images and nearly 200 painted inscriptions on the ceiling and crossbeams that Sauneron hadn't been able to see. "Salt crystallization had affected the colors and caused some flaking of the reliefs," El-Leithy says. "The conservation team cleaned the layers of soot, dust, and dirt, and the bright colors of the paintings and inscriptions can now be appreciated."

As work continues, researchers are beginning to discover the many interconnections among scenes and inscriptions, even across parts of the hall where decorations were completed centuries apart. "In our view, there was a general master plan for everything," says University of Tübingen Egyptologist Daniel von Recklinghausen. "Once the hall was finished by the mid-first century a.d., someone, or perhaps many people, made a master plan for the decoration that incorporated everything—the exterior and interior walls, the columns, and the ceilings, all of it." The team has uncovered and photographed scenes that reveal how ancient Egyptians depicted and worshipped their gods and how they conceived of the universe through the astronomical objects and astrological signs that they used to adorn the ceiling.

Images of various gods appear on the walls of the entrance hall, including (left to right) Khnum seated on a throne at the bottom of which is a ram with a solar disk on its head; the creator goddess Neith; and Neith's sons, Shemanefer and Tutu.

Ahmed Amin/© Egyptian Ministry of Tourism and Antiquities

DEITIES

An interior capital shows the dwarf deity Bes playing a harp and a drum, suggesting that music was part of the festivities.

Ahmed Amin/© Egyptian Ministry of Tourism and Antiquities

During the Ptolemaic and Roman periods, Egyptians continued to worship their traditional gods even as foreign rulers introduced new deities. Priests oversaw the construction of new temples and cult centers dedicated to major deities of the Egyptian pantheon, who were venerated alongside local gods in cities throughout Upper and Lower Egypt. Although worship of Khnum dates back some 4,000 years, the origins and evolution of his cult at Esna and other religious centers are opaque. Khnum was always

connected with creation, fertility, and the Nile. He was usually depicted as a ram, or with a ram's head, and occasionally as a crocodile. By the time of the New Kingdom (ca. 1550–1070 b.c.), Khnum was portrayed as fashioning all living things on a potter's wheel. At Esna, he was venerated as Khnum-Ra, signifying the addition of the sun god Ra to his divine power. Leitz suggests that the choice of red and yellow, both commonly used to depict the sun, as the dominant colors for the reliefs in the entrance hall might symbolize this connection between Khnum and Ra.

At some point, perhaps during the second century b.c., the cult of Khnum in Esna came to encompass another creator deity, the goddess Neith. Hymns carved on the hall's columns and walls praise Khnum and Neith as the Lord and Lady of Esna. According to a myth recorded on one of the columns, Neith, who is called "mother of mothers," gave birth to Ra and other gods by speaking their names. "Both these deities are responsible for the creation of a whole universe," von Recklinghausen says. "You find this idea of creation everywhere in the temple."

Each column in the pronaos features ritual scenes on its lower part and is inscribed with 28 vertical panels of hieroglyphs, each 13 feet tall. "These texts describe the cult of the gods of Esna, which we don't have at this length in any other temple," says Leitz. "There are hymns and litanies to Khnum, Neith, Khnum's other consorts—Menhit and Nebtu—and his son Heka." One column preserves a 143-verse litany to Khnum-Ra praising everything the god has brought into being.

The layout of the inscriptions provides a remarkable example of the ingenious interactions between text and images in the pronaos. The 28 panels on each column are evenly spaced around its circumference. On some panels, Leitz explains, hieroglyphs face directly toward pictorial scenes that illustrate offerings described in the text and, in one case, toward a small door through which offerings were brought into the temple.

Images along the temple's processional route include a scene (left) depicting a ritual honoring Khnum, with priests carrying the god's shrine on a solar boat. Another scene (right) shows the emperor Trajan (reigned a.d. 98–117) presenting incense and a priest offering a potter's wheel to Khnum.

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RITUALS

At the temple of Khnum in Esna, as at every Egyptian temple, priests performed daily rituals. In the entrance hall, however, activities were likely limited to special celebrations that occurred on many dates throughout the year, chief among them New Year's Day. A lengthy calendar of festivals beginning on that day is inscribed alongside the hall's southeast and northeast doors. Next to each date is a brief description of that particular day's main rites. In all, the festivals listed on the calendar amount to 90 days of celebrations per year. "More or less every second week there would have been a festival taking place," von Recklinghausen says. "There seem to have been two or three main feasts as well as more frequent smaller feasts."

Although the entrance hall features a wealth of texts and scenes concerning the feasts, rites, and offerings on festival days, its function as part of these proceedings is unclear. "We're not really certain what happened inside the pronaos," says Leitz, "but we do

know that the temple's main entrance was only opened during the big feasts." Inscriptions specify the conditions worshippers were required to meet to enter the temple precinct on these days. "They had to be clean and to abstain from intercourse for eight days before," Leitz says. "Women and foreigners had no access at all. They had to wait outside the temple."

Recently cleaned reliefs on the pronaos' interior walls provide tantalizing clues as to what the rites honoring Khnum involved. One scene shows the emperor Trajan (reigned a.d. 98–117) dedicating four incense burners to the god, while a priest clad in leopard skin standing in front of him offers Khnum a potter's wheel. Another portrays priests carrying the solar boat of Khnum, in which the god's shrine sits, out of the temple's inner sanctum. On special occasions, such processions would have traveled from the inner sanctum into the entrance hall, down its central aisle, to the throngs of worshippers gathered outside. "I think the pronaos was a very important part of this ritual procession and the feasts," says von Recklinghausen. "It was probably the first point where the procession halted so that hymns could be read aloud or sung."

The hall's ceiling features images of mythical creatures that personified constellations and elements of the natural world. These include (left) an eight-legged hybrid human figure with goose and human heads identified by an inscription as "the two geese of Ra," an otherwise unknown entity. A winged lion with a ram's head (right) represents the south wind.

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HEAVENS

By the time artisans began to create the decorations in the temple of Khnum at Esna, Egyptians had observed the paths of the sun, moon, and stars for thousands of years, and their knowledge of astronomy formed the foundations of their religion. They believed that certain celestial bodies were incarnations of their gods; for example, the rising sun symbolized Ra's creation of the world, and its path reflected his daily rebirth. Thus, representations of astronomical phenomena were fitting subjects for Egyptian temples.

One part of the ceiling features depictions of moon deities standing atop disks in which images of the wadjet eye, or Eye of Horus, grow larger as the moon waxes.

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Each ceiling bay of the pronaos features a particular astronomical theme surrounded by stars. The three bays on either side of the central aisle show the lunar cycle, with the deities of the waxing and waning moon standing on disks; 36 figures called decans, stars or constellations that measured the 12 hours of the night; the course of the sun, which is shown on two bays; the 12 signs of the zodiac; and various other constellations. Peculiar hybrid creatures—including winged snakes and a bird with a crocodile head and four wings—are depicted across the ceiling and are thought to represent constellations. "Most of these creatures are accompanied by rectangles in which we found painted inscriptions that give us the names of these strange beings," Leitz says. "But this doesn't necessarily mean we know which stars they refer to."

The ceiling also contains representations of much better-known constellations that played crucial roles in Egyptians' mythology and conception of the cosmos. A bay on the north

side of the hall depicts a few of the most important deities in the Egyptian pantheon. On one side of the bay is the constellation Orion, depicted as the god Osiris. He is accompanied by Sothis, the divine personification of Sirius—the brightest star in the night sky—in the guise of Isis, Osiris’ wife and sister. “Orion and Sothis were the two main deities of the southern sky,” says Leitz. “Orion turns his head to Sothis. The astronomical reason for this is that Sothis rises a bit more than an hour and a half later than Orion.” In Egyptian mythology, Osiris was murdered by his brother Seth, the god of confusion and disorder. Isis was able to reassemble her husband’s dismembered body, bringing Osiris back to life, after which he became god of the underworld.

On the other side of the bay, a bull’s leg is tethered to a chain held by a hippopotamus goddess. The leg represents the Big Dipper, whose seven bright stars are depicted surrounding it. “The Big Dipper is a representation of the god Seth,” Leitz says. “Even though Osiris was reanimated after his murder, Seth was interested in killing him again. This hippopotamus deity is therefore preventing the Big Dipper from descending too far under the horizon into the underworld.”

Some deities depicted on the ceiling represent celestial bodies. A hippopotamus goddess holds a chain wrapped around a bull’s leg, which represents the Big Dipper, a constellation the Egyptians believed was personified by Seth, the god of chaos.

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During the Old Kingdom (ca. 2649–2150 b.c.), especially in Lower Egypt, the Big Dipper was a circumpolar star cluster—one that never dipped below the horizon. The gradual change in the tilt of Earth’s axis, however, causes the stars’ positions to shift. This would have slightly, though significantly, altered the Big Dipper’s location in the sky by the time of the New Kingdom, says Leitz, particularly from a southern vantage point such as Esna. “One star of the Big Dipper could have gone beneath the horizon, and Seth could have entered the underworld,” he says. “This must have been a disturbing occurrence in Egyptian mythology. What is Seth doing in the underworld during these hours?”

Another scene depicts three deities associated with New Year’s Day: (left to right) the constellation Orion; Sothis, or the star Sirius; and Anukis, goddess of the annual Nile flood.

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Orion and Sothis also appear in the pronaos’ southernmost ceiling bay. Under a border depicting the sky goddess Nut swallowing the sun, the deities are shown riding in separate boats, with Orion in the lead looking back at Sothis. After conservation, the researchers found a hieroglyph featuring 10 stars painted above the deities. “On the night before the Egyptian New Year festival, Orion rises in the tenth hour, and Sothis follows in the twelfth hour,” says Leitz. “After approximately seventy days of invisibility in the night sky, Sirius rises for the first time in the east.” This astronomical event occurred in mid-July and marked New Year’s Day for the Egyptians, which for thousands of years was one of their most important festivals. It coincided with the annual Nile flood. In the scene, Orion and Sothis are followed by Anukis, the goddess of the inundation of the Nile, who was also responsible for the river’s recession 100 days after the new year.

The ceiling is also covered with carved images of the 12 signs of the zodiac, which were obscured by soot before the conservation process.

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ZODIAC

One of the most remarkable decorations in the entrance hall of the temple of Khnum in Esna is the representation of the zodiac, the primary subject of a ceiling bay near its southern end. The zodiac system was devised by the Babylonians in Mesopotamia around 4,000 years ago and was likely introduced to Egypt by the Ptolemies toward the end of the fourth century b.c. It soon became popular among Egyptians, who decorated their tombs with zodiac signs and inscribed their horoscopes on ostracans, broken pottery pieces used as writing surfaces. “In the Ptolemaic and Roman periods, the twelve constellations of the zodiac would have been depicted on the ceilings in every temple in Egypt,” Leitz says. “It was nearly the only non-Egyptian decorative element in these temples.” The zodiac ceiling bay in the pronaos is one of only three complete sets of astrological signs preserved from Egyptian temples.

One of the zodiac signs to emerge was Sagittarius, shown before (left) and after (right) cleaning.

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The 12 zodiac signs are carved in two groups of six, which are separated by a hieroglyphic inscription. Divine representations of Mars, Jupiter, and Saturn—three of the seven planets known in antiquity—are depicted alongside specific signs of the zodiac. These associations between planets and zodiac signs are examples of an astrological concept known as exaltation, or *hypsoma* in Greek, which holds that the planets’ connections with particular zodiac signs have an impact on the human condition. Ancient astrologers believed that the planet Mars had its exaltation in Capricorn. Thus, the deity personifying Mars is depicted as a war god standing atop the sign for the fish-tailed goat Capricorn.

A mystifying aspect of the zodiac ceiling bay is its depiction of six of the Seven Arrows, messengers of female deities such as Sekhmet, the goddess of disease. “Depictions of the Arrows are not common, though we have dozens of attestations of them in Greco-Roman sources,” says Leitz. “They were mostly considered dangerous. But Sekhmet, for example, also had healing effects, so the Arrows could perhaps have had a beneficial role.” Conservators have revealed previously obscured inscriptions that contain the Arrows’ names. An inscription above the First and Second Arrows, for instance, dubs the second messenger “who steals the heart, who loves one.” It is unclear what astronomical significance, if any, the Arrows had in ancient Egypt.

An image of a weapon-wielding war god representing the planet Mars stands atop the fish-tailed goat Capricorn.

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Conservators working at Esna’s temple of Khnum continue to clean the scenes on the pronaos’ inner walls as well as the columns along its facade. “Now this vivid decoration can be studied in combination with the temple’s architectural layout, something that could not have been attempted until recently,” El-Leithy says. Leitz and von

Recklinghausen suspect there are many more connections between the positioning of texts and images that have yet to be discovered. “I’ve been quite astonished at the numerous cases of these interactions,” says Leitz. “I didn’t expect it, and, at the moment, we don’t know whether this might have been repeated in any other temple in Egypt.”

The researchers have, however, found precise parallels between the myriad texts and images within the pronaos and those in other temples. These connections provide insight into how the priests of Esna’s temple of Khnum devised and executed the overarching plan for the decoration of the hall. Parts of the text on the exterior walls, for example, also appear in the Ptolemaic temple of Horus in the Upper Egyptian city of Edfu. This is evidence, von Recklinghausen says, that priests selected and adapted texts and representations of gods, stars, and other religious and astronomical iconography from a shared source that is now lost. “They seem to have had master pattern books with illustrations, vignettes, and all the texts, but the priests were able to use them very freely,” he says. “These were texts you could use, but you didn’t need to stick to them.” It has taken six years for the team led by Leitz and El-Leithy to clean the temple of Khnum’s extraordinary entrance hall. Throughout the process, they have recovered a dazzling array of images depicting different facets of Egyptian theology. Just two of the pronaos’ walls and the six columns lining its facade remain to be cleaned, which Leitz estimates will require about a year and a half. It remains to be seen what marvels lie hidden beneath the centuries of soot.

Please visit the site: <https://archaeology.org/issues/march-april-2025/features/an-egyptian-temple-reborn/> [Go there for many pix]

ANCIENT DNA POINTS TO ORIGINS OF INDO-EUROPEAN LANGUAGE, BY CARL ZIMMER

A new study claims to have identified the first speakers of Indo-European language, which gave rise to English, Sanskrit and hundreds of others.

A new study claims to have identified the first speakers of Indo-European language, which gave rise to English, Sanskrit and hundreds of others.

In 1786, a British judge named William Jones noticed striking similarities between certain words in languages, such as Sanskrit and Latin, whose speakers were separated by thousands of miles. The languages must have "sprung from some common source," he wrote.

Later generations of linguists determined that Sanskrit and Latin belong to a huge family of so-called Indo-European languages. So do English, Hindi and Spanish, along with hundreds of less common languages. Today, about half the world speaks an Indo-European language.

Linguists and archaeologists have long argued about which group of ancient people spoke the original Indo-European language. A new study in the journal Nature throws a new theory into the fray. Analyzing a wealth of DNA collected from fossilized human bones, the researchers found that the first Indo-European speakers were a loose confederation of hunter-gatherers who lived in southern Russia about 6,000 years ago.

"We've been on the hunt for this for many years," said David Reich, a geneticist at Harvard who led part of the new research.

Independent linguists had mixed reactions to the findings, with some praising their rigor and others highly skeptical.

Many decades ago, linguists began trying to reconstruct the proto-Indo-European language by looking at words shared by many different languages. That early vocabulary contained a lot of words about things like wheels and wagons, and few about farming. It looked like the kind of language that would have been spoken by nomadic herders who lived across the steppes of Asia thousands of years ago.

But in 1987, Colin Renfrew, a British archaeologist, questioned whether nomads who were constantly on the move would have stayed in any one place long enough for their language to catch on. He found it more plausible that early farmers in Anatolia (a region in what is now Turkey) spread the language as they expanded, gradually converting more and more land to farm fields and eventually building towns and cities.

The archaeologist argued that an Anatolian origin also fit the archaeological evidence better. The oldest Indo-European writing, dating back 3,700 years, is in an extinct language called Hittite, which was spoken only in Anatolia.

In 2015, two teams of geneticists – one led by Dr. Reich – shook up this debate with some remarkable data from ancient DNA of Bronze Age Europeans. They found that about 4,500 years ago, central and northern Europeans suddenly gained DNA that linked them with nomads on the Russian steppe, a group known as the Yamnaya.

Dr. Reich and his colleagues suspected that the Yamnaya swept from Russia into Europe, and perhaps brought the Indo-European language with them.

In the new study, they analyzed a trove of ancient skeletons from across Ukraine and southern Russia. "It's a sampling tour de force," said Mait Metspalu, a population geneticist at the University of Tartu in Estonia who was not involved in the research.

Based on these data, the scientists argue that the Indo-European language started with the Yamnaya's hunter-gatherer ancestors, known as the Caucasus-Lower Volga people, or CLV.

The CLV people lived about 7,000 years ago in a region stretching from the Volga River in the north to the Caucasus Mountains in the south. They most likely fished and hunted for much of their food.

Around 6,000 years ago, the study argues, the CLV people expanded out of their homeland. One wave moved west into what is now Ukraine and interbred with hunter-gatherers. Three hundred years later, a tiny population of these people – perhaps just a few hundred – formed a distinctive culture and became the first Yamnaya

Another wave of CLV people headed south. They reached Anatolia, where they interbred with early farmers.

The CLV people who came to Anatolia, Dr. Reich argues, gave rise to early Indo-European languages like Hittite. (This would also fit with the early Indo-European writing found in Anatolia.) But it was their Yamnaya descendants who became nomads and carried the language across thousands of miles.

Some experts praised the work. "It's a very intelligent scenario that's difficult to criticize," said Guus Kroonen, a linguist at Leiden University in the Netherlands who was not involved in the studies.

But Dr. Metspalu hesitated to jump from the new genetic data to firm conclusions about who first spoke Indo-European. "Genes don't tell us anything about language, period," he said.

And Paul Heggarty, a linguist at Pontifical Catholic University of Peru, said that the DNA analysis in the study was valuable, but he rejected the new hypothesis about the first Indo-European speakers originating in Russia as "smoke and mirrors."

In 2023, Dr. Heggarty and his colleagues published a study arguing that the first Indo-Europeans were early farmers who lived over 8,000 years ago in the northern Fertile Crescent, in today's Middle East.

Dr. Heggarty suggested that the CLV people actually belonged to a bigger network of hunter-gatherers that stretched from southern Russia into northern Iran. Some of them could have discovered farming in the northern Fertile Crescent, and then developed the Indo-European language, which would align with his findings.

These early farmers could have given rise to Hittite speakers thousands of years later in Anatolia, he said, and later given rise to the Yamnaya. The Yamnaya brought Indo-European languages to northern and Central Europe, Dr. Heggarty argued, but they were only one part of a bigger, older expansion.

As the Indo-European debate advances, one thing is clear: Our understanding of its history now stands in stark contrast to the racist myths that once surrounded it. Nineteenth-century linguists called the original speakers of Indo-European Aryans, and some writers later pushed the notion that ancient Aryans were a superior race. The Nazis embraced the Aryan myths, using them to justify genocide.

But Dr. Reich said that studies on ancient DNA show just how bankrupt these Aryan stories were.

"There's all sorts of mixtures and movements from places that these myths never imagined," he said. "And it really teaches us that there's really no such thing as purity."

Please visit the site: <https://www.nytimes.com/2025/02/05/science/indo-european-language-ancient-human-dna.html>

ANCIENT AGRICULTURAL STRATEGIES REVEALED: HOW PRE-INDUSTRIAL COMMUNITIES ADAPTED TO CLIMATE CHANGES, BY VILNIUS UNIVERSITY

A recent study published in Scientific Reports delves into the adaptive agricultural practices of pre-industrial communities in north-eastern Europe over the past two millennia. The research highlights how significant climatic shifts, coupled with socioeconomic factors, influenced the selection and cultivation of buffer crops to mitigate the risks associated with primary staple crop failures.

"This study shows quite vividly that due to climate change the thermophilic millet crop, which was the staple food during the first millennium AD, was replaced by other, more cold-resistant crops such as buckwheat," states the paper's senior author and PI of the ERC-CoG project MILWAYS, Prof. Giedre Motuzaite Matuzeviciute.

The study provides insights into the resilience and ingenuity of ancient agricultural systems, emphasizing the dynamic interplay between environmental challenges and human innovation. By analyzing archaeological evidence and historical records, the researchers reconstructed past crop repertoires, shedding light on how communities diversified their agriculture to ensure food security amidst changing conditions.

This research enhances our understanding of historical agricultural practices and offers valuable lessons for modern agriculture. As contemporary societies face greater climate variability and socioeconomic uncertainties, the adaptive strategies of the past may inform sustainable agricultural practices and policies today.

"Recent drying-up processes and increased risk of prolonged heat waves and subsequent droughts are challenging our socio-political resilience, and demand a rethinking of global food production strategies. Reconsidering drought tolerant species, therefore, can help mitigate the long-term effects of current global warming," says environmental scientist Dr. Michael Kempf.

"It is due to the Little Ice Age that the staple foods such as rye bread and buckwheat porridge came to dominate the cuisine of northeastern Europeans. Warming climates might lead us back to forgotten millet crops," says Prof. Motuzaite Matuzeviciute.

Situated at the intersection of different climatic zones, northeastern Europe represents a marginal agricultural region where buffer crops play a crucial role in ensuring food security amidst shifting environmental conditions.

"Natural conditions, agriculture, and gastronomic culture have always been closely interconnected. Gastronomic culture is more inert, meaning that environmental changes first affected agriculture and only later became apparent in the kitchen. Therefore, studying these processes is essential for understanding both past and contemporary societies," noted Prof. Rimvydas Laužikas.

The historical records indicate a southward shift of millet agriculture during the onset of the Little Ice Age. The Vilnius University Ph.D. candidate Meiirzhan Abdrakhmanov concludes that "this study emphasizes the dynamic nature of agricultural adaptation and underscores the resilience of past communities in responding to climatic changes."

More information: Meiirzhan Abdrakhmanov et al, The shifting of buffer crop repertoires in pre-industrial north-eastern Europe, Scientific Reports (2025). DOI: 10.1038/s41598-025-87792-0
Journal information: Scientific Reports
Provided by Vilnius University

Please visit the site: <https://phys.org/news/2025-01-ancient-agricultural-strategies-revealed-pre.html> [Go there for pix & map]

ANCIENT EGYPTIAN MUMMIFIED BODIES SMELL ‘WOODY,’ ‘SPICY’ AND ‘SWEET’

Ancient Egyptian mummified bodies smell ‘woody,’ ‘spicy’ and ‘sweet’, finds a new study led by researchers from UCL and the University of Ljubljana, revealing new details about mummification practices.

The research, published in Journal of the American Chemical Society, is the first time that the smells of mummified bodies have been systematically studied combining a mix of instrumental and sensory techniques, including an electronic ‘nose’ and trained, human ‘sniffers.’ Nine ancient Egyptian mummified bodies were studied.

This new data offers clues about the materials used in mummification and how practices and ingredients evolved, as well as reveal details about how museums have subsequently conserved the remains.

It’s hoped that using this kind of chemical analysis can help keep conservators safe, protect ancient artifacts and preserve their olfactory heritage.

Lead author, Professor Matija Strlič (UCL Bartlett School of Environment, Energy & Resources and the University of Ljubljana) said: “The smell of mummified bodies has for years attracted significant interest from experts and the general public, but no combined chemical and perceptual scientific study has been conducted until now. This ground-breaking research really helps us better plan conservation and understand the ancient embalming materials. It adds another layer of data to enrich the museum exhibition of mummified bodies.”

Dr Cecilia Bembibre (UCL Bartlett School of Environment, Energy & Resources), added: “Two aspects of this study stand out to me. First, new information was revealed by the smells, highlighting the importance of using our senses to understand the past.

“Secondly, while most of the studies on mummified bodies have taken place in European museums so far, here we worked closely with Egyptian colleagues to ensure their expertise and perceptual experience were represented, and we jointly developed an ethical and respectful approach to studying the mummified bodies.”

Odours are chemical molecules suspended in air that have been given off by a substance. The researchers used a gas chromatograph coupled with a mass spectrometer to measure and quantify chemicals emitted by nine ancient Egyptian mummified bodies on display and in storage in the Egyptian Museum in Cairo. In addition, a panel of trained human ‘sniffers’ described the smells in terms of quality, intensity, and pleasantness.

By combining these methods, the researchers were able to identify whether a smell chemical was emitted by the archaeological item, from conservation products or pesticides that may have been added later, or from the item’s natural deterioration over the years because of moulds, bacteria and other microorganisms. The research demonstrated the effectiveness of odour as a non-invasive and non-destructive method to chemically categorise and analyse ancient remains.

In addition to gaining a deeper insight into the conservation and material history of ancient mummified bodies, the research will enable museums to engage audiences not just visually, but using their noses as well by creating ‘smellscapes.’ In the future, a contemporary reconstruction of the smell of ancient mummified bodies will be produced by the research team, which will enable audiences to experience this important aspect of ancient Egyptian heritage, and approach practices of embalming and conservation in an engaging, olfactory way.

Co-author, Professor Ali Abdelhalim, director of the Egyptian Museum in Cairo, said: “To the ancient Egyptians, mummification was an important mortuary practice aimed at preserving the body and soul for the afterlife through a detailed ritual of embalming of the deceased using oils, waxes and balms. The practice evolved over time, and identifying different techniques and materials used offers insights into the era, location and socioeconomic status of the individual being mummified.”

Smell was a key consideration for the ancient Egyptians during the mummification process, as pleasant odours were associated with the bodies of deities and their purity, while foul odours were considered indications of a body’s corruption and decay. Even today, about 5,000 years later, conservators often describe the aroma of these mummified bodies as ‘pleasant,’ as it is the product of coniferous resins and oils (such as pine, cedar, and juniper), gum resins (like myrrh and frankincense), and waxes.

The research was conducted in collaboration between conservators and curators at the Egyptian Museum in Cairo and researchers from Slovenia, Poland and the UK.

Please visit the site: <https://www.ucl.ac.uk/news/2025/feb/ancient-egyptian-mummified-bodies-smell-woody-spicy-and-sweet> [Go there for pix]

ARCHAEOLOGISTS REVEAL A 3,000-YEAR-OLD GOLD PROCESSING COMPLEX

Archaeologists from the Supreme Council of Antiquities (SCA) have completed a two-year project to uncover a 3,000-year-old gold processing complex at Jabal Sukari, southwest of Marsa Alam City in Egypt's Red Sea Governorate.

The project, carried out in partnership with the Sukari Gold Mine administration, involved the excavation, documentation, and the careful relocation of the complex to a safe area beyond active mining operations three kilometres away from its original discovery site.

According to a press statement issued by the Ministry of Tourism and Antiquities, the complex dates from as early as 3,000-years-ago during the Third Intermediate Period of Egypt. This period is considered a time of decline and political instability characterised by state fragmentation. It coincided with the Late Bronze Age collapse, which saw the downfall of civilisations across the ancient Near East and Eastern Mediterranean, including the onset of the Greek Dark Ages.

SCA Secretary-General Mohamed Ismail Khaled, said: “Excavations revealed a 3,000-year-old gold processing complex, featuring grinding and crushing stations, filtration and sedimentation basins, and ancient clay furnaces used for smelting gold extracted from quartz veins.”

Excavations also revealed an associated residential district which served as the home of gold miners and workers in the complex, as well as workshops, temples, administrative buildings, and bathhouses that date from the Ptolemaic era.

Architectural remnants from the Roman and Islamic periods indicate that the site remained active for at least 1,000 years, highlighting the regions historical significance for gold mining and processing among Egypt's various ruling cultures.

Other discoveries include 628 ostraca inscribed with hieroglyphic, demotic, and Greek text, along with Ptolemaic bronze coins. Additionally, archaeologists unearthed terracotta figurines depicting human and animal forms from the Graeco-Roman period, as well as stone statuettes of deities such as Bastet and Harpocrates.

“This discovery is significant as it enhances our understanding of Ancient Egyptian mining techniques,” Khaled noted, explaining that the findings provide valuable insights into the social, religious, and economic lives of gold miners in historical desert settlements.

Please visit the site: <https://www.heritagedaily.com/2025/02/archaeologists-reveal-a-3000-year-old-gold-processing-complex/154621> [Go there for pix]
