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# Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

**- Απρίλιος 2013 -**

"Δύο τα εναντιώτατα ευβουλία είναι, τάχος τε και οργήν  
(=δύο πράγματα είναι αντίθετα στη λήψη σωστής  
απόφασης, η βιασύνη και η οργή)" *(Θουκυδίδης)*

"Haste and anger are, to my mind, the two greatest  
obstacles to wise counsel" *(Thucydides)*

## Newsletter of the Hellenic Society of Archaeometry

**- April 2013 -**

**Nr. 145**

## **ΠΙΝΑΚΑΣ ΠΕΡΙΕΧΟΜΕΝΩΝ – TABLE OF CONTENTS**

### **ΣΥΝΕΔΡΙΑ – CONFERENCES/WORKSHOPS**

AEGEAN MARITIME ARCHAEOLOGY, 1st - 15th, July 2013, Andros island, Greece .....	<b>page 5</b>
27th International Congress of Papyrology, University of Warsaw, Poland, between 29 July and 3 August 2013 .....	<b>page 7</b>
Ancient Technologies and Crafts, 1-12 July 2013, Thessaloniki, Greece .....	<b>page 9</b>
9th International Masonry Conference, Guimarães, Portugal, July 7-9, 2014 ....	<b>page 12</b>
International Workshop on VIRTUAL ARCHAEOLOGY Museums & Cultural Tourism, 25-28 September, 2013, Delphi, Greece .....	<b>page 13</b>
FITCH LABORATORY SENIOR VISITING FELLOW LECTURE 2013 .....	<b>page 18</b>
POCA 2013, University of East Anglia, 1-3 November 2013 .....	<b>page 19</b>
2nd announcement re Prehistoric Metallurgy (Experimental Archaeometallurgy) Course, Butser Ancient Farm: 31st May - Monday 3rd June 2013 .....	<b>page 21</b>
CYCLADIC SEMINAR, The Neolithic Settlement at Strofilas, Andros - Expanding the horizons of Cycladic prehistory and iconography, Tuesday, 2 April 2013, Christina A. Televantou .....	<b>page 22</b>
Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών - ΤΜΗΜΑ ΙΣΤΟΡΙΑΣ ΚΑΙ ΑΡΧΑΙΟΛΟΓΙΑΣ - ΤΟΜΕΑΣ ΑΡΧΑΙΟΛΟΓΙΑΣ ΚΑΙ ΙΣΤΟΡΙΑΣ ΤΗΣ ΤΕΧΝΗΣ - ΕΝΑΤΟ ΕΠΙΣΤΗΜΟΝΙΚΟ ΣΥΜΠΟΣΙΟ - ΑΝΑΣΚΑΦΗ ΚΑΙ ΕΡΕΥΝΑ, ΙΧ: ΑΠΟ ΤΟ ΕΡΕΥΝΗΤΙΚΟ ΕΡΓΟ ΤΟΥ ΤΟΜΕΑ ΑΡΧΑΙΟΛΟΓΙΑΣ ΚΑΙ ΙΣΤΟΡΙΑΣ ΤΗΣ ΤΕΧΝΗΣ, Αθήνα, 5 και 6 Απριλίου 2013, Αμφιθέατρο «Ι. Δρακόπουλος», Κεντρικό κτίριο Πανεπιστημίου Αθηνών, Πανεπιστημίου 30, ΑΘΗΝΑ 2013 .....	<b>page 24</b>

### **ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ – JOB VACANCIES/FELLOWSHIPS**

GRANTS: 2, from the Institute for Aegean Prehistory .....	<b>page 28</b>
SCAA Post-Doctoral Research Associate in Aegean Prehistory .....	<b>page 32</b>

### **ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS**

E-Learning στην Αρχαιομετρία (Νέες Τεχνολογίες, Συντήρηση & Διαχείριση Αρχαιοτήτων) .....	<b>page 33</b>
Call for Papers: Special Issue "Sustainability of Wastewater Treatment Processes and Management: Past, Present and Future" - Sustainability (ISSN 2071-1050) .....	<b>page 35</b>

Call for Nominations: AIA Best Practices in Site Preservation Award .....	page 37
On Practice in Conservation-Restoration Education, (Draft by the ENCoRE Board) .....	page 38
[OxCal-Announcement] OxCal v4.2.2 .....	page 39
ΑΡΧΑΙΑ ΕΛΛΗΝΙΚΗ ΤΕΧΝΟΛΟΓΙΑ .....	page 40

#### **INTERNET SITES**

1912-2012 Εκατό χρόνια έρευνας στην προϊστορική Μακεδονία, 22-24/11/12, Αρχαιολογικό Μουσείο Θεσσαλονίκης, Μ. Ανδρόνικου 6, Θεσσαλονίκη .....	page 42
Τα μαθηματικά φέρνουν το νερό στη Σάμο - Εικονοκινητική ταινία από την EMAET και το ΣΤΕΑΤ .....	page 43

#### **NEES EKΔΟΣΕΙΣ – NEW PUBLICATIONS**

Journal of Eastern Mediterranean Archaeology and Heritage Studies .....	page 44
Environmental Archaeology .....	page 46
Archaeologia Bulgarica XVII 2013 #1 .....	page 48
Linguistic evidence supports date for Homeric epics .....	page 49

#### **ΕΙΛΗΣΕΙΣ - NEWS RELEASE**

Ancient Shoes Turn Up in Egypt Temple .....	page 50
Geneticists Estimate Publication Date Of The 'Iliad' - Homer's 'Iliad' codex from approximately the late 5th-early 6th century A.D., by Joel N. Shurkin .....	page 53
Agriculture and parting from wolves shaped dog evolution, study finds .....	page 55
Desert finds challenge horse taming ideas, By Sylvia Smith .....	page 56
Seeking Meaning in the Earliest Female Nudes, by Michael Balter .....	page 59
Eros mosaic found in southern Turkish city ADANA .....	page 61
Phoenician America? By STEVE ROBSON .....	page 62
Most Ancient Romans Ate Like Animals, By Stephanie Pappas .....	page 64
Breaking: Ancient Egypt “pyramid” boat threatened after sewage burst, by Robert Gordon .....	page 66
Floating a bronze age boat, by David Keys .....	page 67
Ancient Arctic camel a curious conundrum .....	page 68

Hi-tech discoveries: archaeology transformed, by JODIE DUFFY .....	<b>page 69</b>
Stone Age Skeletons Unearthed In Libya's Sahara Desert Spotlight Gender Divide, By Tia Ghose .....	<b>page 72</b>
The not-so-Dark Ages: Mummified head from 1200 AD reveals enlightened doctors were more advanced than previously thought, By EMMA INNES .....	<b>page 74</b>
New techniques reveal ancient sulfur cycle .....	<b>page 76</b>
Dimensions of ancient Egypt - Karnak project a cutting-edge approach to antiquity By Aaron Lester .....	<b>page 78</b>
Hyksos buildings are the latest ancient discovery in Tel Habuwa, by Nevine El-Aref .....	<b>page 80</b>
One of World's Oldest Sun Dial Dug Up in Kings' Valley, Upper Egypt .....	<b>page 82</b>
Marmaray artifacts suggest ancient settlements related .....	<b>page 83</b>
Digital Archaeology: 3D Modeling Reveals Ancient Artifacts, By Kiona Smith-Strickland .....	<b>page 84</b>
İzmir looks for input on restoration plan İZMİR .....	<b>page 86</b>
Who Lives Longest? By MAGGIE KOERTH-BAKER .....	<b>page 88</b>
2,400-Year-Old Myths of Mummy-Making Busted, By Tia Ghose .....	<b>page 91</b>
Archaeologists Explore Early Bronze Age Settlement on Greek Island of Keros-Island of the famous "Keros Hoard" may hold more secrets .....	<b>page 93</b>
Turkey's Yalın Mimarlık Wins Ancient Troy Archaeological Museum Design Competition Taflin Laylin .....	<b>page 95</b>
Ancient Iraq yields fresh finds for returning archaeologists, By Jane Arraf .....	<b>page 96</b>
Stone Age Phallus Found in Israel .....	<b>page 98</b>
Newly found pyramids reveal aspects of social equality in ancient Sudan, By Ian Timberlake .....	<b>page 99</b>

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## **ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS**

### **AEGEAN MARITIME ARCHAEOLOGY, 1ST - 15TH, JULY 2013, ANDROS ISLAND, GREECE**

UNIVERSITY OF THE AEGEAN, GREECE  
DEPARTMENT OF MEDITERRANEAN STUDIES

IN COLLABORATION WITH Dept of Underwater Antiquities,  
Ministry of Culture & Tourism Hellenic Center of Marine Research

*Course Director & Coordinator: Professor Ioannis Liritzis, professor of Archaeometry,  
University of the Aegean ( [liritzis@rhodes.aegean.gr](mailto:liritzis@rhodes.aegean.gr) )*

The 15-Days Summer School will consist of lectures and readings, guiding visits to sites and museums, fruitful conversations with faculty and fellow students, student reports, encounters with our Greek hosts, and travel diaries will provide opportunities for students to acquire information and reflect on their experiences. Non-divers will be snorkeling.

#### **COURSE DESCRIPTION**

The following six modules, including Practice, will consist of updated and advanced issues, such as:

***Aegean Islanders (15000-1300 BC): The archaeology of the Aegean Islands***

*Prehistoric Aegean, Migrations in the Aegean, Aegean Art & Culture, Aegean Economy & Trade, Submerged Prehistoric Coastlines, Insularity and multi-insularity: aspects of habitation and communication, Introduction to Archaeometry*

***Maritime Archaeology in the Aegean and Eastern Mediterranean***

*Maritime archaeology in Greece, Ships and Trade routes in the Bronze Age: Nautical Technology and prehistoric seafaring in the Aegean and Eastern Mediterranean, Trade Amphorae in the Aegean, Nautical experimental archaeology, Coastal geoarchaeology in the Cyclades: Submerged coastlines and archaeological markers of relative sea-level change, Illegal trafficking, legislation for the protection of underwater cultural heritage and the Work of the Ephorate of Underwater Antiquities*

***Shipwreck and harbour archaeology: Recent research in the Aegean***

*Shipwreck archaeology in the Aegean and deep-water research, Harbour archaeology: new interdisciplinary approaches, Case studies of ancient shipwrecks and submerged cities, Naval harbours and harbour cities*

***Methods and techniques in underwater archaeology and marine geoarchaeology***

*Site formation processes, submerged landscapes and marine geoarchaeological survey techniques, Sonars & Robotics prospection techniques in underwater archaeological research, Coastal and Marine geosites: identification, assessment, mapping, survey*

*techniques, management, protection and promotion, Preventive conservation techniques of hydrated finds, Underwater photography and photomosaics and fieldwork practice*

***Geoarchaeology, Palaeogeography & Palaeoclimate in the Aegean and the Eastern Mediterranean***

*The geotectonic evolution and the geomorphology of the Aegean Sea basin, The Geography and coastal geomorphology of the Aegean Islands, Paleoclimates & Sea level fluctuations – the last 30,000 years, Natural catastrophes (ancient tsunamis, earthquakes, volcanoes*

***Marine Ecosystem***

*The development of biological thought in the taxonomy of biodiversity: from Aristotle to Darwin, Marine ecosystem in near coastal environments.*

**PRACTICE**

***Maritime archaeology (1 day):*** *Snorkeling in submerged archaeological remains (1 Day), in collaboration with the Eforeia of Underwater Antiquities*

***Marine geological survey (2 days):*** *Fieldwork Practice of students on methods of marine geological research (on groups of 5 students onboard the research vessel). Practice onboard the research vessel ALKYON (harbored at Rhodes and operated by HCMR's Hydrobiological Station / Aquarium of Rhodes), state-of-the-art equipped with sea-bottom reconnaissance systems: side-scan sonar, sub-bottom profiler, multi-beam bathymetry, ROV). Dr D. Sakellariou, HCMR.*

***Underwater photography and photomosaics (1 day):*** *Fieldwork practice in underwater archaeological photography and photomosaics; followed by a workshop*

***Marine ecosystems (1 day):*** *Snorkelling for the observation of marine ecosystems in shallow water, HCMR.*

The “[University of the Aegean Summer Schools](https://aegeanarch2013.pns.aegean.gr/)” are supported by the project «*The University of the Aegean, the prominent and driving factor for the economic and social growth of the wide Aegean area*» of the Operational Programme “Education and Lifelong Learning”, which is co-funded by European Union (European Social Fund) and National Resources.

**Please visit the site: <https://aegeanarch2013.pns.aegean.gr/>**

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**27TH INTERNATIONAL CONGRESS OF  
PAPYROLOGY, UNIVERSITY OF WARSAW,  
POLAND, BETWEEN 29 JULY AND 3 AUGUST  
2013**

Third Circular:

[http://www.papyrocongress2013.wpia.uw.edu.pl/Third\\_Circular\\_Congress\\_2013.pdf](http://www.papyrocongress2013.wpia.uw.edu.pl/Third_Circular_Congress_2013.pdf)

It is our great pleasure to invite members of the papyrological community to Warsaw for the 27th International Congress of Papyrology in 2013. It will be the second time that this event is held in Warsaw - in 1961 our city hosted the congress together with Cracow.

The 27th Congress will begin at 9am on Monday, 29 July 2013, and will conclude with a General Assembly of the AIP on Saturday, 3 August 2013, around noon.

The scientific community of the Warsaw papyrologists is institutionally divided between two faculties of the University of Warsaw: the Faculty of History (Department of Papyrology within the Institute of Archaeology) and the Faculty of Law and Administration (Chair of Roman Law and the Law of Antiquity within the Institute of History of Law). However, we are united by the common founding tradition starting with Raphael Taubenschlag and Jerzy Manteuffel, creators of the original Institute of Papyrology. The scientific review Taubenschlag founded, The Journal of Juristic Papyrology - one of the most important periodicals of our discipline - is the physical bond between us, notwithstanding our formally diverse backgrounds. The series of JJurP Supplements, launched almost a decade ago, testifies to the strength of the Warsaw community of students of Antiquity: since 2002 fourteen volumes have been published and more are currently in preparation. We are visible and recognized at the University of Warsaw: our lectures and seminars attract not only students of our university but also from other schools.

We are convinced that Warsaw is a perfect place for a meeting of the representatives of such a global discipline as papyrology. The city is located in the heart of Europe and its well-connected airport is situated near the city centre. The congress will be held on the atmospheric old university campus in the heart of the city. The university authorities are happy to offer us modern conference facilities with a spacious lecture hall (300 people) and a number of smaller rooms ideal for workshops and session work. Several hotels ranging from modest to luxurious are located near the university and offer special rates for congress participants.

Our editorial experience of the last decades guarantees that the congress proceedings will be published swiftly and will meet high scientific and editorial standards.

\*\*\*\*\*

Tomasz Derda  
Head of the Department of Papyrology  
of the University of Warsaw, JJurP Editor

Ewa Wipszycka

President - Raphael Taubenschlag Foundation Professor at the Department of Papyrology  
of the University of Warsaw

Kazimierz Lewartowski

Head of the Institute of Archaeology

of the University of Warsaw

Jakub Urbanik

JJurP Editor

Adam Łajtar

Professor at the Department of Papyrology of the University of Warsaw

Maria Zabłocka

Head of the Chair of Roman Law and and the Law of Antiquity of the University of  
Warsaw

Adam Łukaszewicz

Professor at the Department of Papyrology of the University of Warsaw

Andrzej Zakrzewski

Head of the Institute of History

of Law of the University of Warsaw

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**Please visit the site: <http://www.papyrocongress2013.wpia.uw.edu.pl/> [Go there for  
links]**

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## **ANCIENT TECHNOLOGIES AND CRAFTS, 1-12 JULY 2013, THESSALONIKI, GREECE**

### **Course Summary**

Progress and innovation in technology were of exceptional importance for the development of ancient societies. Ancient technologies and crafts are of interest to archaeologists, historians and other scientists as well. The International Hellenic University Summer School in Ancient Technologies and Crafts offers the opportunity to study different aspects of the technological advances of ancient cultures, mainly that of ancient Greece, revealing the unique technological level that in fact the ancient civilizations had reached.

During the course, the state of the art in historical research along with the recent scientific techniques applied to the analysis of archaeological findings will be presented by senior academics and field archaeologists who are experts in various research areas, such as the exploitation of natural resources, the crafts exercised in everyday life or recorded by state bureaucracy, the building and naval technologies, the outcomes of the interconnection between technology and science or technology and ideology, etc.

### **Program Structure**

The series of lectures are arranged in three interconnected themes. Every year the school will focus on at least two research areas from each theme, with a variety of lectures offered for each field. For 2013, the series of lectures offered are:

**Introductory Lecture:** *An Introduction to the Ancient Greek Technology*, by Prof. Dr Th. Tassios, Civil engineer, Professor Emeritus, National Technical University, Athens, Greece, President of the Association of Ancient Greek Technology Studies, Member of the Academy of Sciences of Turin.

#### **1. From Material Resources to Final Products**

*Textile Manufacture: From Fibre to Fabric*, by Prof. Dr Marie-Louise Nosch, Director of the Centre for Textile Research (CTR), Saxo Institute, University of Copenhagen, Holder of the Onassis scholarship for 2013.

*Pre-Roman Glassworking*, by Dr Despina Ignatiadou, Curator of Metalwork, Associate Director, Archaeological Museum, Thessaloniki, Greece.

*Roman and Byzantine Glassworking*, by Dr Anastassios Antonaras, Archaeologist, Museum of Byzantine Culture, Thessaloniki, Greece, General Secretary in the council of the Association Internationale pour l'Histoire du Verre-AIHV.

#### **2. Ancient Technology and Science**

*Metal Alloys and Recipes*, by Dr Yannis Bassiakos, Geologist, Research Director, Institute of Materials Science, National Center for Scientific Research "Demokritos", Editor-in-Chief, *J. Archaeological and Anthropological Sciences* (by Springer).

*Standards in Technology and Economy*, by Dr Anna Michailidou, Research Director Emerita, Research Centre for Greek and Roman Antiquity, Institute of Historical Research, The National Hellenic Research Foundation, Member of the research team at Akrotiri excavations, Santorini.

*Writing as Communication Technology*, by Dr Vassilis Petrakis, Affiliated Researcher at the Research Centre for Greek and Roman Antiquity, Institute of Historical Research, The National Hellenic Research Foundation.

*The Antikythera Mechanism: Astronomy and Technology in Ancient Greece*, by Prof. Dr J.H. Seiradakis, Professor of Astronomy, Director of the Laboratory of Astronomy at the Aristotle University of Thessaloniki, Greece, Member of "Pulse" team that was awarded the EU 2005 Descartes Prize for Research.

### **3. Technology, Art and Ideology**

*Building Technology and Archaeological Landscapes*, by Prof. Dr C. Palyvou, Professor of Architecture, Aristotle University of Thessaloniki, Greece.

*Before restoring an architectural monument you need to know all about its body and soul: the case of the Propylaia*, by Dr A. Tanoulas, Architect, Collaborator of the Committee for the Conservation of the Acropolis Monuments.

*Technology, Art and Ideology in Ancient Greek Painting*, by Prof. Dr Chryssoula Paliadeli, Professor of Classical Archaeology, Aristotle University of Thessaloniki, Director of the excavations at Vergina, Macedonia, Greece.

*Archaeological Landscapes through the Eyes of Artist-Travelers*, by Dr F.M. Tsigakou, Art Historian, Curator of Paintings, Prints, and Drawings at the Benaki Museum, Athens, Greece.

### **Program Director:**

Dr Anna Michailidou, Research Director Emerita, Research Centre for Greek and Roman Antiquity, Institute of Historical Research, The National Hellenic Research Foundation.

The aim of this 2-week intensive school is to make the participants more acquainted with aspects of ancient technologies by providing up-to-date knowledge presented and discussed by the experts of the relevant fields. It is of great benefit for the students to study ancient technologies and crafts in a location such as Northern Greece where in recent years major works in preservation have been accomplished by applying modern techniques and ideas and the museum exhibitions display impressive results of ancient technologies.

### **Working Hours:**

For the period of two weeks, the lectures will take place six hours daily (a total of 60 hours), from Monday to Friday, at the International Hellenic University, Thessaloniki, Greece. All lectures will be in English. During weekends, the School will organize optional excursions to major museums and sites of Thessaloniki and Macedonia. The individual workload is estimated to another 30 hours.

For a number of students who wish to extend their stay for another week, the summer school may arrange for them to take part in an archaeological excavation in the area of Macedonia or to gain some experience in an archaeological laboratory. If you are interested in this possibility please state it in your application form.

### **Course Credits:**

A certificate of attendance will be provided at the end of the program to all participants who have fulfilled the course requirements. Students/graduates taking the course for credit at their home institutions will also have to deliver an essay paper in order to obtain 4.5 ECTS credits. Since degree requirements vary among universities, students/graduates are advised to ensure, preferably in advance, that their college or university will recognize such certification and award the suggested credits.

### **Fees and Accommodation:**

The tuition fees are 665€. Participants will have to cover their travel, accommodation and everyday expenses. Participants can choose accommodation from a variety of options, with prices starting from 100 € for the whole 2 weeks. The additional tuition fees for the third week of the Summer School are 135€.

### **Participants and Application Procedure:**

The Summer School on Ancient Technologies and crafts welcomes applicants from a wide range of educational background. Participants can be undergraduate students and graduates of related disciplines (Archaeology, Architecture, Museology, Conservation Studies, History, Tourism, Political Science, etc.). Applications from other professionals with an interest in archaeology and ancient technology will also be taken into consideration. Applicants should be well acquainted with the English language.

In order to apply, you need to:

- Fill the [online application form](#)
- Send a short curriculum vitae to [k.karaiskou@ihu.edu.gr](mailto:k.karaiskou@ihu.edu.gr) as well as, optionally, your degrees, any relevant working experience and a letter of recommendation.

All applicants will be notified of admission decisions by e-mail in the next 10 working days upon receiving their application.

The course is open to a maximum of 35 participants whilst IHU reserves the right to postpone the Summer Course for the next year, in case a minimum enrollment is not achieved by 31th May 2013.

### **Discounts and fellowships:**

A small number of fellowships might be offered. Participants who will register before 30 April 2013 will receive a discount of 10%. Participants who are IHU graduates or who intend to study at IHU in the following year will receive a major discount in their Summer Course tuition fees or their MA tuition fees respectively. More details on these subjects will be available in due course, together with the final program of the Summer School.

For more information please contact Mrs Konstadina Karaiskou at [k.karaiskou@ihu.edu.gr](mailto:k.karaiskou@ihu.edu.gr) or call 0030-2310 807529.

**Please visit the site: <http://www.ihu.edu.gr/index.php/en/2013-soh-summer-school-ancient-technologies-and-crafts.html>**

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**9TH INTERNATIONAL MASONRY  
CONFERENCE, GUIMARÃES, PORTUGAL,  
JULY 7-9, 2014**

Dear Colleague,

The **9th International Masonry Conference** will be held in Guimarães, Portugal in July 7-9, 2014, as a joint initiative from the University of Minho and the International Masonry Society. This Conference series has become a great forum for dissemination of the latest scientific and technical developments, and for the exchange of new ideas in emerging topics in masonry.

The deadline for the submission of abstracts is **June 30, 2013**. The abstracts should be submitted through the conference website ([www.9imc.civil.uminho.pt](http://www.9imc.civil.uminho.pt)) after the registration of the authors “First time registration” and accessing the “Restricted Area. You should select the option “Author” to proceed with the submission process. In your private area you can also track the abstract status. Note that in the submission you can choose from a **topic** or a **special session**, according to the subject of your abstract. For details about the topics and special sessions, please check the website.

We are looking forward to your participation to 9 IMC and to welcoming you in Guimarães in July 2014.

On behalf of the Organizing Committee,  
Paulo B. Lourenço, Barry Haseltine & Graça Vasconcelos

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# **INTERNATIONAL WORKSHOP ON VIRTUAL ARCHAEOLOGY MUSEUMS & CULTURAL TOURISM, 25-28 SEPTEMBER, 2013, DELPHI, GREECE**

## **Organized by:**

University of the Aegean, Dept. of Mediterranean studies, Lab. of Archaeometry (GR)  
in collaboration with:

University of the Aegean, Dept. of Product and Systems Design Engineering (GR)

‘Athena’ - Research and Innovation Center (GR)

Duke University, Dept. of Classical Studies (US)

Under the Auspices of the Greek Ministry of Education, Religious Affairs, Culture and Sports

Information and submission: <http://vamct13.syros.aegean.gr/>

email: [vamct2013@aegean.gr](mailto:vamct2013@aegean.gr)

## **A word from the organizers**

The debate on issues concerning digital processing and presentation of museum collections, monuments and sites started in the late 90s and it continues today.

Interest now focuses on the relationships between museums, artifacts, digital technologies and the Web (WWW), and their role in the redefinition of the museum itself as “communication engine”. The interaction between real ontologies, the empirical perception of material culture – objects – and their virtual ontologies – the digital representations - creates new perspectives in the domain of data analysis, data sharing, data contextualization and cultural transmission. In this way, every museum is a meta-museum since artifacts, sites and objects exist in relation and interaction with cultural processes. The meta-museum promotes the action of recontextualization of sites and objects, otherwise impossible in an exhibit or museum display. In other words, in the digital domain, a museum artifact is the outcome of a very sophisticated informational and communicational process, contextualized in a virtual network of relations. The museum and its collections are themselves a site or a “sitefact”, because they create new contexts and territories of knowledge.

The international workshop entitled VIRTUAL ARCHAEOLOGY: Museums & Cultural Tourism aims at investigating all new trends in the field of digital (e.g., online, virtual) museums, virtual communities, archaeometric studies, digital cultural tourism and related topics.

This workshop is open to students, museum and cultural heritage professionals, scholars, archaeologists, historians, ethnologists, IT specialists and engineers and others working on digital applications in cultural heritage, public and private museums, etc. The

workshop is intended to enable collaborations and projects on Greek and international archaeological case studies.

## **PRELIMINARY PROGRAMME**

### ***Friday, 25 September 2013***

Arrival at Delphi

20.00 Welcome Cocktail

### ***Saturday, 26 September 2013***

9.00-13.00 Session 1

13.00-14.30 Lunch

17.00-20.00 Session 2

20.30 Conference Dinner

### ***Sunday, 27 September 2013***

8.00-12.00 Museum & Delphi site visit

13.00-14.30 Lunch

17.00-20.00 Session 3

20.30 Dinner

### ***Monday, 28 September 2013***

Departures

## **LOCAL SCIENTIFIC COMMITTEE**

Nikolaos Avouris  
University of Patras

Maria Economou, Gerasimos Pavlogeorgatos  
University of the Aegean

Vasilis Ganiatsas  
National Technical University

Anestis Koutsoudis, Despoina Tsiafakis  
Nestor Tsirliganis, Christos Emmanouilidis  
Athena-Research and Innovation Center

Georgios Lepouras  
University of Peloponnese

Spyridon Mouroutsos  
Democritus University of Thrace

Athanasios Sideris  
Foundation of the Hellenic World, Greece

## TOPICS

Topics include, but are not restricted to, the following:

- . Visualizing archaeology and heritage in 3D
- . Virtual Communities
- . Virtual museums
- . Virtual, Augmented & Mixed Reality applications
- . Serious Games
- . Interaction Design
- . Museums, Narrative and Virtual Storytelling
- . Handheld and mobile technologies
- . Web 2.0 and Social Networking in cultural heritage
- . Interactive installations in museums and heritage sites
- . Digital Hermeneutics and Museum Studies
- . Data mining and digital archives
- . Data, digitization, documentation
- . Digital technologies for archeological research
- . Digital Cultural Tourism
- . Copyright in the Digital Age
- . Museum Digital Resource Management
- . Digital preservation of historical & traditional practices
- . Quantitative and qualitative evaluation
- . Virtual Educational approaches
- . Virtual Archaeometry

## REGISTRATION

Early Registration fee (5th of August 2013): 200 Euros.

Late Registration Fee: 250 Euros.

Registration includes:

- a) transportation to and from Delphi: pick-up from Athens International Airport to Delphi on September 25th, at 16.00 the latest. Departure from Delphi to Athens on September 28th.
- b) Accommodation in Delphi (B&B) for 3 nights
- c) All lunches, dinners and coffee breaks
- d) Workshop material

Airfare and extras at the hotel are not included in the registration fee.

## **PROCEEDINGS**

Papers submitted to the workshop will be published as a special volume in the international journal of Mediterranean Archaeology & Archaeometry ([www.maajournal.com](http://www.maajournal.com)), following a double blind peer review process.

All the authors included in the volume will receive a free electronic copy of their article.

## **KEYNOTE SPEAKERS**

Maurizio Forte  
Duke University, USA

Luis A. Hernandez Ibanez  
VideaLAB - Universidade da Coruna, Spain

Maria Roussou  
Makebelieve, Athens

## **HONORARY INT. SCIENTIFIC COMMITTEE**

Alonzo Addison (confirmed)  
UNESCO

Matteo Dellepiane (confirmed)  
CNR ISTI, Italy

Luis A. Hernandez Ibanez (confirmed)  
Universidade da Coruna, Spain

Sarah Kenderdine (confirmed)  
City University, Hong Kong

Paolo Paolini (to be confirmed)  
Polytecnic – University of Milan, Italy

Sofia Pescarin (to be confirmed)  
CNR ITABC, Italy

Eva Pietroni (to be confirmed)  
CNR – ITABC, Italy

Donald Sanders (confirmed)  
Institute for the Visualization of History, USA

Jeffrey Shaw (to be confirmed)  
School of Creative Media, City University, Hong Kong



Hal Thwaites (confirmed)  
University of Malaya, Malaysia

Ethan Watrall (confirmed)  
Michigan State University, USA

Hyun Seung Yang (to be confirmed)  
KAIST, Daejeon, Korea

#### **ORGANIZING COMMITTEE**

Ioannis Liritzis  
University of the Aegean

George Pavlidis  
Athena-Research and Innovation Center

Asimina Vafiadou  
University of the Aegean

Spyros Vosinakis  
University of the Aegean

#### **IMPORTANT DATES**

*Submission of Abstracts (500 words): June 1, 2013*

*Acceptance notification: July 31, 2013*

*Submission of Full Papers: October 31, 2013*

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## **FITCH LABORATORY SENIOR VISITING FELLOW LECTURE 2013**

Dear all,

Please find below the announcement of our Fitch Laboratory Senior Visiting Fellow Lecture that will take place at the Upper House (BSA) on Monday, April 1<sup>st</sup> at 7:00 p.m. 2013.

Dr. S. Waksman (Laboratoire de Céramologie, CNRS, France) will introduce the topic: 'Looking for the main production site of middle Byzantine pottery'.

Best Wishes,

Zoe Zgouleta

\*\*\*\*\*

Fitch Laboratory Administrator  
British School at Athens  
52 Souedias Str.  
106 76 Athens  
Greece  
Tel.: [+30 211 1022 830](tel:+302111022830)  
Fax: [+30 211 1022803](tel:+302111022803)  
Email: [flsecretary@bsa.ac.uk](mailto:flsecretary@bsa.ac.uk)

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## **POCA 2013, UNIVERSITY OF EAST ANGLIA,** **1-3 NOVEMBER 2013**

The University of East Anglia (UEA) is pleased to announce that 13<sup>th</sup> annual conference of POCA (Postgraduate Cypriot Archaeology) will be held on the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> of November 2013.

POCA conferences have typically been weighted towards Cypriot archaeology. However, recent meetings have adopted a wider chronological, contextual and multidisciplinary approach to Cypriot studies which POCA2013 hopes to encourage. POCA offers an excellent opportunity for post-graduate students and early career professionals, from a variety of backgrounds and disciplines, to present their work in a sympathetic context, exchange ideas and meet colleagues with similar research interests

There is no registration fee, however delegates would need to make their own travel plans and arrange their own accommodation (see <http://www.uea.ac.uk/art-history/news-and-events/POCA2013> for updates).

The conference will take place at the School of Art History and World Art Studies in the Sainsbury Centre for Visual Arts (SCVA), Norman Foster's first major public building. The Centre houses the Robert and Lisa Sainsbury Collection, the University Collection of Abstract and Constructivist art and the Anderson Collection of Art Nouveau. During the conference the Centre will host a major exhibition 'Masterpieces: Art and East Anglia', which coincides with the 50<sup>th</sup> anniversary of the opening of the University. The university is situated in undulating landscape about 4kms from the centre of the medieval cathedral city of Norwich. It is two hours by train from London and 95kms from Cambridge

### **CALL FOR PAPERS**

Please send abstracts of no more than 250 words and a title, together with your email address to [Richard.Maguire@uea.ac.uk](mailto:Richard.Maguire@uea.ac.uk), no later than 31<sup>st</sup> July 2012. Papers should last for c.20 minutes. Recent conference proceeding have been published and we would anticipate that this would be the case with POCA2013. All submissions will be subject to peer review although acceptance for presentation does not guarantee inclusion in the final publication.

We look forward to meeting you in Norwich.

Photo credits: Neil Young, Foster + Partners; Robert and Lisa Sainsbury Collection. Sainsbury Centre for Visual Arts, UEA

## POCA 2013

Friday, Saturday and Sunday 1, 2 and 3 November 2013  
Sainsbury Centre, University of East Anglia

### REGISTRATION FORM

Title: ..... First name: ..... Surname: .....

Institution (if applicable):.....

Address:

.....  
.....  
.....

Post code: .....

Phone: ..... Email: .....

**The conference is Free and participants will need to meet their own subsistence, accommodation and travel costs**

For conference/accommodation updates visit:

<http://www.uea.ac.uk/art-history/news-and-events/POCA2013>

Please return this form to:  
Beverley Youngman  
Head of School Secretary  
University of East Anglia  
School of World Art Studies  
University of East Anglia  
Norwich NR4 7TJ

Email: [b.youngman@uea.ac.uk](mailto:b.youngman@uea.ac.uk)

Fax: 01603 593042

**Registration deadline: Saturday 31<sup>st</sup> August 2013**

Your registration will be confirmed within one week of submission

**2ND ANNOUNCEMENT RE PREHISTORIC  
METALLURGY (EXPERIMENTAL  
ARCHAEOLOGICAL METALLURGY) COURSE,  
BUTSER ANCIENT FARM: 31ST MAY -  
MONDAY 3RD JUNE 2013**

There are still a few places available on this 4 day taught course.

Cost is **£300** per person incl. of teaching and materials.

Suitable for Masters and PhD students, but open to all. Includes experiments in Bronze Age metallurgy, with an emphasis on smelting and simple bronze alloying and casting. Participants will make their own bag bellows, tuyeres and crucibles. Tutors: Dr Simon Timberlake and Fergus Milton.

Registration and further details via link to <http://www.fingerbuster.com>

Simon

email: [simon.timberlake@btinternet.com](mailto:simon.timberlake@btinternet.com)

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**CYCLADIC SEMINAR, THE NEOLITHIC  
SETTLEMENT AT STROFILAS, ANDROS -  
EXPANDING THE HORIZONS OF CYCLADIC  
PREHISTORY AND ICONOGRAPHY,  
TUESDAY, 2 APRIL 2013, CHRISTINA A.  
TELEVANTOU**

**THE ARCHAEOLOGICAL SOCIETY AT ATHENS, 22 Panepistimiou St., 7 p.m.  
The seminar is organized by Marisa Marthari**

The excavations on the plateau of Strofilas, on the west coast of Andros, have unearthed the ruins of a large settlement belonging to the “Attica-Kephala” cultural horizon of the Final Neolithic (FNL) period. Its growth is attributable largely to the strategic location of Andros near Attica, especially the area around Lavrion, coupled with the fact that it was an important hub and port of call on the Neolithic sea routes for the transport of goods (e.g. Melian obsidian and metal ore) and the transmission of technology and ideas between the Cyclades, the Mainland, Euboea and the NE Aegean.

On the evidence available to date, a number of factors make Strofilas unique in the Cyclades and the surrounding geographical region (Euboea, Attica).

- The large area of the settlement, along with its dense layout and large buildings.
- The communal projects, such as the fortification, the sanctuary and the extensive rock-art representations.
- The abundance of high-quality finds.
- The advanced technology (e.g. metalwork, stonework).
- The extensive rock art representations in excavated context, with symbolic motifs (motif in the form of a ring-idol pendant, figure-of-eight patterns reminiscent of human footprints, pecked marks in spiral arrangement), linear motifs (spiral, meander), pictorial motifs (ships (fig. 1), animals - goats, deer, jackals (fig. 2), fish, dolphins, etc.), narrative scenes (flotilla of ships, jackals hunting deer, seabed with dolphin and its calf, probably a human figure or an anthropomorphic xoanon, 0.45 m. high, possibly representing a deity). It seems that long before the development of pictorial art in the Cyclades, in the Middle and Late Bronze Age (pottery, wall-paintings), the Neolithic artists laid the foundations of the iconographic vocabulary and spatial management in complex scenes.
- The intense maritime character of the settlement (shipbuilding / seafaring / trade), which is documented by more than 100 depictions of ships in the rock art in public places (sanctuary, fortification wall, area north of the wall) as the community’s prevailing symbol.
- The use of a sophisticated and widespread communication code using a system of symbols (motif in the form of a ring-idol pendant, figure-of-eight patterns reminiscent of human footprints, pecked marks in spiral arrangement).

The evidence indicates that this was a thriving proto-urban settlement of maritime character, which undoubtedly played an important role in a wider network of smaller and/or similar-sized settlements during the Final Neolithic (FN) period. Strofilas reveals new information on the culture of the Aegean, particularly in the Cyclades, during the FN period, expanding the horizons of Cycladic prehistory and iconography. It demonstrates that during this period an advanced culture took shape in the Cyclades, with large organized maritime societies and similar settlements with early urban structures, which were the basis for the subsequent cultural developments of the Middle and Late Bronze Age.

Please visit the site: <http://www.archetai.gr/site/content.php?artid=1723>

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**ΕΘΝΙΚΟ ΚΑΙ ΚΑΠΟΔΙΣΤΡΙΑΚΟ ΠΑΝΕΠΙΣΤΗΜΙΟ**  
**ΑΘΗΝΩΝ - ΤΜΗΜΑ ΙΣΤΟΡΙΑΣ ΚΑΙ**  
**ΑΡΧΑΙΟΛΟΓΙΑΣ - ΤΟΜΕΑΣ ΑΡΧΑΙΟΛΟΓΙΑΣ ΚΑΙ**  
**ΙΣΤΟΡΙΑΣ ΤΗΣ ΤΕΧΝΗΣ - ΕΝΑΤΟ**  
**ΕΠΙΣΤΗΜΟΝΙΚΟ ΣΥΜΠΟΣΙΟ - ΑΝΑΣΚΑΦΗ ΚΑΙ**  
**ΕΡΕΥΝΑ, ΙΧ: ΑΠΟ ΤΟ ΕΡΕΥΝΗΤΙΚΟ ΕΡΓΟ ΤΟΥ**  
**ΤΟΜΕΑ ΑΡΧΑΙΟΛΟΓΙΑΣ ΚΑΙ ΙΣΤΟΡΙΑΣ ΤΗΣ**  
**ΤΕΧΝΗΣ, ΑΘΗΝΑ, 5 ΚΑΙ 6 ΑΠΡΙΛΙΟΥ 2013,**  
**ΑΜΦΙΘΕΑΤΡΟ «Ι. ΔΡΑΚΟΠΟΥΛΟΣ», ΚΕΝΤΡΙΚΟ**  
**ΚΤΙΡΙΟ ΠΑΝΕΠΙΣΤΗΜΙΟΥ ΑΘΗΝΩΝ,**  
**ΠΑΝΕΠΙΣΤΗΜΙΟΥ 30, ΑΘΗΝΑ 2013**

**ΠΡΟΓΡΑΜΜΑ**

Το Συμπόσιο εντάχθηκε στις επετειακές εκδηλώσεις της Κοσμητείας της Φιλοσοφικής Σχολής: «Φιλοσοφική Σχολή Πανεπιστημίου Αθηνών. 175 χρόνια λειτουργίας (1837-2012) / 25 χρόνια στην Πανεπιστημιούπολη (1987-2012)».

Το Συμπόσιο, η έκδοση του φυλλαδίου με το πρόγραμμα και η έκδοση του δίγλωσσου τεύχους με το πρόγραμμα και τις περιλήψεις ενισχύθηκαν οικονομικά από το Πανεπιστήμιο Αθηνών.

# Συνεργάτες μελών του Τομέα Αρχαιολογίας και Ιστορίας της Τέχνης

\* Μεταπτυχιακοί φοιτητές / υποψήφιοι διδάκτορες

Η έκθεση έργων μικρογλυπτικής του Νίκου Σοφιαλάκη (1914-2002) στο κτίριο του Πανεπιστημίου οργανώθηκε σε συνεργασία με το Κέντρο Νεοκλασικής Γλυπτικής «Νίκος Σοφιαλάκης».

**Παρασκευή, 5 Απριλίου 2013**

**Πρωινή συνεδρία**

Προεδρία: Ν. Ζίας – Ε. Σημαντώνη-Μπουρνιά

**8.45' - 9.00'**: Προσέλευση. Διανομή του προγράμματος και του τεύχους των περιλήψεων.

**9.00' - 9.15'**: Έναρξη του Συμποσίου. Χαιρετισμοί.

**ΙΣΤΟΡΙΑ ΤΗΣ ΝΕΟΤΕΡΗΣ ΤΕΧΝΗΣ**

**9.15' - 9.30'**: Ε. Μαυρομιχάλη, *Maria Cassavetti Zambaco: Η Ελληνίδα μούσα στον κύκλο των Προραφαηλιτών.*

**9.30' - 9.45'**: Δ. Παυλόπουλος, *Μια λανθάνουσα γραμμική οξυγραφία του Νικόλαου Γόζη (1842-1901). Συμβολή στη μελέτη της Ελληνικής Χαρακτικής του 19ου αιώνα.*

**ΑΝΑΣΚΑΦΕΣ ΚΑΙ ΕΡΕΥΝΕΣ ΠΕΛΙΟΥ**

**ΣΕ ΘΕΣΕΙΣ ΠΡΟΪΣΤΟΡΙΚΩΝ ΧΡΟΝΩΝ**

**9.45' - 10.00'**: Κ. Κοπανιάς, *Η αρχαιολογική έρευνα στις θέσεις Tell Nader και Tell Baqrta στην Περιφέρεια Κουρδιστάν του βορείου Ιράκ.*

**10.00' - 10.15'**: Κ. Ζουμπουλάκης\*, *«Την δόξαν τῆς μεγάλης μάχης ἀποφέρεσθαι». Η εκστρατεία των Γαυγαμήλων, αρχαίες πηγές και τοπογραφικά προβλήματα.*



**10.15'-10.30'**: Γ. Κουρτέση-Φιλιππάκη, Γ. Ρήγινοσ#, Α. Chabrol#, Δ. Σακκάσ#, *Αρχαιολογική έρευνα επιφανείας στη λεκάνη του Μέσου Καλαμά Θεσπρωτίας : 2011-2013.*

**10.30'-10.45'**: Ε. Μαντζουράνη, Έ. Ζαββού#, Α. Θέμοσ#, Γ. Βαβουρανάκης, *Η Ελαφόνησος πριν και μετά το 2009: παλαιά και νέα αρχαιολογικά ευρήματα.*

**10.45'-11.00'**: Γ. Παπαθεοδώρου \_\_\_\_\_#, Μ. Γεραγά#, Ε. Μαντζουράνη, *Παλαιογεωγραφική ανάπλαση της θαλάσσιας περιοχής της Ελαφονήσου (Ν.Α. Πελοπόννησος) με χρήση μεθόδων γεωφυσικής διασκόπησης.*

**11.00'-11.15'**: Γ. Παπαδάτοσ, *Εξερευνώντασ την ορεινή Κρήτη: η ανακάλυψη και η ανασκαφή ενόσ Νεοανακτορικού κτιριακού συγκροτήματοσ στην Ανατολή Ιεράπετρασ.*

**11.15'-11.30'**: Ν. Σγουρίτασ, Ε. Σαλαβούρα#, Β. Βλαχοδημητροπούλου#, *Η ανασκαφή του Μυκηναϊκού οικισμού στοσ Λαζάρηδεσ της Αίγινασ (2011 και 2012).*

**11.30'-12.00'**: Συζήτηση

**12.00'-12.15'**: Διάλειμμα

### **ΑΝΑΣΚΑΦΕΣ ΚΑΙ ΕΡΕΥΝΕΣ ΠΕΔΙΟΥ ΣΕ ΘΕΣΕΙΣ**

#### **ΠΡΩΙΜΩΝ ΙΣΤΟΡΙΚΩΝ, ΚΛΑΣΙΚΩΝ ΚΑΙ ΡΩΜΑΪΚΩΝ ΧΡΟΝΩΝ**

Προεδρία: Α. Λαιμού – Ε. Σερμπέτη

**12.15'-12.30'**: Ν. Κούρου, *Τήνοσ-Ξώμπουργο 2011-2012.*

**12.30'-12.45'**: Ε. Πέππα-Παπαϊωάννου, *«Λεοντάρι» Υμηττού. Η λατρεία μέσα στο σπήλαιο κατά τουσ ιστορικόσ χρόνουσ σύμφωνα με τα κοροπλαστικά αναθήματα.*

**12.45'-13.00'**: Χ. Κανελλόπουλοσ, *Ο ναόσ του Ασκληπιού στη Λισσό.*

**13.00'-13.15'**: Σ. Κατάκησ - Ε. Νικολόπουλοσ#, *Ο αρχαιολογικόσ χώροσ του λεγόμενου «Ρωμαϊκού Βαλανείου» στη Ραφήνα. Δεδομένα και προοπτικέσ.*

**13.15'-13.30'**: Λ. Παλαιοκρασσά-Κόπιτασ, *Παλαιόπολη Ανδρου. Παλαιά και νέα ευρήματα.*

**13.30'-13.45'**: Δ. Πλάντζοσ, *Πανεπιστημιακή Ανασκαφή Άργουσ Ορεστικό.*

**13.45'-14.15'**: Συζήτηση

**14.15'-15.00'**: Έκθεση έργων μικρογλυπτικήσ του Νίκου Σοφιαλάκη (1914-2002).

Παρουσίαση: Δ. Παυλόπουλοσ.

**15.00'-16.30'**: Μεσημβρινή διακοπή.

### **Απογευματινή συνεδρία**

#### **ΑΡΧΑΙΟΛΟΓΙΑ ΤΩΝ ΠΡΟΪΣΤΟΡΙΚΩΝ ΚΑΙ ΠΡΩΙΜΩΝ ΙΣΤΟΡΙΚΩΝ ΧΡΟΝΩΝ:**

##### **ΜΕΛΕΤΕΣ**

Προεδρία: Ν. Κούρου – Ν. Σγουρίτασ

**16.30'-16.45'**: Β. Μαστρογιαννοπούλου\*, *Η παράδοση της γραπτήσ κεραμεικήσ κατά τη νεολιθική περίοδο, με βάση τη γραπτή κεραμεική από το σπήλαιο Σαρακηνού Κωπαΐδασ.*

**16.45'-17.00'**: Β. Κουρτέση-Φιλιππάκη, Β. Νιάρχοσ\*, Ι. Σπηλιωτακοπούλου\*, *Προϊστορικήσ λιθοτεχνίεσ και λίθινα εργαλεία: σύγχρονεσ έρευνεσ και αποτελέσματα.*

**17.00'-17.15'**: Γ. Βαβουρανάκησ, *Ο μινωικόσ θολωτόσ τάφοσ Β στο Απεσωκάρι Μεσαράσ. Υλικά κατάλοιπα, ταφική τελετουργία και κοινωνική δομή.*

**17.15'-17.30'**: Λ. Πλάτων, *Γύρω από τη σημασία του 'ζεύγουσ' στη μινωική, θρησκευτική και κοσμική, ιδεολογία.*

**17.30'-17.45'**: Συζήτηση

**17.45'-18.00'**: Διάλειμμα

**18.00'-18.15'**: Δ. Θεοδωρίδου\*, *Ο χρυσόσ ωσ μέσο συναλλαγής στη Μεσοποταμία κατά την Ύστερη Εποχή του Χαλκού.*

**18.15'-18.30'**: Β. Σαμαράσ\*, *Οχυρωμένοσ οικισμόσ της Μετανακτορικήσ περιόδου και της Πρώιμησ Εποχήσ του Σιδήρου. Η περίπτωση των Κυκλάδων και του Αργοσαρωνικού.*

**18.30'-18.45'**: Α. Χασιακού, Δ. Κουρνιατόσ\*, Π. Μιχαλόπουλοσ\*, Ι. Στεφάνου\*, Σ.

Φουρική\*, *Δημιουργία πολύγλωσσου Γλωσσαρίου ορολογίας για την κεραμική της Εποχής του Χαλκού στο Αιγαίο.*

18.45'-19.00': Συζήτηση

19.00': Δεξίωση

### Σάββατο, 6 Απριλίου 2013

#### Πρωινή συνεδρία

#### ΚΛΑΣΙΚΗ ΑΡΧΑΙΟΛΟΓΙΑ: ΑΝΤΙΚΕΙΜΕΝΑ, ΕΙΚΟΝΟΓΡΑΦΙΑ, ΛΑΤΡΕΙΑ, ΠΟΛΙΤΙΣΤΙΚΗ ΚΛΗΡΟΝΟΜΙΑ

Προεδρία: Γ. Αλευρά – Ε. Πέππα-Παπαϊωάννου

9.15'-9.30': Π. Βαλαβάνης, *Ο μύθος του Πέλοπος ως ιδρυτή των Ολυμπιακών αγώνων. Ένα χαρακτηριστικό παράδειγμα 'επιτηδευμένης ιστορίας'.*

9.30'-9.45': Ε. Σημαντώνη-Μπουρνιά, *Τα ζώα στην ανάγλυφη κεραμική.*

9.45'-10.00': Ρ. D. Scirpo\*, *Στα ίχνη του Βελχανού. Αποσπάσματα κρητικής λατρείας στον Ακράγαντα του βου αι. π.Χ.*

10.00'-10.15': Ν. Α. Χαροκόπος\*, *"μνᾶται δηῦτε φαλακρὸς Ἄλεξις": ὄρμιμοι γλεντοκόποι και γηραιές εταίρες στο υστεροαρχαϊκό συμπόσιο.*

10.15'-10.30': Ο. Παλαγγιά, *Ζητήματα της εικονογραφίας του Μακεδονικού τάφου του Αγίου Αθανασίου.*

10.30'-10.45': Γ. Δουλφής\*, *Κιονόκρανα με φύλλα άκανθας και φύλλα υδροχαρή: Τα εργαστήρια της Αθήνας και της Λακωνίας.*

10.45'-11.00': Ε. Κεφαλίδου, *Πειραματικό εργαστήριο αρχαίας κεραμικής.*

11.00'-11.15': Σ. Λεκάκης\*, *Είναι η πολιτιστική κληρονομιά δημόσιο αγαθό;*

11.15'-11.30': Μ. Μούλιου, *Αναζητώντας το νόημα. Ο ερμηνευτικός σχεδιασμός σε μουσειακές εκθέσεις: αρχές, προκλήσεις, προτάσεις.*

11.30'-12.00': Συζήτηση

12.00'-12.15': Διάλειμμα

#### ΒΥΖΑΝΤΙΝΗ ΚΑΙ ΜΕΤΑΒΥΖΑΝΤΙΝΗ ΑΡΧΑΙΟΛΟΓΙΑ ΚΑΙ ΤΕΧΝΗ

Προεδρία: Π. Βοκοτόπουλος – Ν. Γκιολές

12.15'-12.30': Π. Πετρίδης, *Ανασκαφή πρωτοβυζαντινής αστικής έπαυλης στο Λιμένα Θάσου (2009-2012).*

12.30'-12.45': Β. Κέπετζη, *Παρατηρήσεις στην εικονογραφία επιτραπέζιων σκευών της μεσοβυζαντινής περιόδου.*

12.45'-13.00': Κ. Μαυρουδής\*, *Ιδιαίτερα εικονογραφικά στοιχεία στην απεικόνιση του πρώτου τμήματος του Ακαθίστου Ύμνου σε ναούς και χειρόγραφα της παλαιολόγιας περιόδου.*

13.00'-13.15': Ν. Πάσσαρης\*, *Απεικονίζοντας τη Λειτουργία. Το παναγιάριο της Μονής Ξηροποτάμου.*

13.15'-13.30': Μ. Κωνσταντουδάκη-Κιτρομηλίδου, *Η Άκρα Ταπεινώσις από το Βυζάντιο στη δυτικοευρωπαϊκή τέχνη και στην κρητική ζωγραφική.*

13.30'-13.45': Γ. Πάλλης, *Μεταβυζαντινά λιθανάγλυφα του Μουσείου Βορρέ.*

13.45'-14.15': Συζήτηση

14.15'-15.30': Ελαφρύ γεύμα και μεσημβρινή διακοπή.

#### Απογευματινή συνεδρία

#### ΤΟ ΜΟΥΣΕΙΟ ΑΡΧΑΙΟΛΟΓΙΑΣ ΚΑΙ ΙΣΤΟΡΙΑΣ ΤΗΣ ΤΕΧΝΗΣ ΤΟΥ ΤΜΗΜΑΤΟΣ ΙΣΤΟΡΙΑΣ ΚΑΙ ΑΡΧΑΙΟΛΟΓΙΑΣ

Προεδρία: Ο. Παλαγγιά – Π. Βαλαβάνης

Α'. Το σκεπτικό δημιουργίας και η διδακτική διάσταση των Συλλογών του Μουσείου: 15.30'-17.00'

15.30': Εισαγωγή: Μ. Κωνσταντουδάκη-Κιτρομηλίδου

15.35': Β. Λαμπρινουδάκης, *Η ιστορία και η εξέλιξη του Μουσείου.*

15.50': Ν. Πολυχρονάκου-Σγουρίτσα, *Το σκεπτικό και η διδακτική έκθεση της Προϊστορικής Συλλογής.*

16.00': Ν. Κούρου, *Πρόσωπα και θεσμοί: Η δημιουργία της Διαμεσογειακής Συλλογής του ΕΚΠΑ.*

16.10': Ε. Σερμπέτη, *Συγκρότηση και λειτουργία της Κλασικής Συλλογής του Μουσείου.*

16.20': Μ. Παναγιωτίδη, *Το ιστορικό και η σημασία της Συλλογής Βυζαντινής Ζωγραφικής.*

16.30': Γ. Αλευρά, *Η συγκρότηση και οι στόχοι της Συλλογής Πετρωμάτων, Μεταλλευμάτων και Αρχαίας τεχνολογίας.*

16.40': Σ. Καλοπίση-Βέρτη, *Από την πρόσφατη ιστορία του Μουσείου: στόχοι και δράσεις.*

16.50': Γ. Παπαδάτος, *Ένα παράδειγμα εκπαιδευτικής εμπειρίας των φοιτητών στο Μουσείο μας: διαλογή κεραμικής του μινωικού νεκροταφείου στο Λιβάρι Λασιθίου.*

17.00': 17.20': Διάλειμμα

#### **Απογευματινή συνεδρία (συνέχεια)**

Προεδρία: Β. Λαμπρινουδάκης – Σ. Καλοπίση-Βέρτη

#### **Β'. Με αφορμή αρχαιολογικά αντικείμενα και έργα τέχνης στις Συλλογές του Μουσείου: 17.20' -18.10'**

17.20': Λ. Καραλή, *Η αναβίωση των μορφών: αρχαιοπεριβαλλοντικά ευρήματα και έργα τέχνης.*

17.30': Ο. Παλαγγιά, *Ιστορικά εκμαγεία στη Συλλογή Εκμαγείων του Μουσείου.*

17.40': Π. Πετρίδης, *Νέα αποκτήματα στη διδακτική Συλλογή Βυζαντινής και Μεταβυζαντινής Κεραμικής του Μουσείου.*

17.50': Μ. Κωνσταντουδάκη-Κιτρομηλίδου, *Η περιορισμένη παρουσία έργων Μεταβυζαντινής Τέχνης στις συλλογές του Μουσείου.*

18.00': Δ. Παυλόπουλος, *Παραστατικότητα και Αφαίρεση στη Συλλογή Έργων Νεότερης Τέχνης. Τα πρώτα βήματα.*

#### **Γ'. Από το Αρχείο του Μουσείου και τη Μονάδα Συντήρησης: 18.10' -18.30'**

18.10': Α. Σφυρόερα#, *Η Αικατερίνα Εζάρχου-Gensonnet και το Μουσείο Αρχαιολογίας και Ιστορίας της Τέχνης. Το χρονικό μιας αμφίδρομης σχέσης μέσα από τις σελίδες του προσωπικού της αρχείου.*

18.20': Μ. Ρογκενμπούκε#, *Μονάδα Συντήρησης. Δράσεις και προοπτικές.*

18.30': Κλείσιμο της συνεδρίας για το Μουσείο.

Σύνοψη των εργασιών του Συμποσίου: Λ. Παλαιοκρασσά-Κόπιτσα.

#### **Κυριακή, 7 Απριλίου 2013**

11.30': Επίσκεψη στην έκθεση « Έλληνες Ναΐφ Ζωγράφοι», Ίδρυμα Παναγιώτη και Έφης Μιχαήλ. Ξενάγηση: τ. αναπλ. καθηγ. Σ. Λυδάκης.

#### **Οργανωτική επιτροπή:**

Καθηγ. Λυδία Παλαιοκρασσά-Κόπιτσα,

Διευθύντρια του Τομέα Αρχαιολογίας και Ιστορίας της Τέχνης

Καθηγ. Νάγια Πολυχρονάκου-Σγουρίτσα

Καθηγ. Μαρία Κωνσταντουδάκη-Κιτρομηλίδου

Επικ. καθηγ. Ευθυμία Μαυρομιχάλη

Επικ. καθηγ. Γιάννης Παπαδάτος

**ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –**  
**JOB VACANCIES/FELLOWSHIPS**

**GRANTS: 2, FROM THE INSTITUTE FOR**  
**AEGEAN PREHISTORY**

Program Number: 09538

Title: Publication Subvention Program

Sponsor: Institute for Aegean Prehistory

**SYNOPSIS:** The Institute for Aegean Prehistory Publication Subvention Program is designed to promote the publication of scholarly books and monographs focusing on the Aegean region from the Neolithic through to the time of the first Olympiad.

Deadline(s):

Established Date: 03/02/2010

Follow-Up Date: 03/01/2014

Review Date: 03/22/2013

Contact: Karen B. Vellucci, Director of Grants

Address: 2133 Arch Street, Suite 300  
Philadelphia, PA 19103  
U.S.A.

E-mail: [instapplications@gmail.com](mailto:instapplications@gmail.com)

Web Site: <http://www.aegeanprehistory.net/2013-grant-program.html>

Program URL:

[http://www.aegeanprehistory.net/files/publication\\_subvention\\_instructions\\_2013.pdf](http://www.aegeanprehistory.net/files/publication_subvention_instructions_2013.pdf)

Tel: 215-387-4911

Fax:

Deadline Ind: Receipt

Deadline Open: Yes

\*See Restrictions for further information.

**DEADLINE NOTE**

Applications may be submitted at any time during the year. The sponsor now accepts and prefers applications and final reports submitted via e-mail at [instapplications@gmail.com](mailto:instapplications@gmail.com)

Award Type(s): Publication

Citizenship/Country of Applying Institution:  
Any/No Restrictions

Locations Tenable: Any/No Restrictions

Appl Type(s): Artist/Writer/Etc.  
Publisher/University Press  
Researcher/Investigator

Target Group(s): NONE  
Funding Limit: \$7,500 MAXIMUM  
Duration: 0  
Indirect Costs: Unspecified  
Cost Sharing: No  
Sponsor Type: NONE

Geo. Restricted: NO RESTRICTIONS

CFDA#:

**OBJECTIVES:** The purpose of these grants is to help the publisher defray the printing costs of the volume. The program is intended for publishers who have accepted a manuscript for publication. Priority will be given to the publication of primary source material such as excavation reports and collection catalogues. Topics must be in the fields of Aegean Prehistory from the Neolithic through the First Olympiad. The manuscript must have been submitted and accepted for publication.

#### **ELIGIBILITY**

Application must be submitted jointly by the author/series editor and the publisher. Request is a one-time subvention per volume.

#### **FUNDING**

Amount requested must be no more than \$7,500. (kww)

#### **KEYWORDS:**

Greece  
Non-Fiction  
History  
Language and/or Literature, Classical/Ancient  
Manuscripts/Books/Music Scores  
Archaeology  
Publishing  
Ancient/Classical History  
Turkish Studies

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Program Number: 09539

Title: Publication Team Support Grant

Sponsor: Institute for Aegean Prehistory

**SYNOPSIS:** Excavation Directors may apply for technical archaeological services provided by specialists from the INSTAP Study Center for East Crete. Projects that are finished with excavation and are preparing material for publication are eligible.

Deadline(s):

Established Date: 03/02/2010

Follow-Up Date: 03/01/2014

Review Date: 03/22/2013

Contact: Karen B. Vellucci, Director of Grants

Address: 3550 Market Street, Suite 100  
Philadelphia, PA 19104  
U.S.A.

E-mail: [instapapplications@gmail.com](mailto:instapapplications@gmail.com)

Web Site: <http://www.aegeanprehistory.net/2012-apps.html>

Program URL:

[http://www.aegeanprehistory.net/files/publication\\_team\\_instructions\\_2012.pdf](http://www.aegeanprehistory.net/files/publication_team_instructions_2012.pdf)

Tel: 215-387-4911

Fax: 215-387-4950

Deadline Ind: Receipt

Deadline Open: Yes

\*See Restrictions for further information.

#### **DEADLINE NOTE**

There is no specific deadline for this class of application. Please apply at least 2 months or more prior to the start date.

Award Type(s): Publication  
Technical Assistance

Citizenship/Country of Applying Institution:  
Any/No Restrictions

Locations Tenable: Any/No Restrictions

Appl Type(s): Individual, Non-Specific  
Researcher/Investigator

Target Group(s): NONE

Funding Limit: \$0 NOT PROV

Duration: 0

Indirect Costs: Unspecified

Cost Sharing: No

Sponsor Type: NONE

Geo. Restricted: NO RESTRICTIONS

CFDA#:

**OBJECTIVES:** In this program, INSTAP provides specialists based at the INSTAP Study Center for East Crete (SCEC) in one or more of the following categories: artist for pottery and small finds, conservator, photographer, petrographer, or services of a ground penetrating radar

(GPR) team. INSTAP provides the salary and maintenance for the specialists assigned to the project. The Project Director should provide the place to work and should arrange for permits, working space, and other facilities. The Excavation Director is expected to supervise the team members' work and to provide INSTAP with an evaluation of the progress of the publication. Team members may work either during the summer or during the academic year. A complete and detailed budget for the publication work should accompany a description of the work to be done.

#### **ELIGIBILITY**

Excavation Directors may apply.

#### **FUNDING**

INSTAP provides the salary and maintenance for the specialists assigned to the project. The Project Director should provide the place to work and should arrange for permits, working space, and other facilities. (kww)

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## **SCAA POST-DOCTORAL RESEARCH** **ASSOCIATE IN AEGEAN PREHISTORY**

Job Reference Number: UOS006319  
Job Title: SCAA Post-Doctoral Research Associate in Aegean Prehistory  
Contract Type: Fixed-term for 2 years available from 1 October 2013  
Faculty: Faculty of Arts and Humanities  
Department: Department of Archaeology  
Salary: Grade 7 £28,685 - £31,331 per annum  
Closing Date: 2nd May 2013

### **Summary:**

An exciting opportunity has arisen for a Post-Doctoral Research Associate in Aegean Prehistory to join the Department of Archaeology for a period of two years. The successful candidate will be part of one of the major Archaeology departments in the UK, with 21 academic staff, and a member of the Sheffield Centre for Aegean Archaeology (SCAA).

You will be an early-career researcher, with a PhD in Aegean Prehistory or a related discipline or equivalent experience, and you will make a strong individual contribution (at 4\* and 3\*) to the Department's REF2014 submission. During your fellowship you will pursue a two-year research programme with a clearly defined output (e.g. monograph, site report, series of peer-reviewed journal articles), present your research at conferences, as the opportunity arises, and act as an ambassador for SCAA and the Department of Archaeology. You will contribute some teaching which will be agreed with your mentor and you will engage fully in the academic life of SCAA and the Department of Archaeology at the University of Sheffield.

This post is fixed-term for two years.

Further information is available from the University of Sheffield job vacancies site:

[https://jobs.shef.ac.uk/sap/bc/webdynpro/sap/hrrcf\\_a\\_unreg\\_job\\_search?sap-client=400&sap-syscmd=nocookie&sap-wd-configId=ZHRRCF\\_A\\_UNREG\\_JOB\\_SEARCH](https://jobs.shef.ac.uk/sap/bc/webdynpro/sap/hrrcf_a_unreg_job_search?sap-client=400&sap-syscmd=nocookie&sap-wd-configId=ZHRRCF_A_UNREG_JOB_SEARCH)

Search under 'Research' or enter the Job Reference UOS006319.

The advertisement will also shortly appear at: <http://www.jobs.ac.uk/>.

\*\*\*\*\*

John Bennet / Professor of Aegean Archaeology  
Archaeology / University of Sheffield / Northgate House /  
West Street / Sheffield / S1 4ET / UK  
P: +44 (0)114-2225103  
F: +44 (0)114-2225109

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## **ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS**

### **E-LEARNING ΣΤΗΝ ΑΡΧΑΙΟΜΕΤΡΙΑ (ΝΕΕΣ ΤΕΧΝΟΛΟΓΙΕΣ, ΣΥΝΤΗΡΗΣΗ & ΔΙΑΧΕΙΡΙΣΗ ΑΡΧΑΙΟΤΗΤΩΝ)**

**Επιστημονικά Υπεύθυνος:** Καθηγητής Λυριτζής Ιωάννης  
Εργαστήριο Αρχαιομετρίας, Τμήμα Μεσογειακών Σπουδών, Πανεπιστήμιο Αιγαίου

**Διοργάνωση:** Τμήματα Πανεπιστημίου Αιγαίου:

- Σχολή Ανθρωπιστικών Επιστημών, Τμήμα Μεσογειακών Σπουδών
- Σχολή Κοινωνικών Επιστημών, Τμήμα Πολιτισμικής Τεχνολογίας & Επικοινωνίας
- Σχολή Περιβάλλοντος, Τμήμα Περιβάλλοντος

Συνεργαζόμενοι διδάσκοντες από τους φορείς:

- Τμήμα Συντήρησης Αρχαιοτήτων & Έργων Τέχνης ΑΤΕΙ ΑΘΗΝΑΣ
- Εργαστήριο Αρχαιομετρίας, Πανεπιστήμιο Πελοποννήσου
- Ελληνικό Κέντρο Θαλασσιών Ερευνών
- Εργαστήριο Γεωφυσικής, ΑΠΘ
- ΠΠΕΤ, Ξάνθη

**Γλώσσες Μαθημάτων:** Ελληνική

**Περίοδοι υλοποίησης:**

**Σύνολο Προγράμματος:** 1 Οκτωβρίου 2012 έως 22 Ιουνίου 2013

- 1<sup>η</sup> Διδακτική Ενότητα:** Αρχαιολογία & Αρχαιολογικές Επιστήμες (4 εβδομάδες, 1 Οκτωβρίου 2012 έως 31 Οκτωβρίου 2012)
- 2<sup>η</sup> Διδακτική Ενότητα:** Παγκόσμιες κλιματικές μεταβολές & στάθμης θαλάσσης (τελευταία 30,000 έτη)  
(4 εβδομάδες, 1 Νοεμβρίου 2012 έως 30 Νοεμβρίου 2012)
- 3<sup>η</sup> Διδακτική Ενότητα:** Μέθοδοι εντοπισμού θαμμένων μνημείων (χερσαία και θαλάσσια)  
(4 εβδομάδες, 30 Νοεμβρίου 2012 έως 23 Δεκεμβρίου 2012 & 4 Ιανουαρίου -11 Ιανουαρίου 2013)
- 4<sup>η</sup> Διδακτική Ενότητα:** Μέθοδοι χρονολόγησης  
(4 εβδομάδες, 11 Ιανουαρίου έως 8 Φεβρουαρίου 2013)
- 5<sup>η</sup> Διδακτική Ενότητα:** Μέθοδοι χαρακτηρισμού & προέλευσης αρχαιοϋλικών- μη καταστρεπτικές μέθοδοι ανάλυσης  
(3 εβδομάδες, 8 Φεβρουαρίου 2013 έως 28 Φεβρουαρίου 2013)
- 6<sup>η</sup> Διδακτική Ενότητα:** Προληπτική συντήρηση τέχνηργων και μνημείων Ι  
(4 εβδομάδες, 28 Φεβρουαρίου 2013 έως 26 Μαρτίου 2013)

**7<sup>η</sup> Διδακτική Ενότητα:** Σωστικά μέτρα στην συντήρηση τέχνηρων και μνημείων II  
(υποθαλάσσια ευρήματα)  
(4 εβδομάδες, 26 Μαρτίου 2013 έως 22 Απριλίου 2013 )

**8<sup>η</sup> Διδακτική Ενότητα:** Νέες Τεχνολογίες στην Αρχαιολογία  
(4 εβδομάδες, 22 Απριλίου 2013 έως 21 Μαΐου 2013 )

**9<sup>η</sup> Διδακτική Ενότητα:** Πολιτιστική διαχείριση & πολιτιστικός Τουρισμός (μέθοδοι, τεχνικές, αξιοποίηση, marketing)  
(4 εβδομάδες, 21 Μαΐου 2013 έως 22 Ιουνίου 2013 )

**Στοιχεία επικοινωνίας: Για Θέματα Προγράμματος Σπουδών και λοιπά Επιστημονικά Θέματα:**

*Αρμόδιοι:*

Καθηγητής Ιωάννης Λυριτζής

Τηλέφωνο: 22410 99385-6

e-mail: [liritzis@rhodes.aegean.gr](mailto:liritzis@rhodes.aegean.gr)

Δρ Ασημίνα Βαφειάδου, ΕΤΕΠ, Εργαστήριο Αρχαιομετρίας

Τηλέφωνο: 22410 99385-6

e-mail: [vafiadou@rhodes.aegean.gr](mailto:vafiadou@rhodes.aegean.gr)

**Για θέματα Οικονομικής και Διοικητικής διαχείρισης:**

*Αρμόδια:* Βεργωτή Θώμη

Τηλέφωνο: 22410 99424

e-mail: [tvergoti@aegean.gr](mailto:tvergoti@aegean.gr)

**Παρακαλώ επισκεφθείτε τον δικτυακό τόπο:**

<http://e-epimorfosi.aegean.gr/archeometry-program-home>

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**CALL FOR PAPERS: SPECIAL ISSUE**  
**"SUSTAINABILITY OF WASTEWATER**  
**TREATMENT PROCESSES AND**  
**MANAGEMENT: PAST, PRESENT AND**  
**FUTURE" - SUSTAINABILITY (ISSN 2071-**  
**1050)**

Dear Colleagues,

The following Special Issue will be published in Sustainability (ISSN 2071-1050, <http://www.mdpi.com/journal/sustainability/>), and is now open to receive submissions of full research papers and comprehensive review articles for peer-review and possible publication:

Special Issue: **Sustainability of Wastewater Treatment Processes and Management: Past, Present and Future**

Website: [http://www.mdpi.com/si/sustainability/sust\\_wastewater\\_treatment/](http://www.mdpi.com/si/sustainability/sust_wastewater_treatment/)

Guest Editors: Dr. Giovanni De Feo and Dr. Andreas N. Angelakis

Deadline for manuscript submissions: **30 June 2013**

You may send your manuscript now or up until the deadline. Submitted papers should not have been published previously, nor be under consideration for publication elsewhere. We also encourage authors to send us their tentative title and short abstract by e-mail for approval to the Editorial Office at: [sustainability@mdpi.com](mailto:sustainability@mdpi.com).

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In case of questions, please contact the Editorial Office at: [sustainability@mdpi.com](mailto:sustainability@mdpi.com)

We are looking forward to hearing from you.

Kind regards,

Giovanni De Feo, Andreas N. Angelakis

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E-Mail: [info@a-angelakis.gr](mailto:info@a-angelakis.gr)

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## **CALL FOR NOMINATIONS: AIA BEST PRACTICES IN SITE PRESERVATION AWARD**

The Archaeological Institute of America (AIA) would like to inform you of the upcoming deadline for its Site Preservation Award.

The AIA Best Practices in Site Preservation Award is presented to a group or project recognized by its peers for doing exemplary work in the field of site preservation and conservation. A \$5,000 grant will be awarded to the winner(s) to further these best practices.

All nominations must be received by May 1, 2013 in order to be considered. Early submission is encouraged. Please nominate deserving projects through the nomination form on the AIA's website at <http://www.archaeological.org/sitepreservation/award>.

Please feel free to forward this information on to appropriate colleagues. If you have any questions, please feel free to contact us.

Kelly Lindberg

\*\*\*\*\*

Site Preservation Program Administrator  
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Boston, MA 02215  
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[www.archaeological.org](http://www.archaeological.org)

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## **ON PRACTICE IN CONSERVATION- RESTORATION EDUCATION, (DRAFT BY THE ENCORE BOARD)**

### **Introduction:**

#### **Professional Profile and the European Qualification Framework**

The profession of the conservator-restorer was defined for the first time at an international level in 1984 by ICOM-CC in *The conservator-restorer: a definition of the profession*. During the nearly 3 decades since then the profession issued a number of European documents and position papers. In the *E.C.C.O. Professional Guidelines* the description of the profession of the conservator-restorer was refined and extended; a Code of Ethics as well as the prerequisites and necessities of education were also defined. *The Document of Pavia* (1997), when defining the discipline, relates to education as well as to competencies, among other issues.

In 2006 the *European Qualification Framework* (EQF) was introduced by the European Commission, generically classifying levels of qualification on the basis of knowledge, skills and competences.

According to the *ENCoRE Clarification Document* (2001), the *E.C.C.O.-ENCoRE Joint Paper* (2003) and the 2004 update of the *E.C.C.O. Professional Guidelines III*, the entry level for independent practice as a (fully professional) conservator-restorer is defined as being at Master level. Corresponding to annex 2 of the EQF recommendation, level 7 relates to the Master degree, whereas level 6 relates to the Bachelor degree and level 8 to the PhD. According to the EQF the required level for independent practice as a conservator-restorer is therefore level 7.

The conservation-restoration profession was one of the first groups of professionals to respond to the EQF system and to work on a scheme for application within education as well as within the profession itself. The work E.C.C.O. dedicated to the development of definitions resulted in the publication of the description of the *Competences for Access to the Conservation-Restoration Profession* (2011), which is based on a concept map, a graphic scheme showing in a qualitative manner the fields of activity of the conservator-restorer in the conservation process. It was thus possible to show the complex interrelation of knowledge and skills inherent to independent practice.

The detailed definitions of this paper also include an evaluation model for the description of the scales of knowledge and skills, respectively.

#### **NOTE:**

In the professional context the term “practice” stands for the exercise of the profession of the conservator-restorer (a conservation practitioner is not necessarily a full conservator-restorer!)

In conservation-restoration education the term “practice” is related to activities of a (very rarely exclusively) practical nature.

## **[OXCAL-ANNOUNCEMENT] OXCAL V4.2.2**

Just to let you all know that there is now a new version of OxCal released over the weekend. This has only one change which is a fix for a bug which sometimes led to errors reporting the unmodelled results from the addition of Normally distributed priors - statements like  $N(0.75,0.1)+N(0.25,0.1)$ ; The problem was only apparent at some resolutions and so was not picked up at beta-test. As far as I can tell it would not have affected modelled output from MCMC. The bug was introduced in v4.2.1.

Sorry for any inconvenience.

Best wishes

Christopher

email: [christopher.ramsey@rlaha.ox.ac.uk](mailto:christopher.ramsey@rlaha.ox.ac.uk)

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## ΑΡΧΑΙΑ ΕΛΛΗΝΙΚΗ ΤΕΧΝΟΛΟΓΙΑ

Η αξεπέραστη προσφορά των αρχαίων Ελλήνων στους τομείς της Φιλοσοφίας και των Καλών Τεχνών είναι πασίγνωστη και δεν αμφισβητείται από κανένα. Το ίδιο γνωστή είναι και η προσφορά τους στο χώρο των Επιστημών. Όμως η Τεχνολογία των αρχαίων Ελλήνων είναι σχετικά άγνωστη όπως και οι απίστευτες επιδόσεις τους στον τομέα αυτό. **Η παρούσα έκθεση αρχαίας ελληνικής τεχνολογίας περιλαμβάνει 300 περίπου λειτουργικά ομοιώματα εξαιρετικών εφευρέσεων του αρχαιοελληνικού τεχνολογικού θαύματος (από το ρομπότ - υπηρέτρια του Φίλωνος μέχρι τον κινηματογράφο του Ήρωνος και από το αυτόματο ωρολόγιο του Κτησιβίου μέχρι τον αναλογικό υπολογιστή των Αντικυθήρων) που καλύπτουν την περίοδο από το 2000 π.Χ. μέχρι το τέλος του αρχαίου ελληνικού κόσμου** κατόπιν 22χρονης έρευνας και μελέτης του Κώστα Κοτσανά. **Πρόκειται για την εγκυρότερη** (καθότι στηρίζεται αποκλειστικά στην ενδελεχή μελέτη της αρχαιοελληνικής, λατινικής και αραβικής γραμματείας, των αγγειογραφικών πληροφοριών και των ελαχίστων σχετικών αρχαιολογικών ευρημάτων) **και την πληρέστερη έκθεση του είδους της παγκοσμίως.** Όλα τα εκθέματα και το υποστηρικτικό τους υλικό έχουν δημιουργηθεί από τον ίδιο χωρίς καμιά επιχορήγηση από οποιοδήποτε δημόσιο ή ιδιωτικό φορέα και εκτίθενται μόνιμα στο ομώνυμο Μουσείο Αρχαίας Ελληνικής Τεχνολογίας και στο Μουσείο Αρχαίων Ελληνικών Μουσικών Οργάνων και Παιχνιδιών που λειτουργούν στο Κατάκολο υπό την αιγίδα του Δήμου Πύργου.

**Σκοπός των μουσείων είναι να αναδείξουν αυτή τη σχετικά άγνωστη πτυχή του πολιτισμού των αρχαίων Ελλήνων και να αποδείξουν ότι η αρχαιοελληνική τεχνολογία λίγο πριν το τέλος του αρχαιοελληνικού κόσμου ήταν εξαιρετικά όμοια με τις απαρχές της σύγχρονης τεχνολογίας μας.** Οι κοχλίες και τα περικόχλια, οι οδοντωτοί τροχοί και οι κανόνες, οι τροχαλίες και οι ιμάντες, οι αλυσοτροχοί και οι αλυσίδες, τα πολύσπαστα και τα βαρούλκα, οι υδραυλικοί ελεγκτές και οι βαλβίδες, είναι μερικά μόνο από τα εφευρήματα των αρχαίων Ελλήνων που αποτέλεσαν τους θεμέλιους λίθους της πολύπλοκης τεχνολογίας τους. Αυτά τα κληροδοτήματα, ίδια και αναντικατάστατα, εξακολουθούν και σήμερα να αποτελούν τα δομικά στοιχεία της σύγχρονης τεχνολογίας μας, η εξέλιξη της οποίας θα ήταν αμφίβολη χωρίς την ανέξοδη και απροβλημάτιστη υιοθέτησή τους. Απλά χρειάστηκε πάνω από μια χιλιετία ωρίμανσης για να επανακτήσει η ανθρωπότητα αυτήν την αξιοθαύμαστη λησμονημένη τεχνολογία. **Η εξερεύνηση αυτής της εποχής που η τεχνολογία αιχμής δεν κατοχυρωνόταν αποδεικνύει περίτρανα πόσα περισσότερα (από όσα νομίζουμε) χρωστά ο σύγχρονος Δυτικός Τεχνολογικός Πολιτισμός στους Έλληνες.**

**Η είσοδος είναι ελεύθερη για όλους και για τους μαθητές που την επισκέπτονται** οργανωμένα παρέχονται δωρεάν [ποικίλα εκπαιδευτικά προγράμματα](#), αναλυτική ξενάγηση και επίδειξη της λειτουργίας των εκθεμάτων από τον ίδιο το δημιουργό τους στο πλαίσιο του εθελοντισμού. Το κλείσιμο των επισκέψεων γίνεται με τηλεφωνική επικοινωνία στο τηλέφωνο 698-3239032 και στο e-mail: [kkotsanas@hotmail.com](mailto:kkotsanas@hotmail.com).

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όπου ο εκθέτης εξηγεί τη λειτουργία και τη σημασία των μηχανισμών. Η έκθεση (ταξινομημένη σε ενότητες) ακολουθεί όλες τις σύγχρονες εκπαιδευτικές αντιλήψεις της Παιδαγωγικής και Μουσειακής Αγωγής ώστε να δρα πολυεπίπεδα ως προς το μέγεθος της αρχαίας ελληνικής τεχνολογικής σκέψης και τεχνικής τόσο στην εκπαιδευτική κοινότητα όλων των βαθμίδων όσο και στο ευρύτερο κοινό. Πολλά από τα εκθέματα και τις μελέτες στις οποίες στηρίζεται η κατασκευή τους έχουν παρουσιαστεί σε διεθνή συνέδρια και εκθέσεις, ενώ έχουν πραγματοποιηθεί πολλές περιοδικές εκθέσεις του μουσείου στην Ελλάδα και το εξωτερικό από τη γειτονική Κύπρο μέχρι τη μακρινή Αυστραλία.

Μέσα από την έκθεση δίνεται η δυνατότητα στους επισκέπτες να γνωρίσουν τις απίστευτες τεχνολογικές επιδόσεις των αρχαίων Ελλήνων και να διαπιστώσουν ότι οι αρχαίοι Έλληνες α) είχαν ανακαλύψει έναν «κινηματογράφο» ικανό να παρουσιάζει αυτόματα την πλοκή ενός μύθου με κινούμενη εικόνα και ήχο β) είχαν επινοήσει (για ψυχαγωγικό δυστυχώς μόνο σκοπό) αυτοκινούμενα οχήματα (αυτοκίνητα) με αυτόματη πλοήγηση, με κιβώτιο ταχυτήτων, υδραυλικές προγραμματιζόμενες βαλβίδες και άλλα περίπλοκα εξαρτήματα γ) χρησιμοποιούσαν λειτουργικά ρομπότ με σκοπό να τους υπηρετούν δ) είχαν ανακαλύψει την αρχή του αμοστροβίλου ε) χρησιμοποιούσαν πολύπλοκα αστρονομικά μετρητικά όργανα ακριβείας (όπως έναν αναλογικό υπολογιστή, ένα G.P.S, ένα θεοδόλιχο-χωροβάτη, κ.ά.) που τους επέτρεπαν να υπολογίζουν με ακρίβεια γεωδαιτικά και αστρονομικά στοιχεία στ) είχαν επινοήσει ευφυείς μηχανές με κερματοδέκτη ζ) χρησιμοποιούσαν πολύπλοκα ανυψωτικά μηχανήματα ικανά να οικοδομούν πανύψηλα κτίσματα με ολιγάριθμο προσωπικό η) διέθεταν ωρολόγια (και ξυπνητήρια) ικανά να λειτουργούν αυτόματα και αδιάκοπα χωρίς ανθρώπινη παρέμβαση, κ.ά. **Όλα αυτά αποδεικνύουν την υψηλής στάθμης τεχνολογία του πολιτισμού των αρχαίων Ελλήνων που δεν είχε σχεδόν τίποτα να ζηλέψει από την πρόωμη σύγχρονη τεχνολογία και που θα είχε οδηγήσει (αν οι οικονομικοκοινωνικοπολιτικές συνθήκες της εποχής το επέτρεπαν) στη Βιομηχανική Επανάσταση από την ελληνιστική εποχή με απρόβλεπτες συνέπειες για την ανθρωπότητα.**

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## **ΤΑ ΜΑΘΗΜΑΤΙΚΑ ΦΕΡΝΟΥΝ ΤΟ ΝΕΡΟ ΣΤΗ ΣΑΜΟ - ΕΙΚΟΝΟΚΙΝΗΤΙΚΗ ΤΑΙΝΙΑ ΑΠΟ ΤΗΝ ΕΜΑΕΤ ΚΑΙ ΤΟ ΣΤΕΑΤ**

Ολοκληρώθηκε η εικονοκινητική ταινία που έγινε με πρωτοβουλία της Εταιρείας Αρχαίας Ελληνικής Τεχνολογίας ([ΕΜΑΕΤ](#)) και χρηματοδοτήθηκε ευγενώς από τον Σύνδεσμο Τεχνικών Εταιριών Ανωτέρων Τάξεων ([ΣΤΕΑΤ](#)).

Η ταινία των **Θ.Π Τάσιου, Ν. Μήκα και Γ. Πολύζου** παρουσιάζει ένα τεχνικό έργο του βου αιώνα π.Χ., το Ευπαλίνειο όρυγμα, μια σήραγγα υδραγωγείου μήκους 1000 μ. και διατομής περίπου 2,00 x 2,00 μ, η οποία διανοίχθηκε από τα δύο άκρα της συγχρόνως. Η συνάντηση των δύο τμημάτων κάτω από την κορυφή του βουνού έγινε με αρκετή ακρίβεια, παρά το γεγονός ότι οι γεωλογικές συνθήκες ανάγκασαν τον Μηχανικό Ευπαλίνο να εκτραπεί πολλές φορές από την ευθυγραμμία. Το θετικό αυτό αποτέλεσμα οφείλεται στην γνώση της ΘΕΩΡΗΤΙΚΗΣ ΓΕΩΜΕΤΡΙΑΣ. Το Υδραγωγείο συνέχισε την λειτουργία του για περίπου 1000 χρόνια.

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## ***ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS***

# **JOURNAL OF EASTERN MEDITERRANEAN ARCHAEOLOGY AND HERITAGE STUDIES**

The first issue of the new "Journal of Eastern Mediterranean Archaeology and Heritage Studies" from Penn State University Press, is now available online to those of you who have access to Project Muse:

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"Journal of Eastern Mediterranean Archaeology and Heritage Studies is a peer-reviewed journal devoted to traditional, anthropological, social, and applied archaeologies of the Eastern Mediterranean, encompassing both prehistoric and historic periods. The journal's geographic range spans three continents and brings together, as no academic periodical has done before, the archaeologies of Greece and the Aegean, Anatolia, the Levant, Cyprus, Egypt, and North Africa."

Volume 1, Issue 1, 2013

Table of Contents

From the Editors

p. iv | DOI: 10.1353/ema.2013.0009

Sandra A. Scham, Ann E. Killebrew

HTML Download PDF (452 KB)

### **Feature Articles**

Preserving Petra Sustainably (One Step at a Time): The Temple of the Winged Lions Cultural Resource Management Initiative as a Step Forward pp. 1-23

DOI: 10.1353/ema.2013.0011 Christopher A. Tuttle

HTML Download PDF (4 MB)

Excavating the Nabataean Incense Road

pp. 24-53

DOI: 10.1353/ema.2013.0001 Tali Erickson-Gini, Yigal Israel

HTML Download PDF (5 MB)

Khirbat al-Mafjar and Its Place in the Archaeological Heritage of Palestine pp. 54-65

DOI: 10.1353/ema.2013.0003 Donald Whitcomb, Hamdan Taha

HTML Download PDF (2 MB)

The Political Theater of the Past: Visits by State Leaders to Archaeological and Historical Sites pp. 66-87

DOI: 10.1353/ema.2013.0005 Sandra A. Scham

HTML Download PDF (3 MB)

### **Forum**

We All Know That a 14 Is a Sheep: Data Publication and Professionalism in Archaeological Communication pp. 88-97

DOI: 10.1353/ema.2013.0007 Eric C. Kansa, Sarah Witcher Kansa  
HTML Download PDF (439 KB)

Thoughts about Open Access Publishing in a Humanities Context pp. 97-98  
DOI: 10.1353/ema.2013.0008 Patrick H. Alexander  
HTML Download PDF (186 KB)

The Emerging Open World pp. 98-100  
DOI: 10.1353/ema.2013.0010 Martin Hall  
HTML Download PDF (191 KB)

Sharing Data is Hard!—But Worth It pp. 100-101  
DOI: 10.1353/ema.2013.0000 Benjamin W. Porter  
HTML Download PDF (185 KB)

Not an Either/Or Proposition: Combining Interpretive and Data Publication pp. 101-102  
DOI: 10.1353/ema.2013.0002 Darrin Pratt  
HTML Download PDF (185 KB)

Additional Thoughts on Sustaining and Promoting Open Data in Archaeology pp. 102-103  
DOI: 10.1353/ema.2013.0004 Eric C. Kansa, Sarah Witcher Kansa  
HTML Download PDF (566 KB)

#### **Book Review**

Excavations at Tall Jawa, Jordan. Volume 4: The Early Islamic House by P. M. Michèle Daviau (review) pp. 104-112  
DOI: 10.1353/ema.2013.0006 Katia Cytryn-Silverman  
HTML Download PDF (820 KB)

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## **ENVIRONMENTAL ARCHAEOLOGY**

Series: Manuals in Archaeological Method, Theory and Technique Reitz, Elizabeth, Shackley, Myra 2012, XLIV, 516 p. 151 illus., 7 in color.

ISBN 978-1-4614-3339-2

Immediately available per PDF-download (no DRM, watermarked) eBook Information: \$111.20 Hardcover \$143.20

First book to enable readers to learn about the wide range of materials and methods in environmental archaeology Helps to evaluate and discriminate among methods Continues in the tradition of the first edition, published by Plenum, while also bringing in advances and updates in the methodology of the field itself One of the most significant developments in archaeology in recent years is the emergence of its environmental branch: the study of humans' interactions with their natural surroundings over long periods, and of organic remains instead of the ceramic, lithic, and architectural elements generally associated with sites. With the current attention paid to human responsibility for environmental change, this innovative field is recognized by scientists, conservation and heritage managers, and policymakers worldwide.

In this context comes Environmental Archaeology by Elizabeth Reitz and Myra Shackley, updating the seminal 1981 text Environmental Archaeology by Myra Shackley. Rigorously detailed yet concise and accessible, this volume surveys the complex and technical field of environmental archaeology for researchers interested in the causes, consequences, and potential future impact of environmental change from the perspective of archaeology. Its coverage acknowledges the multiple disciplines involved in the field, expanding the possibilities for using environmental data from archaeological sites in enriching related disciplines and improving communication among them.

Introductory chapters explain the processes involved in the formation of sites, introduce research designs and field methods, and walk the reader through biological classifications before focusing on the various levels of biotic and abiotic materials found at sites, including:

Sediments and soils.

Viruses, bacteria, archaea, protists, and fungi.

Bryophytes and vascular plants.

Wood, charcoal, stems, leaves, and roots.

Spores, pollen, and other microbotanical remains.

Arthropods, molluscs, echinoderms, and vertebrates.

Stable isotopes, elements, and biomolecules.

The updated Environmental Archaeology is a major addition to the resource library of archaeologists, environmentalists, historians, researchers, policymakers—anyone involved in studying, managing, or preserving archaeological sites.

Content Level » Research

Keywords » Archaeological Methods - Classification - DNA in archaeological sites - Field Methods - Nomenclature - archaeological excavation process - cultural site formation processes - extraction and processing sites - organic deposits at archaeological sites - radiocarbon dating - sediments and soils in archaeology

Related subjects » Anthropology & Archaeology - Environmental Sciences

TABLE OF CONTENTS

Introduction to Environmental Archaeology.- Factors Affecting the Composition of an Assemblage.- Research Designs and Field Methods.- Classification and Nomenclature.- Sediments and Soils.- Seeds, Fruits, Nuts, and Tubers.- Woods and Charcoal.- Pollen.- Phytoliths, Starch Grains, and Spores.- Micro-organisms.- Arthropods: Spiders and Mites, fleas, Chironomids, Lice, Beetles, Rickettsiae, Ostracods, Nematode Worms, Crabs, Shrimp.- Echinoderms and Molluscs.- Vertebrate Bones and Teeth.- Other Vertebrate Tissues.- Stable Isotopes, Trace Elements, Ancient Genetics, and Enzymes.- Conclusion.

Please visit the site: <http://tinyurl.com/ansakgs>

---

## **ARCHAEOLOGIA BULGARICA XVII 2013 #1**

### **Table of contents**

#### **ARTICLES**

Bulatović, A.: Oven Models from Early Bronze Age Settlements in Central and Southern Parts of the Balkan Peninsula. Contribution to the Understanding of Cultural Links between Northern Greece and the Central Balkans in the Early Bronze Age...1

Dimitrov, Z.: Terracotta Figurines from the Thracian Sanctuary of Tatoul ...15

Ignatov, V. / Gospodinov, K.: Eine reiche Bestattung eines thrakischen Aristokraten aus dem 1. Jh.n.Chr. bei Karanovo, Kreis Nova Zagora, Südbulgarien ...27

Curta, F.: Seventh-Century Fibulae with Bent Stem in the Balkans...49

Doncheva, S. / Penev, I. / Tsekova, G. / Furu, E. / Szikszai, Z. / Uzonyi, I.: Elemental Composition of Metal Artefacts from the 10th c. Metal Art Centre near the Village of Zlatar, Preslav Region, NE Bulgaria ...71

#### **REVIEWS**

Vagalinski, L. / Sharankov, N. / Torbatov, S. (eds.). The Lower Danube Roman Limes (1st – 6th c. AD). National Archaeological Institute with Museum-BAS, Sofia, 2012, 526 pp. (Gugl, Ch.)...87

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Language Editors: Sven CONRAD PhD (German), Leipzig, Germany; Jean-Luc GUADELLI PhD (French), Bordeaux, France; Shannon MARTINO PhD (English), Chicago, USA.

All articles in Archaeologia Bulgarica are submitted to peer review.

On the cover: a silver gilt cup, 1st c. AD. See the paper of Ignatov / Gospodinov.



## **LINGUISTIC EVIDENCE SUPPORTS DATE FOR HOMERIC EPICS**

Eric Lewin Altschuler<sup>1</sup>, Andreea S. Calude<sup>2</sup>, Andrew Meade<sup>2</sup>, Mark Pagel<sup>2,3,\*</sup>

### **Abstract**

The Homeric epics are among the greatest masterpieces of literature, but when they were produced is not known with certainty. Here we apply evolutionary-linguistic phylogenetic statistical methods to differences in Homeric, Modern Greek and ancient Hittite vocabulary items to estimate a date of approximately 710–760 BCE for these great works. Our analysis compared a common set of vocabulary items among the three pairs of languages, recording for each item whether the words in the two languages were cognate – derived from a shared ancestral word – or not. We then used a likelihood-based Markov chain Monte Carlo procedure to estimate the most probable times in years separating these languages given the percentage of words they shared, combined with knowledge of the rates at which different words change.

Our date for the epics is in close agreement with historians' and classicists' beliefs derived from historical and archaeological sources.

Please visit the site:  
<http://onlinelibrary.wiley.com/doi/10.1002/bies.201200165/abstract> [Go there for  
download]

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## ***EΛΛΗΣΕΙΣ - NEWS RELEASE***

# **ANCIENT SHOES TURN UP IN EGYPT TEMPLE**

More than 2,000 years ago, at a time when Egypt was ruled by a dynasty of kings of Greek descent, someone, perhaps a group of people, hid away some of the most valuable possessions they had — their shoes.

Seven shoes were deposited in a jar in an Egyptian temple in Luxor, three pairs and a single one. Two pairs were originally worn by children and were only about 7 inches (18 centimeters) long. Using palm fiber string, the child shoes were tied together within the single shoe (it was larger and meant for an adult) and put in the jar. Another pair of shoes, more than 9 inches (24 cm) long that had been worn by a limping adult, was also inserted in the jar.

The shoe-filled jar, along with two other jars, had been "deliberately placed in a small space between two mudbrick walls," writes archaeologist Angelo Sesana in a report published in the journal *Memnonia*.

Whoever deposited the shoes never returned to collect them, and they were forgotten, until now.

In 2004, an Italian archaeological expedition team, led by Sesana, rediscovered the shoes. The archaeologists gave André Veldmeijer, an expert in ancient Egyptian footwear, access to photographs that show the finds.

"The find is extraordinary as the shoes were in pristine condition and still supple upon discovery," writes Veldmeijer in the most recent edition of the *Journal of the American Research Center in Egypt*. Unfortunately after being unearthed the shoes became brittle and "extremely fragile," he added.

### **Pricey shoes**

Veldmeijer's analysis suggests the shoes may have been foreign-made and were "relatively expensive." Sandals were the more common footwear in Egypt and that the style and quality of these seven shoes was such that "everybody would look at you," and "it would give you much more status because you had these expensive pair of shoes," said Veldmeijer, assistant director for Egyptology of the Netherlands-Flemish Institute in Cairo.

The date of the shoes is based on the jar they were found in and the other two jars, as well as the stratigraphy, or layering of sediments, of the area. It may be possible in the future to carbon date the shoes to confirm their age.

Why they were left in the temple in antiquity and not retrieved is a mystery. "There's no reason to store them without having the intention of getting them back at some point," Veldmeijer said in an interview with *LiveScience*, adding that there could have been

some kind of unrest that forced the owners of the shoes to deposit them and flee hastily. The temple itself predates the shoes by more than 1,000 years and was originally built for pharaoh Amenhotep II (1424-1398 B.C.).

### **Design discoveries**

Veldmeijer made a number of shoe design discoveries. He found that the people who wore the seven shoes would have tied them using what researchers call "tailed toggles." Leather strips at the top of the shoes would form knots that would be passed through openings to close the shoes. After they were closed a long strip of leather would have hung down, decoratively, at either side. The shoes are made out of leather, which is likely bovine.

Most surprising was that the isolated shoe had what shoemakers call a "rand," a device that until now was thought to have been first used in medieval Europe. A rand is a folded leather strip that would go between the sole of the shoe and the upper part, reinforcing the stitching as the "the upper is very prone to tear apart at the stitch holes," he explained. The device would've been useful in muddy weather when shoes are under pressure, as it makes the seam much more resistant to water.

In the dry (and generally not muddy) climate of ancient Egypt, he said that it's a surprising innovation and seems to indicate the seven shoes were constructed somewhere abroad.

### **Health discoveries**

The shoes also provided insight into the health of the people wearing them. In the case of the isolated shoe, he found a "semi-circular protruding area" that could be a sign of a condition called Hallux Valgus, more popularly known as a bunion. (The 9 Most Bizarre Medical Conditions)

"In this condition, the big toe starts to deviate inward towards the other toes," Veldmeijer writes in the journal article. "Although hereditary, it can also develop as a result of close fitting shoes, although other scholars dispute this ...."

Another curious find came from the pair of adult shoes. He found that the left shoe had more patches and evidence of repair than the shoe on the right. "The shoe was exposed to unequal pressure," he said, showing that the person who wore it "walked with a limp, otherwise the wear would have been far more equal."

Still, despite their medical problems, and the wear and tear on the shoes, the people who wore them were careful to keep up with repairs, Veldmeijer said. They did not throw them away like modern-day Westerners tend to do with old running shoes.

"These shoes were highly prized commodities."

Veldmeijer hopes to have the opportunity to examine the shoes, now under the care of the Ministry of State for Antiquities, firsthand.

Please visit the site: <http://news.discovery.com/history/archaeology/ancient-shoes-turn-up-in-egypt-temple-130227.htm> [Go there for pix and video]

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**GENETICISTS ESTIMATE PUBLICATION  
DATE OF THE 'ILIAD' - HOMER'S 'ILIAD'  
CODEX FROM APPROXIMATELY THE LATE  
5TH-EARLY 6TH CENTURY A.D., BY JOEL N.  
SHURKIN**

Scientists who decode the genetic history of humans by tracking how genes mutate have applied the same technique to one of the Western world's most ancient and celebrated texts to uncover the date it was first written.

The text is Homer's "Iliad," and Homer -- if there was such a person -- probably wrote it in 762 B.C., give or take 50 years, the researchers found. The "Iliad" tells the story of the Trojan War -- if there was such a war -- with Greeks battling Trojans.

The researchers accept the received orthodoxy that a war happened and someone named Homer wrote about it, said Mark Pagel, an evolutionary theorist at the University of Reading in England. His collaborators include Eric Altschuler, a geneticist at the University of Medicine and Dentistry of New Jersey, in Newark, and Andreea S. Calude, a linguist also at Reading and the Sante Fe Institute in New Mexico. They worked from the standard text of the epic poem.

The date they came up with fits the time most scholars think the "Iliad" was compiled, so the paper, published in the journal *Bioessays*, won't have classicists in a snit. The study mostly affirms what they have been saying, that it was written around the eighth century B.C.

That geneticists got into such a project should be no surprise, Pagel said.

"Languages behave just extraordinarily like genes," Pagel said. "It is directly analogous. We tried to document the regularities in linguistic evolution and study Homer's vocabulary as a way of seeing if language evolves the way we think it does. If so, then we should be able to find a date for Homer."

It is unlikely there ever was one individual man named Homer who wrote the "Iliad." Brian Rose, professor of classical studies and curator of the Mediterranean section at the University of Pennsylvania Museum, said it is clear the "Iliad" is a compilation of oral tradition going back to the 13th century B.C.

"It's an amalgam of lots of stories that seemed focused on conflicts in one particular area of northwestern Turkey," Rose said.

The story of the "Iliad" is well known, full of characters like Helen of Troy, Achilles, Paris, Agamemnon and a slew of gods and goddesses behaving badly. It recounts how a gigantic fleet of Greek ships sailed across the "wine dark sea" to besiege Troy and regain a stolen wife. Its sequel is the "Odyssey."

Classicists and archeologists are fairly certain Troy existed and generally know where it is. In the 19th century, the German archeologist Heinrich Schliemann and the Englishman Frank Calvert excavated what is known as the Citadel of Troy and found evidence of a military conflict in the 12th century B.C., including arrows and 5 feet of burned debris around a buried fortress. Whether it was a war between Troy and a foreign element, or a civil war is unknown, Rose said.

The compilation we know as the "Iliad" was written centuries later, the date Pagel is proposing.

The scientists tracked the words in the "Iliad" the way they would track genes in a genome.

The researchers employed a linguistic tool called the Swadesh word list, put together in the 1940s and 1950s by American linguist Morris Swadesh. The list contains approximately 200 concepts that have words apparently in every language and every culture, Pagel said. These are usually words for body parts, colors, necessary relationships like "father" and "mother."

They looked for Swadesh words in the "Iliad" and found 173 of them. Then, they measured how they changed.

They took the language of the Hittites, a people that existed during the time the war may have been fought, and modern Greek, and traced the changes in the words from Hittite to Homeric to modern. It is precisely how they measure the genetic history of humans, going back and seeing how and when genes alter over time.

For example, they looked at cognates, words derived from ancestral words. There is "water" in English, "wasser" in German, "vatten" in Swedish, all cognates emanating from "wator" in proto-German. However, the Old English "hund" later became "hound" but eventually was replaced by "dog," not a cognate.

"I'm an evolutionary theorist," Pagel said. "I study language because it's such a remarkable culturally transmitted replicator. It replicates with a fidelity that's just astonishing."

By documenting the regularity of the linguistic mutations, Pagel and the others have given a timeline to the story of Helen and the men who died for her -- genetics meets the classics.

Joel Shurkin is a freelance writer based in Baltimore. He is the author of nine books on science and the history of science, and has taught science journalism at Stanford University, UC Santa Cruz and the University of Alaska Fairbanks.

**Please visit the site: <http://www.insidescience.org/content/geneticists-estimate-publication-date-iliad/946>**

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## **AGRICULTURE AND PARTING FROM WOLVES SHAPED DOG EVOLUTION, STUDY FINDS**

The researchers studied the genetics of 100 dingoes to understand the evolutionary trail. Credit: Rob Davis/Kimberley Land Council (Phys.org)—Part of the ancient mystery of the makeup of the modern Western dog has been solved by a team led by researchers at the University of California, Davis, School of Veterinary Medicine.

Several thousand years after dogs originated in the Middle East and Europe, some of them moved south with ancient farmers, distancing themselves from native wolf populations and developing a distinct genetic profile that is now reflected in today's canines.

These findings, based on the rate of genetic marker mutations in the dog's Y chromosome, supply the missing piece to the puzzle of when ancient dogs expanded from Southeast Asia. The study results are published online this month in the journal *Molecular Biology and Evolution*. "Our findings reconcile more than a decade of apparently contradictory archaeological and genetic findings on the geographic origins of the dogs," said Ben Sacks, lead study author and director of the Canid Diversity and Conservation Group in the Veterinary Genetics Laboratory at the UC Davis School of Veterinary Medicine.

Considerable archaeological evidence indicates that the first dogs appeared about 14,000 years ago in Europe and the Middle East, while dogs did not appear in Southeast Asia until about 7,000 years later.

Scientists have been puzzled, though, because growing genetic evidence suggests that modern Western dogs, including modern European dogs, are derived from a Southeast Asian population of dogs that spread throughout the world.

The problem: If dogs originated in Europe, why does genetic evidence suggest that modern European dogs are originally from Southeast Asia?

Sacks and his team think they've found the answer. "Data from our study indicate that about 6,000 to 9,000 years ago, during what is known as the Neolithic age, ancient farmers brought dogs south of the Yangtze River, which runs west to east across what is now China," Sacks said.

Please visit the site: <http://phys.org/news/2013-02-agriculture-wolves-dog-evolution.html> [Go there for embedded links]

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## **DESERT FINDS CHALLENGE HORSE TAMING IDEAS, BY SYLVIA SMITH**

Recent archaeological discoveries on the Arabian Peninsula have uncovered evidence of a previously unknown civilisation based in the now arid areas in the middle of the desert.

The artefacts unearthed are providing proof of a civilisation that flourished thousands of years ago and have renewed scientific interest in man and the evolution of his relationship with animals.

The 300-odd stone objects so far found in the remote Al Magar area of Saudi Arabia include traces of stone tools, arrow heads, small scrapers and various animal statues including sheep, goats and ostriches.

But the object that has engendered the most intense interest from within the country and around the world is a large, stone carving of an "equid" - an animal belonging to the horse family.

According to Ali bin Ibrahim Al Ghabban, vice-president of the Saudi Commission for Tourism and Antiquities, DNA and carbon-14 (radiocarbon) tests are continuing. But initial evidence suggests that the artefacts date back 9,000 years.

"These discoveries reflect the importance of the site as a centre of civilisation," he told BBC News.

"It could possibly be the birthplace of an advanced prehistoric civilisation that witnessed the domestication of animals, particularly the horse, for the first time during the Neolithic period."

The crucial find is that of a large sculptural fragment that appears to show the head, muzzle, shoulder and withers of an animal that bears a distinct resemblance to a horse. The piece is unique in terms of its size, weighing more than 135kg.

Moreover, further discoveries on the same site of smaller, horse-like sculptures, also with bands across their shoulders, have opened the possibility that an advanced civilisation here may already have been using the accessories of domestication - tack - in order to control horses.

### **Question time**

While archaeologists and other experts have held that horses were first tamed and exploited by man some 6,000 years ago in west Kazakhstan, experts are now starting to consider whether both location and date should be revised in light of these remarkable finds.

Whether yoking man and animal together in this way is supported by evidence is one of the many questions that face an international scientific team brought together to examine the finds.



Selected from a wide background of specialisations, their unique expertise is expected to paint a picture of life in the area during pre-historic times.

Regions that are now desert may have been covered with lush vegetation in the past. Michael Petraglia, professor of human evolution and prehistory at the University of Oxford has been working on the radiocarbon dating at Al Magar.

He says that the site dates back even further than first thought and can reveal much about the fluctuations between wet and dry periods in the Arabian Peninsula. He adds that the horse fragment dating links with the peninsula going through a wet phase.

"This is a crucial piece of information about an area that is now hyper arid but in the past must have been a lush river valley," he explains. "It confirms that there were savannahs and grassland in the vicinity," he explains.

Traces of other stone tools such as scrapers have been estimated as dating back more than 50,000 years. They were found at the site and suggest that Al Magar was a hospitable place for humans to settle in over thousands of years. In part this is due to its topography, or terrain.

Michael Petraglia says that in the past, the spot must have been a lush river valley: "There is a major valley across the area which once was a river running westward forming waterfalls and taking water to the low fertile lands west of Al-Magar," he explains.

"Al Magar was situated on both banks of the river. Man lived in this area before the last desertification or before the drastic climatic changes ended with the hot dry conditions and development of deserts."

### **Huge impact**

The name Al Magar means gathering or meeting place. Juris Zarins, who worked in the early days of archaeology in Saudi Arabia and found tethering stones dating back to the Neolithic period, claims that the site is within an archaeological hot bed.

"There has not been enough exploration carried out," he says.

"Discoveries like this could change things."

And indeed the finds have had a huge impact, sparking intense interest in Arabia's prehistory. Other finds made beyond the large and well-preserved Al Magar dovetail with current Arabian passions. Of particular interest are canine remains that resemble one of the oldest known domesticated dog breeds, the desert saluki, as well as traces of a dagger.

Arabian horses are famed around the world, but the region's equine traditions may date back even further. Abdullah Al Sharekh, an archaeologist at King Sa'ud University in Riyadh, and a pioneer of the Al Magar site, found statues within the precinct of a building. This, he says, may reveal vital clues about trade, migration and ritual. "The variety of the finds can tell us about social life and culture," he explains.

"This will take time but all the evidence is here."

The discovery of the large horse sculpture fragment has naturally awakened regional interest. This in turn has compounded curiosity about other important Arabian finds.

"It is an amazing discovery that raises all sorts of questions about when man stopped tracking down wild horses and began taming and exploiting them for transport," Mr Al Ghabban says.

"On this site there are very important symbols of authentic Arabian culture - equestrianism, falconry, the saluki hunting dog and wearing of the dagger."

More excavations are planned of yet other sites which have never been surveyed, and further studies are expected to unveil more important information on the Al Magar civilisation along with its impact on the history of Saudi Arabia.

Please visit the site: <http://www.bbc.co.uk/news/science-environment-21538969>

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## **SEEKING MEANING IN THE EARLIEST FEMALE NUDES, BY MICHAEL BALTER**

About 35,000 years ago, prehistoric artists across Europe suddenly discovered the female form—and the art world has never been the same. The explosion of voluptuous female figurines sculpted out of limestone, ivory, and clay directly inspired Picasso and Matisse. Researchers have debated the figurines' meaning for decades. Now, two scientists think they have the answer. Presenting their work here last week at the European Palaeolithic Conference, they claimed that the objects started off as celebrations of the female form, then later became symbols that tied together a growing human society.

The talk, part of a special exhibition on Ice Age art at London's British Museum, surveyed the more than 20,000 year-history of female figurines, which are found at dozens of archaeological sites from Russia to France. The earliest such objects, which include the famous Venus of Willendorf from Austria (see photo) and a statuette recently found in Germany that some have called the "earliest pornography," date from as early as 35,000 years ago and are generally called the "Willendorf style" of prehistoric art.

It's an overtly sexual, earthy style: Many of the intricately carved figurines share features such as large, pendulous breasts, huge buttocks, and chubby legs with no feet. They display "female nakedness in all its splendor," said presenter Sabine Gaudzinski-Windheuser, who co-authored the work with archaeologist Olaf Jöris, both of the MONREPOS Archaeological Research Centre in Neuwied, Germany.

Nevertheless, she pointed out, individual figurines differ in many aspects. They vary greatly in size; some are slim rather than fat; and some are hairless while others bear what appear to be elaborate headdresses, possibly reflecting clothing that prehistoric women actually wore. Moreover, during the Willendorf period, male figurines, many anatomically correct with penises and detailed facial features, also appear frequently, and occasional sculptures depict men and women side by side.

But beginning about 16,000 years ago, Gaudzinski-Windheuser told the audience, the Willendorf style gave way to a new type of image belonging to the so-called "Gönnersdorf style," named after a site in Germany that features both figurines and engravings of a much more schematic, stylized female form. The Gönnersdorf females, which are found throughout central and Western Europe, are headless and sport smaller breasts, although they usually have large, protruding buttocks. They were apparently meant to be viewed in profile, as their features are only clear when seen from the side. Engravings of these images on cave walls often depict scenes of a number of women together in groups, possibly dancing. Males are rarely depicted, either in sculptures or in engravings.

Gaudzinski-Windheuser and Jöris hypothesize that the Willendorf and Gönnersdorf styles express very different meanings. The Willendorf figurines, they argue, represent the overall idea of femaleness, but the emphasis is on individual women, represented by the many differences among the figurines. As a parallel, Gaudzinski-Windheuser suggested that the cute and chubby fictional stars of the children's TV show, Teletubbies—Tinky Winky, Po, Laa-Laa, and Dipsy—symbolize the common idea of a perfect, child-friendly world, and yet each Teletubby has their own individual

personality. (For example, each is a different color and has a different symbol on its head.) Such a symbolic system, in which both individual and group identity were expressed simultaneously, might have been suitable for the earliest modern humans who colonized Europe about 40,000 years ago—and who probably lived in small, close-knit groups, especially as Ice Age glaciers spread across Europe and forced them to cluster together in warmer refugia, she said.

In contrast, the Gönnersdorf style arose near the end of the last Ice Age, about 16,000 years ago, when the glaciers were retreating and human populations grew and expanded, including into northern Europe.

The new, abstract style of female figurine was much more standardized, with little individual variation, and could be made by nearly anyone, as opposed to the great artistic skill it took to make a Willendorf statuette, Gaudzinski-Windheuser told the meeting. These later depictions, which were unlikely to represent individual women, were used for communication of commonly held ideas of "femaleness" across far-flung social networks in Europe, which still needed to keep in touch to survive. In this way, she concluded, the images helped to solidify a "communal identity" among widely dispersed human populations.

Some researchers at the meeting, while cautioning that such interpretations are necessarily speculative, say that the pair's thesis has merit. "I rate it highly," says Clive Gamble, an archaeologist at the University of Southampton in the United Kingdom.

The figurines helped cement the social networks of expanding populations "whose insurance policy was having friends and relations over as big an area as possible." The change in styles from voluptuous to schematic females, Gamble adds, shows that "it's not over" even after "the fat lady sings."

Paul Pettitt, an archaeologist at the Durham University in the United Kingdom, agrees. "Sabine and Olaf remind us" that prehistoric art could have "dramatically different" functions as conditions changed for human societies, he says. But Randall White, an archaeologist at New York University in New York City, says that he is "not a fan" of the hypothesis, arguing that it oversimplifies the dichotomy between the two styles of female depictions, which he thinks were not as clear-cut as the MONREPOS archaeologists claim.

Please visit the site: <http://news.sciencemag.org/sciencenow/2013/02/seeking-meaning-in-the-earliest-.html>

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## **EROS MOSAIC FOUND IN SOUTHERN TURKISH CITY ADANA**

A mosaic featuring an Eros figure fishing on horse has been found in the southern province of Adana's Yumurtalık district. The half fish-half horse Eros, which is called Hippocampus in Greek mythology, is claimed to be the one and only such mosaic in the world.

Made up of marble, glass and stone, the mosaic is estimated to date back to the late Roman or early Byzantine era.

The Adana Museum Directorate has initiated archaeological excavations in the region where the mosaic was discovered. One week ago the existence of a villa was determined in the area. The villa was thought to be owned by a top state official and the Eros mosaic was revealed when a part of the villa was excavated.

Yumurtalık Deputy Mayor Erdol Erden said the Eros mosaic was found during a one-week excavation. "We found young and adult Eros figures in the villa. Experts say that these figures were the first and only such figures in the world," Erden said.

Please visit the site: <http://www.hurriyetdailynews.com/eros-mosaic-found-in-southern-turkish-city.aspx?pageID=238&nID=41523&NewsCatID=375> [Go there for pict]

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## **PHOENICIAN AMERICA?** **BY STEVE ROBSON**

Man's mission to prove Phoenicians discovered the Americas a thousand years before Columbus. Former City fund manager Philip Beale built replica Phoenician vessel Believes 50-tonne wooden boat could have crossed the Atlantic. Will set sail from Tunisia to try and prove the theory himself.

Christopher Columbus and his discovery of the Americas in 1492 is one of the great stories of modern history.

But five centuries after his momentous achievement, a British explorer wants to prove that Columbus was actually beaten to it by another seafaring nation 1,000 years earlier. Philip Beale believes the ancient Phoenicians - a Semitic civilization that prospered between 1500BC and 300BC on the Mediterranean coast - sailed to the Americas first.

Mr Beale built The Phoenician in 2008 exactly as it would have been 2,600 years ago And the former City fund manager from Lulworth, Dorset, wants to prove it by sailing a replica boat he built exactly as it would have been 2,600 years ago across the Atlantic. 'It is one of the greatest voyages of mankind and if anyone could have done it [before Columbus], it was the Phoenicians,' Beale told CNN.

'Of all the ancient civilizations they were the greatest seafarers -- Lebanon had cedar trees perfect for building strong boats, they were the first to use iron nails, and they had knowledge of astrology and currents.'

The theory that an Israelite race discovered the Americas before Columbus was popular in the 18th and 19th centuries after several ancient inscriptions were found in North America which were said to be Hebrew. But many historians still doubt that the Phoenicians were capable of such a treacherous journey. Mr Beale has already been on an epic voyage in his 50 tonne wooden vessel - aptly named The Phoenician - after he sailed it around Africa in 2010.

Phileas Fogg is a fictional character who is the star of the 1873 Jules Verne novel 'Around the World in Eighty Days.' In the book, which has been made into several films - including one starring Steve Coogan (above) - Fogg attempts to circumnavigate the world in eighty days, or less, for a wager of £20,000 with members of his London club.

He vows to return to the club by 8.45pm on Saturday 21 December 1872. He is followed by a detective named Fix during his journey who suspects him of robbing the Bank of England.

While in India Fogg meets Aouda, a widowed princess, and saves her from being burned to death during her husband's funeral. She then travels with Fogg for the rest of his journey.

She and Fogg eventually fall in love and marry. Fogg arrives home thinking he has lost his bet - but he eventually finds out that he won.

He hired archaeologists and traditional shipwrights to construct the boat based on the design of an ancient galley found wrecked in the western Mediterranean. It is almost 65ft in length, with a single sail and emergency oar holes for when the wind dropped.

Then, like a modern-day Phileas Fogg, he set sail in it to prove that the fabled voyage was possible using only the power of the wind and the tide.

He wanted to demonstrate that the Phoenicians - referred to in the Bible as 'rulers of the sea' - had the capability to circumnavigate the continent 2,000 years before the first recorded European which was Bartolomeu Dias in 1488.

Setting sail from Syria in 2008, he covered 20,000 miles over two years, battling everything from six-metre waves off the Cape of Good Hope to Somali pirates. And now he is willing to do it all again, provided he can raise the £100,000 he needs for the trip.

The odyssey is expected to take two to three months, setting sail from Tunisia and arriving in America via the Atlantic Ocean. He has also been invited by New York's Metropolitan Museum of Art to be part of the museum's landmark exhibition on the Phoenician civilisation, opening in September 2014.

'The conventional wisdom is that Christopher Columbus discovered America. But anyone who looks a little closer will see the Vikings were there around 900AD. They've found Viking settlements in Newfoundland, it's undisputed,' Beale told CNN. 'So Columbus was definitely second -- at best. I put forward the theory that the Phoenicians could have been first and I hope to prove that was the case.'

**Please visit the site: <http://www.dailymail.co.uk/news/article-2286356/One-mans-mission-prove-ancient-Semitic-civilization-discovered-Americas-thousand-years-Columbus.html>**

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## **MOST ANCIENT ROMANS ATE LIKE ANIMALS, BY STEPHANIE PAPPAS**

Ancient Romans are known for eating well, with mosaics from the empire portraying sumptuous displays of fruits, vegetables, cakes — and, of course, wine. But the 98 percent of Romans who were non-elite and whose feasts weren't preserved in art may have been stuck eating birdseed.

Common people in ancient Rome ate millet, a grain looked down upon by the wealthy as fit only for livestock, according to a new study published in the March issue of the *Journal of Anthropological Archaeology*. And consumption of millet may have been linked to overall social status, with relatively poorer suburbanites eating more of the grain than did wealthier city dwellers.

The results come from an analysis of anonymous skeletons in the ancient city's cemeteries. "We don't know anything about their lives, which is why we're trying to use biochemical analysis to study them," said study leader Kristina Killgrove, an anthropologist at the University of West Florida.

### **The ancient Mediterranean diet**

Health studies out last week heralded the modern Mediterranean diet, rich in olive oil, fish and nuts, as a good way to avoid heart disease. In ancient Rome, however, diet varied based on social class and where a person lived.

Ancient texts have plenty to say about lavish Roman feasts. The wealthy could afford exotic fruits and vegetables, as well as shellfish and snails. A formal feast involved multiple dishes, eaten from a reclined position, and could last for hours.

But ancient Roman writers have less to say about the poor, other than directions for landowners on the appropriate amount to feed slaves, who made up about 30 percent of the city's population. Killgrove wanted to know more about lower-class individuals and what they ate.

To find out, she and her colleagues analyzed portions of bones from the femurs of 36 individuals from two Roman cemeteries. One cemetery, Casal Bertone, was located right outside the city walls. The other, Castellaccio Europarco, was farther out, in a more suburban area.

The skeletons date to the Imperial Period, which ran from the first to the third century A.D., during the height of the Roman Empire. At the time, Killgrove told *LiveScience*, between 1 million and 2 million people lived in Rome and its suburbs.

### **Roman locavores**

To determine diets from the Roman skeletons, the researchers analyzed the bones for isotopes of carbon and nitrogen. Isotopes are atoms of an element with different numbers of neutrons, and are incorporated into the body from food. Such isotopes of carbon can



tell researchers which types of plants people consumed. Grasses such as wheat and barley are called C3 plants; they photosynthesize differently than mostly fibrous C4 plants, such as millet and sorghum. The differences in photosynthesis create different ratios of carbon isotopes preserved in the bones of the people who ate the plants.

Nitrogen isotopes, on the other hand, give insight into the kinds of protein sources people ate. "We found that people were eating very different things," Killgrove said. Notably, ancient Italians were locavores. Compared with people living on the coasts, for example, the Romans ate less fish.

There were also differences among people living within Rome. Individuals buried in the mausoleum at Casa Bertone (a relatively high-class spot, at least for commoners), ate less millet than those buried in the simple cemetery surrounding Casa Bertone's mausoleum. Meanwhile, those buried in the farther-flung Castellaccio Europarco cemetery ate more millet than anyone at Casa Bertone, suggesting they were less well-off than those living closer to or within the city walls.

Historical texts dismiss millet as animal feed or a famine food, Killgrove said, but the researcher's findings suggest that plenty of ordinary Romans depended on the easy-to-grow grain. One man, whose isotope ratios showed him to be a major millet consumer, was likely an immigrant, later research revealed. He may have been a recent arrival to Rome when he died, carrying the signs of his country diet with him. Or perhaps he kept eating the food he was used to, even after arriving in the city.

"There's still a lot to learn about the Roman Empire," Killgrove said. "We kind of think that it's been studied and studied to death over the last 2,000 years, but there are thousands of skeletons in Rome that nobody has studied ... This can give us information about average people in Rome we don't know about from historical records."

**Please visit the site: <http://news.yahoo.com/most-ancient-romans-ate-animals-165353530.html>**

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## **BREAKING: ANCIENT EGYPT “PYRAMID” BOAT THREATENED AFTER SEWAGE BURST, BY ROBERT GORDON**

Khufu's "solar barge" faces threat after pipe bursts.

CAIRO: Egyptian antiquities officials have confirmed to Bikyanews.com that a pipe has burst inside the museum holding one of pyramid builder Khufu's boat. The ancient boat has been restored and is a major pull for tourists heading to the Giza Pyramids.

Khufu is also the 4th dynasty King who erected the largest of the three pyramids, which has been named after him.

One official said late Monday night that the “sewage pipe in the building has exploded. We are looking into the situation and are not sure if any damage has happened.”

Activists and archaeologists have begun spreading the message on Twitter and other social media networks as they fear for the destruction of the ancient boat.

Please visit the site: <http://bikyanews.com/86316/breaking-ancient-egypt-pyramid-boat-threatened-after-sewage-burst/>

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## **FLOATING A BRONZE AGE BOAT, BY** **DAVID KEYS**

It didn't sink! Full-size, sewn-together replica of a Bronze Age boat launched to trials success

For the first time in almost 3000 years – a full size Bronze Age style sea-going boat has been launched in Britain. Slipping gracefully down a slipway today into Falmouth Harbour, Cornwall, the 15m-long vessel was then paddled by its 18 person crew for two 500m trial trips.

The launch – part of a long-term experimental archaeology investigation into Bronze Age marine technology – is already providing valuable new insights into prehistoric seafaring.

“I’m so happy with the responsiveness of the boat. We always said you had to build the whole boat to understand what Bronze Age people experienced,” said the project’s leader, University of Exeter archaeologist, Professor Robert Van de Noort, who is working together with the National Maritime Museum Cornwall.

“When I was steering the boat and it got up to speed, I could turn her easily and it was more seaworthy than I expected. We have learnt so much through the whole process and today’s launch has revolutionised everything we knew,” said the professor.

“There have been doubters, professionally, who questioned the feasibility of this vessel crossing the seas. This morning’s experiment strongly suggests that it was capable of doing so,” he said.

Andy Wyke, Boat Collection Manager at the Maritime Museum, said: “It has been incredible to see this whole project take shape in the Museum building over the past 11 months. Volunteers have poured everything into transforming three oak trees into what we have seen and achieved today.”

The vessel – based on ones excavated at Ferriby on the north bank of the Humber estuary in 1963 – will need a crew of 18 to 20 relatively muscular individuals to get her to operate at full power. The replica Bronze Age craft has been built, mainly by volunteers, under the direction of professional shipwright, Brian Cumby, at the National Maritime Museum Cornwall in Falmouth – in collaboration with prehistorian Professor Van de Noort. The project has been funded predominantly by a £177,000 grant from the Arts and Humanities Research Council.

Please visit the site: <http://www.independent.co.uk/news/science/archaeology/it-didnt-sink-fullsize-sewntogether-replica-of-a-bronze-age-boat-launched-to-trials-success-8521472.html#> [Go there for pict]

## ANCIENT ARCTIC CAMEL A CURIOUS CONUNDRUM

Ancient, mummified camel bones dug from the tundra confirm that the animals now synonymous with the arid sands of Arabia actually developed in subfreezing forests in what is now Canada's High Arctic, a scientist said Tuesday.

About 3.5 million years ago, Strathcona Fiord on Ellesmere Island's west-central coast would have looked more like a northern forest than an Arctic landscape, said paleobotanist Natalia Rybczynski of the Canadian Museum of Nature in Ottawa.

"Larch-dominated, lots of wetlands, peat," said Rybczynski, lead author of a study published Tuesday in the journal Nature Communications. Nearby fossil sites have yielded evidence of ancient bears, horses, deer, badgers and frogs. The average yearly temperature would have been about 32 Fahrenheit.

"If you were standing in it and watching the camel, it would have the feel of a boreal-type forest."

The Arctic camel was 30 percent larger than modern camels, she said. Her best guess is it was one-humped.

Although native camels are now only found in Africa and Asia, scientists have long believed the species actually developed in North America and later died out. Camel remains have been previously found in the Yukon.

What makes Rybczynski's find special is not only how far north it was found, but its state of preservation.

The 30 fragments found in the sand and pebbles of the tundra were mummified, not fossilized. So despite their age, the pieces preserved tiny fragments of collagen within them, a common type of protein found in bones.

Analyzing that protein not only proved the fragments were from camels, but from a type of camel that is much more closely related to the modern version than the Yukon camel. Out of the dozens of camel species that once roamed North America, the type Rybczynski found was one of the most likely to have crossed the Bering land bridge and colonized the deserts.

"This is the one that's tied to the ancestry of modern camels," she said.

Please visit the site: <http://www.foxnews.com/science/2013/03/05/ancient-arctic-camel-curious-conundrum/>

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## **HI-TECH DISCOVERIES: ARCHAEOLOGY TRANSFORMED, BY JODIE DUFFY**

Dr Tuniz, who began his career in the United States using physics to analyse moon rocks and meteorites, has spent almost two decades examining how advanced scientific technology in nuclear physics and X-rays can tell us more about palaeoanthropology and human evolution.

In a lecture last month at the Lucas Heights facility ANSTO, where he worked for 15 years, Tuniz described how the development of transportable instruments based on X-ray techniques and radiography can provide analysis of archaeological and cultural heritage materials in museums and in the field, with little or no disturbance to artefacts.

For example, he plans to take new X-ray instruments to outback Australia later this year where he will date and analyse Aboriginal rock art without having to take a sample of the work.

Other developments in laser technology are being used around the world to unearth the location of previously unknown historical sites.

The International Centre for Theoretical Physics in Italy, of which Tuniz is co-ordinator, discovered one of the oldest known Roman military forts in Europe last year - from the air.

In a helicopter hovering over an area of north-east Italy, scientists bounced laser beams off the land. Using airborne LiDAR (light, detection and ranging) sensing and special software, the image from the laser then stripped all buildings and vegetation to produce a clear picture of the land and the treasures lying underneath the subsoil.

Then, using typological analyses with 3D X-ray, the Roman fort was dated to around 200 years BC.

"It was a surprise discovery - before that the camp was almost unknown. It was found completely by chance," says Tuniz. "You couldn't see the structure before because it was covered with trees, but once they were cleared electronically, you could see, from a distance, the walls of the fort perfectly."

Welcome to the new age of archaeology.

Where archaeologists would once hack a swathe through forests and use tools to dig and scrape the ground, the LiDAR excavates a site using digital imaging techniques.

But archaeologists won't be hanging up their traditional tools anytime soon - the technology is expensive. Far too costly to be paid for by any archaeological grant. So far only a few teams around the world have been able to access LiDAR for archaeological purposes.

"We are just beginning with this new technique," says Tuniz. "What we need to do is try and convince those using it for environmental purposes, such as the study of earthquakes, to share the data with us and from that we can extract further information."

The results of the Italy flyover are to be officially published in the Journal of Archaeological Science next month. What scientists found was an outline of a rectangular area which contained a second, inner wall.

Initial investigations indicate that the fort was built to defend against the Barbarians. It may have been used as a starting point from which the Roman military set off to conquer the eastern world.

The camp is 120 years older than a Roman military camp unearthed in Germany last year by archaeologists from the University of Mainz, a discovery which shed new light on the Roman conquest of Gaul.

While more in-depth investigation is needed to confirm speculation about the Italian fort, it too may be of historical importance in that it could be linked to the military camp in an episode of the third Istrian war described by early historian Titus Livius in his monumental accounts of ancient Rome.

According to Livius, the Roman fleet headed for the first port along the Istrian coast. The two legions camped further inland, about seven kilometres from their ships. The geographical location of the fort - Mount Grociana - is seven kilometres from the old port of Stramare, one of the first landing sites in the Istrian region. Archaeologists believe the ancient fort coincides precisely with the camp described by Livius.

As a bone reader, Tuniz's work involves using physics to study ancient human remains, including their chemistry and DNA. He says advances in scientific methods are the "prime approach to understanding the secrets of human origins".

He is currently working in collaboration with the University of NSW to investigate the life of Neanderthals.

In September Tuniz made headlines worldwide when he discovered that Stone Age man had used dentistry to soothe a toothache.

Using technology at ANSTO, he examined an ancient human jawbone with six teeth. The jaw and teeth were found in 1911 embedded in a rock inside a cave in present day Slovenia. Tuniz found that a wax filling, made of beeswax, had been used on a vertical crack in the tooth 6500 years ago - the oldest dental procedure on record.

The human remains had been kept in the Museum of Natural History in Trieste in Italy and while a study had been conducted in the 1930s, not much information was gained from the specimen because the technology wasn't available.

Tuniz says the filling was most likely put in place to reduce pain from the broken tooth. The vertically cracked tooth also had an area of worn enamel most likely caused from using the teeth as a tool, possibly for weaving, an activity usually carried out by Neolithic females.

"We made a 3D image of the full jaw," says Tuniz. "The resolution is a thousand times better than a CT scan you get in hospitals. When you have that type of resolution you can see details no one has seen before. So that's when we discovered that one of the canines had a fracture and that it held some strange substance. At the time we laughed at the idea that Stone Age man had been curing a toothache, but then we said 'let's test that hypothesis'."

To determine the date of the wax, a very small sample was sent to ANSTO for independent dating.

"When I saw the final number of 6500 I jumped up and down, it was that good," says Tuniz.

What the discovery of the wax filling shows - Tuniz says - is that it's important for scientists to revisit all the ancient artefacts in museums because new methodologies could reveal new information.

Later this year, Tuniz will travel to Western Australia where, in combination with ANSTO and the indigenous community, he will date rock art in the field.

"We are planning to use portable X-ray instruments which we will bring from Italy," he says. "Recent advances mean we won't have to take samples of the art. Rock art is one of the most peculiar aspect of Australian archaeology.

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"Prehistoric cultural heritage is of great significance to Australian indigenous people and it is important for their cultural identity."

He is also planning to take the portable X-ray machines to African museums to examine artefacts relevant to human evolution.

Tuniz been appointed as a visiting professor at the University of Wollongong until 2016.

**Please visit the site: <http://www.illawarramercury.com.au/story/1333188/hi-tech-discoveries-archaeology-transformed/?cs=12>**

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## **STONE AGE SKELETONS UNEARTHED IN LIBYA'S SAHARA DESERT SPOTLIGHT GENDER DIVIDE, BY TIA GHOSE**

Archaeologists have uncovered 20 Stone-Age skeletons in and around a rock shelter in Libya's Sahara desert, according to a new study.

The skeletons date between 8,000 and 4,200 years ago, meaning the burial place was used for millennia.

"It must have been a place of memory," said study co-author Mary Anne Tafuri, an archaeologist at the University of Cambridge. "People throughout time have kept it, and they have buried their people, over and over, generation after generation."

About 15 women and children were buried in the rock shelter, while five men and juveniles were buried under giant stone heaps called tumuli outside the shelter during a later period, when the region turned to desert.

The findings, which are detailed in the March issue of the Journal of Anthropological Archaeology, suggest the culture changed with the climate.

### **Millennia of burials**

From about 8,000 to 6,000 years ago, the Sahara desert region, called Wadi Takarkori, was filled with scrubby vegetation and seasonal green patches. Stunning rock art depicts ancient herding animals, such as cows, which require much more water to graze than the current environment could support, Tafuri said.

Tafuri and her colleague Savino di Lernia began excavating the archaeological site between 2003 and 2006. At the same site, archaeologists also uncovered huts, animal bones and pots with traces of the earliest fermented dairy products in Africa.

To date the skeletons, Tafuri measured the remains for concentrations of isotopes, or molecules of the same element with different weights.

The team concluded that the skeletons were buried over four millennia, with most of the remains in the rock shelter buried between 7,300 and 5,600 years ago.

The males and juveniles under the stone heaps were buried starting 4,500 years ago, when the region became more arid. Rock art confirms the dry up, as the cave paintings began to depict goats, which need much less water to graze than cows, Tafuri said.

The ancient people also grew up not far from the area where they were buried, based on a comparison of isotopes in tooth enamel, which forms early in childhood, with elements in the nearby environment.

### **Shift in culture?**



The findings suggest the burial place was used for millennia by the same group of people. It also revealed a divided society.

"The exclusive use of the rock shelter for female and sub-adult burials points to a persistent division based on gender," wrote Marina Gallinaro, a researcher in African studies at Sapienza University of Rome, who was not involved in the study, in an email to LiveScience.

One possibility is that during the earlier period, women had a more critical role in the society, and families may have even traced their descent through the female line. But once the Sahara began its inexorable expansion into the region about 5,000 years ago, the culture shifted and men's prominence may have risen as a result, Gallinaro wrote.

The region as a whole is full of hundreds of sites yet to be excavated, said Luigi Boitani, a biologist at Sapienza University of Rome, who has worked on archaeological sites in the region but was not involved in the study.

**"The area is an untapped treasure," Boitani said.**

The new discovery also highlights the need to protect the fragile region, which has been closed to archaeologists since the revolution that ousted dictator Moammar el Gadhafi.

Takarkori is very close to the main road that leads from Libya into neighboring Niger, so rebels and other notorious political figures, such as Gadhafi's sons, have frequently passed through the area to escape the country, he said.

**Please visit the site: [http://www.huffingtonpost.com/2013/03/07/stone-age-skeletons-libya-sahara-desert-gender\\_n\\_2828251.html](http://www.huffingtonpost.com/2013/03/07/stone-age-skeletons-libya-sahara-desert-gender_n_2828251.html)**

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# **THE NOT-SO-DARK AGES: MUMMIFIED HEAD FROM 1200 AD REVEALS ENLIGHTENED DOCTORS WERE MORE ADVANCED THAN PREVIOUSLY THOUGHT, BY EMMA INNES**

Scientists have found the oldest preserved human dissection in Europe Radiocarbon dating suggests the head and shoulders are from 1200 AD Head so well preserved it retained a red beard

Scientists have found what they believe to be the oldest preserved human dissection in Europe.

The specimen, which shows signs of surprisingly advanced medical techniques, is made up of an adult human head and shoulders with the top of the skull and the brain removed. Radiocarbon dating puts the age of the head, which is being studied by Philippe Charlier at University Hospital R. Poincare in France, at between AD 1200 and AD 1280.

The researchers used medical scanners to create a 3D model of them, allowing them to see inside and analyse the methods used to preserve it

## **HOW THEY DID IT**

The head's arteries are filled with a 'metal wax' compound made up of beeswax, lime and cinnabar mercury.

It was used as a preservative and as a way of giving the circulatory system some colour.

The preservation was so successful that the head retains some of the red hairs that made up its beard and moustache.

The head's arteries are filled with a 'metal wax' compound – made up of beeswax, lime and cinnabar mercury - that was used as a preservative and as a way of giving the circulatory system some colour.

The presence of this substance suggests unexpectedly sophisticated anatomical expertise during the Dark Ages, experts say.

This contradicts previous theories that this was a period of little scientific advancement and it proves that the man's body was not simply dissected and then disposed of – it was preserved, possibly for use in medical experimentation.

'It's state-of-the-art,' Dr Charlier told LiveScience.

'I suppose that the preparator did not do this just one time, but several times, to be so good at this.'

The preservation was so successful that the head retains some of the red hairs that made up its beard and moustache.

The researchers have also been able to ascertain that when he died, the man only had four teeth left and that he was suffering from osteoarthritis.

However, despite the sophistication of the preservation, the specimen has suffered some damage and shows evidence that it has been gnawed by rodents and infested with insects.

The identity of the man is not known but the researchers, who are publishing their findings in the journal, Archives of Medical Science, suggest that he could have been an institutionalised person, a prisoner or a pauper whose body was never claimed.

A scan showed that the arteries are filled with a 'metal wax' compound

The specimen, which shows signs of surprisingly advanced dissection techniques, is made up of an adult human head and shoulders with the top of the skull and the brain removed. The specimen, which is currently in a private collection, is to go on display at the Parisian Museum of the History of Medicine.

‘This is really interesting from a historical and archaeological point of view,’ Dr Charlier told LiveScience.’

He added: ‘We really have a lack of skeletons and anthropological pieces.’

Fragments of dissected human bodies from before the 19th century are very rare and have mainly been found in Venice, Italy, Marseille, France, Sens, France, and Douai, France.

The first known human scientific dissections were carried out in Alexandria, Egypt, by Greek physicians in the early part of the third century BC.

Human dissection made its first appearances in the Western world in Italy in the last decades of the 13th century.

**Please visit the site: <http://www.dailymail.co.uk/sciencetech/article-2289132/The-Dark-Ages-Mummified-head-1200AD-reveals-enlightened-doctors-dissecting-human-bodies-centuries-earlier-previously-thought.html>**

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## **NEW TECHNIQUES REVEAL ANCIENT SULFUR CYCLE**

Analysis of isotopic compositions of a single grain of a mineral, rather than of a bulk rock is required for detailed understanding of biogeochemical processes in an ancient ocean. That is the conclusion of an article published recently in Proceedings of the National Academy of Sciences (PNAS) (Early Edition, on-line) analyzing sulfate reduction. Using new spectrometry techniques, a group of researchers, including Dr. Alexey Kamyshny (pictured above) from the Department of Geological and Environmental Sciences of Ben-Gurion University of the Negev, found physical proof that pyrite grains in the same rock were created by different processes.

“For the first time pathways of microbial transformations of sulfur derived from various sources (soluble, e.g. sulfate and insoluble, e.g. elemental sulfur) were shown to co-exist in the same ancient aquatic system,” says Kamyshny.

It is generally thought that bacterial sulfate reduction has existed for at least 3.5 billion years, and thus is one of the most ancient metabolic processes on Earth. The most effective tool for study of an ancient sulfur cycle is analysis of the relative abundances of four sulfur isotopes (atoms of the same element with different masses).

Until now a majority of data on sulfur isotope composition was obtained from the analysis of relatively large, hundreds of milligrams to grams, portions of ancient rocks. The team analyzed 2.5 – 2.65 billion year old rocks from South Africa by secondary ion mass spectrometry. This method enables the analysis of the isotopic composition of solid surfaces on a micrometer scale. Application of secondary ion mass spectrometry allowed analysis of relative abundances of three sulfur isotopes with atomic masses 32, 33, 34, and 36 in millimeter size particles of sulfur-bearing mineral pyrite.

It was found that pyrite grains of different shapes have different sulfur isotope fingerprints. This discovery allowed the authors to conclude that various pyrite grains in the same rock were formed by different processes from various precursors. The authors suggested that one of these precursors was a soluble compound, sulfate, and the other pool was elemental sulfur, which is hardly soluble in water. The relative contributions of these pools to the formation of pyrite depend on both the accumulation of the insoluble pool and the rate of sulfide production in the pyrite-forming environments. The article was entitled, “Pathways for Neoproterozoic pyrite formation constrained by mass-independent sulfur isotopes.”

The article was entitled, “Pathways for Neoproterozoic pyrite formation constrained by mass-independent sulfur isotopes.”

A copy of the article is available upon request.

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Please visit the site: [http://in.bgu.ac.il/en/Pages/news/Kamyshny\\_article.aspx](http://in.bgu.ac.il/en/Pages/news/Kamyshny_article.aspx)

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## **DIMENSIONS OF ANCIENT EGYPT - KARNAK PROJECT A CUTTING-EDGE APPROACH TO ANTIQUITY, BY AARON LESTER**

The Temple of Amun-Ra at Karnak isn't the most famous ancient site in Egypt — that honor goes to the Pyramids at Giza — but newly developed reconstructions using 3-D virtual reality modeling make clear its architectural importance and rich history.

Elaine Sullivan, a visiting assistant professor, worked with her colleagues from the University of California, Los Angeles, to digitize 100 years of analyses and excavation records to create an interactive historical document of the architectural phases of the Karnak temple.

Sullivan presented her work Wednesday in a Science Center lecture titled “The Temple of Amun-Ra at Karnak: 2000 Years of Rituals and Renovations in 3-D.”

“You can't go back in time,” Sullivan said. “You can't remove monuments that are still standing. But we can simulate it. We can reconstruct the objects and buildings that have been completely lost or destroyed to history.”

The Amun-Ra temple, which was active for more than 1,500 years, is a mega-temple, Sullivan said. “It was so extensive, and was added to by so many different kings, that it provides us with examples of structures not normally seen in every other temple in Egypt.”

“You can't go back in time,” said Elaine Sullivan. “You can't remove monuments that are still standing. But we can simulate it. We can reconstruct the objects and buildings that have been completely lost or destroyed to history.”

The temple's rich architectural features and history — its hypostyle hall and sphinx-lined processional; sacred pool and towering obelisks; the inner sanctum where the statue of Amun-Ra would have stood — are now available for multidimensional investigation. What's most important, though, said Sullivan, is to be able to think about specific moments in the history of an ancient site, “not just the last moment in time, that moment we see when we go to the site.”

The Karnak model depicts the temple from its earliest hypothesized form in the Middle Kingdom, about 1950 B.C., through the Ptolemaic and Roman periods. It allows the viewer to trace the changes of the temple over time, considering how each new stage of construction was a response to the existing landscape, Sullivan said.

The temple underwent dramatic changes, expanding from a small limestone structure to an enormous complex covering a huge area.

“Buildings were renovated, pulled down, and replaced in a seemingly constant stream,” Sullivan said.

With only two of 17 still upright, the visual importance of the site's obelisks has been mostly lost. But in the model, the obelisks dominate Karnak's virtual skyline. "They would have been some of the only structures seen outside the walls," Sullivan said.

The 3-D models are "terrific tools for teaching and also terrific research tools, because you begin to ask questions that were not possible before," said Harvard's Peter Der Manuelian, the Philip J. King Professor of Egyptology.

Manuelian was a key player in the Giza 3-D project, a re-creation of the Giza Plateau, engineered by Waltham-based software design firm Dassault Systèmes in collaboration with Harvard and the Museum of Fine Arts, Boston.

Manuelian and his staff digitized 100 years of research, using real data to reconstruct the Giza necropolis, from its temples to its underground burial chambers.

Though Giza and Karnak are hundreds of miles and thousands of years apart, both projects reveal new research opportunities, Manuelian said. "It's a reciprocal relationship. You build these things that become great teaching tools, that become research tools, and they lead you in great new research directions."

A huge challenge for Egyptologists like Sullivan and Manuelian comes with deciding what era to depict in their models. "Is it the monument in the fourth dynasty or in the 18th dynasty? Or how it was when it was excavated in 1920, or the monument as it exists today?"

"Ideally," Manuelian said, "you have the time and the people and the money to do all of this."

Sullivan sees the possibilities of 3-D modeling expanding. "Anyone working on ancient material can get new views of landscape, the built landscape, and the ritual landscape by using these models."

The lecture was sponsored by the Standing Committee on Archaeology and the Harvard Semitic Museum.

Please visit the site: <http://news.harvard.edu/gazette/story/2013/03/dimensions-of-ancient-egypt/>

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## **HYKSOS BUILDINGS ARE THE LATEST ANCIENT DISCOVERY IN TEL HABUWA, BY NEVINE EL-AREF**

Important new discoveries at the Tel Habuwa dig east of the Suez Canal shed light on the campaign by Ahmose I (c.1550–1525 BC) against the Hyksos invaders

A team of Egyptian archaeologists digging at Tel Habuwa, near the town of Qantara East and three kilometres east of the Suez Canal, have made a major discovery.

The find comes as part of the search for more of the ancient forts that played a major role in protecting ancient Egypt's eastern gateway from foreign invasion.

During excavation works, archaeologists chanced upon the remains of administrative buildings dating back to the Hyksos and the New Kingdom periods in the second millennium BC, as well as a great many grain silos.

Each administrative edifice is a two-storey structure with a number of mud brick rooms and courtyards. Inside these halls a collection of coffins, skulls and skeletons of human beings and animals were found buried in sand.

Early studies of the skeletons reveal that they bear deep scars and wounds as the result of being stabbed with arrows or spears.

"This indicates that the battles between the Hyksos and the military troops led by the ancient Egyptian king Ahmose I (c.1550–1525 BC) were violent and aggressive," said Minister of State for Antiquities Mohamed Ibrahim.

Ibrahim said that a large number of grain silos and army storage galleries from the reign of kings Tuthmose III and Ramses II were also discovered. These silos can store more than 280 tonnes of grain, which indicates the great number of the Egyptian army forces which were at Tel Habuwa at that time.

Mohamed Abdel Maqoud, leader of excavation work and deputy of the Ancient Egyptian antiquities department at the antiquities ministry, told Ahran Online that the remains of burned buildings were also found, confirming written accounts on papyrus that describe a great conflagration during Ahmose I's battle against the Hyksos.

"This this is a very important discovery which provides us with a better understanding of the Rind papyrus -- now on display in the British Museum -- and the military strategy used by the Pharaoh Ahmose I to liberate Egypt from the Hyksos," said Abdel-Maqoud.

He pointed out that the Rind papyrus mentions that Ahmose attacked Tharo and imposed his authority on the town in order to lay siege to the Hyksos in their capital Avaris -- near the Delta town of Sharqiya -- and block any contact with their allies in the east.



Until 2003, when the fortified city of Tharo was found, Abdel Maqsoud said, nothing was known about this military town.

At that time several objects were found testifying that Tharo dated from the New Kingdom, so Egyptologists believed that it was built by Ahmose I's successors in an attempt to protect Egypt's eastern gate from any further invaders.

This latest discovery, however, proves that Tharo was built long before that, since the Hyksos took over it as a military base on Egypt's eastern border. The town expanded after the war of liberation, and forts were built throughout the period of the New Kingdom.

**Please visit the site:**

<http://english.ahram.org.eg/NewsContent/9/40/66979/Heritage/Ancient-Egypt/Hyksos-buildings-are-the-latest-ancient-discovery-.aspx>

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## **ONE OF WORLD'S OLDEST SUN DIAL DUG UP IN KINGS' VALLEY, UPPER EGYPT**

During archaeological excavations in the Kings' Valley in Upper Egypt a team of researchers from the University of Basel found one of the world's oldest ancient Egyptian sun dials. The team of the Egyptological Seminar under the direction of Prof. Susanne Bickel made the significant discovery while clearing the entrance to one of the tombs.

During this year's excavations the researchers found a flattened piece of limestone (so-called Ostrakon) on which a semicircle in black color had been drawn. The semicircle is divided into twelve sections of about 15 degrees each. A dent in the middle of the approximately 16 centimeter long horizontal baseline served to insert a wooden or metal bolt that would cast a shadow to show the hours of the day. Small dots in the middle of each section were used for even more detailed time measuring.

The sun dial was found in an area of stone huts that were used in the 13th century BC to house the men working at the construction of the graves. The sun dial was possibly used to measure their work hours.

However, the division of the sun path into hours also played a crucial role in the so-called netherworld guides that were drawn onto the walls of the royal tombs. These guides are illustrated texts that chronologically describe the nightly progression of the sun-god through the underworld. Thus, the sun dial could also have served to further visualize this phenomenon.

During this year's excavation in cooperation with the Egyptian authorities and with the help of students of the University of Basel over 500 mostly fragmentary objects that had been recovered in former seasons were documented and prepared for further scientific examination. This also includes all the material of the lower strata of tomb KV 64 found in 2012. Inside the roughly 3500 year old tomb Basel researchers had discovered a sarcophagus that was holding the mummy of a woman named Nehemes-Bastet.

**Please visit the site:**

<http://www.sciencedaily.com/releases/2013/03/130314085052.htm> [Go there for pict]

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## **MARMARAY ARTIFACTS SUGGEST ANCIENT SETTLEMENTS RELATED**

An excavation team has announced that evidence from two settlements in İstanbul dating back 8,500 years, uncovered during construction on the Marmaray Project, may indicate that their residents were related.

Digging conducted as part of the Marmaray Project to build a rail tube under the Bosphorus that will connect Europe and Asia has led to the discovery of a large number of historical artifacts since work began in 2004, shedding light on the history of İstanbul.

Zeynep Kalkan, director of the İstanbul Archaeological Museum and head of the archeological team working alongside the construction crew, stated that a recent find in İstanbul's Pendik district, located on the Asian side of the Bosphorus, included gravesites that contained numerous skeletons buried in the hocker position -- a fetal-like position where the arms are embracing the lower limbs -- and items such as spoons, needles, kitchen utensils and tinderboxes. After a study by the team, experts announced that the residents of the settlement in Pendik and those of a settlement in Yenikapı, on the European side of the city, in 2004 may be related. “The finds in Pendik and in Yenikapı are very similar in terms of architecture, tools and form of burial.

After a DNA analysis taken from skeletons from both settlements, we can be sure that they were related,” said Kalkan.

The excavation work for the public transportation project is being monitored by archaeologists from the museum. Various artifacts have been found, including human skeletons, church ruins, water wells and fossilized footprints, and nearly 1 million cases of earthenware pots and plates have been uncovered thus far. One of the most outstanding historical artifacts to be unearthed is the fourth-century Port of Theodosius from the Byzantine era. Moreover, 36 sunken ships -- 30 of which were merchant vessels equipped with sails and five of which were galleys propelled by rowers -- that sank between the fifth and 11th centuries have also been located. All the pieces undergo classification and if possible, broken artifacts are restored. Some 40,000 historical items which help to illuminate the ancient history of İstanbul have been discovered during the archeological work, carried out by 500 laborers and 60 experts.

Please visit the site: <http://www.todayszaman.com/news-309399-marmaray-artifacts-suggest-ancient-settlements-related.html>

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## **DIGITAL ARCHAEOLOGY: 3D MODELING REVEALS ANCIENT ARTIFACTS, BY KIONA SMITH-STRICKLAND**

From finding elusive sites to preserving fragile artifacts, archaeology uses digital-imaging technologies to preserve the places and objects that link humanity to its past.

Every archaeological site contains a wealth of information about the past, and context is key. A knife found by a stone hearth tells a different story than one alongside a human skeleton. Unfortunately, excavating the site to reveal the story also destroys it. Detailed records are the only way archaeologists can keep archaeology from erasing the past rather than preserving it. Today, they're using 3D modeling tech to preserve the information found in a site, find new places to dig, or create models of ancient artifacts via 3D printing.

### **Modeling Ancient Artifacts**

Modeling in 3D can help preserve even the smallest artifacts, like beads and tiny bones. These fragile physical objects are essential links to the past, but they are often sequestered in museums or university collections to ensure their preservation. Creating virtual copies of these artifacts makes them more available for study. Researchers far from the collection itself can even receive a copy of the artifact by email.

Modeling programs such as Rhinoceros, from developers Robert McNeel and Associates, let researchers rotate a model, slice it at any angle to view a cross section, and obtain precise measurements of surface area, volume, and other features that may be difficult to measure manually. Scientists can also label or highlight important features and attach notes to virtual models. Combining that modeling ability with 3D printing can create accurate, detailed physical copies of artifacts. The 3D printer's software slices the virtual model into flat cross sections, and then the printer deposits layers of a material, such as plaster powder, to form a 3D object.

Archaeologists at Harvard University used digital modeling to reconstruct a shattered first-century B.C.E. ceramic lion, then printed an intact, full-color 3D replica of the sculpture. At Texas A&M University's Wilder 3-D Imaging Laboratory, researchers have printed ancient Roman anchors and a partial replica of a human skull.

Pennsylvania zooarchaeologist Jill A. Weber says that 3D replicas have enabled her study of equid remains from the third-millennium B.C.E. Syrian city of Umm el-Marra. Cultural heritage laws prevented the removal of the bones from Syria, so Weber created digital models using a laser scanner by NextEngine. She later printed replicas of 14 of the bones using a Z Corporation Spectrum Z510 3D printer.

The models, accurate to 0.13 mm in all directions, may now be the only trace of a previously unknown ancient hybrid of the donkey and the Asian wild ass.

Amid Syria's violent political upheaval, the bones, along with other artifacts, may be lost or destroyed. "Now, the only access we have to that is from my scans and printed

counterparts," she told Popular Mechanics. "If I hadn't done what I did, that information may well have been lost forever."

Since many sites crucial to humanity's past are located in politically unstable areas such as Iraq and Syria, Weber believes that 3D printing could help ensure that the archaeological record is preserved even in the face of danger to the artifacts themselves. These replicas are also useful tools for teaching or display, giving students and the public hands-on encounters with the past. Such encounters may inspire the next generation to develop the research tools of the future.

### **Mapping Ancient Sites**

A surveying tool called a total station helps archaeologists record entire sites in precise detail by using optical beams to measure the distance between the instrument and another point, such as an artifact or the edge of a structure. Multiple instruments triangulate the location of each point on a 3D grid. When archaeologists enter all those coordinates into a geographic-information-systems (GIS) software program, they generate a 3D model of the entire site with each artifact in its original position in color-coded soil layers. Researchers can then look at the site in ways that are impossible in the real world, rotating the model or slicing through it to view cross sections.

GIS also helps archaeologists discover new sites. They use the software to create maps of the geographical characteristics of an area, including elevation, soil type, and distance from water. After mapping each site in the area, archaeologists then search for the kinds of places that they know people of the past preferred. The GIS software then pinpoints places that share those characteristics, directing archaeologists to other likely sites.

Several GIS programs are commercially available, but archaeologists often turn to open-source software to meet their specific needs. "In fact, archaeologists are among the leading developers, proponents, and users of free and open-source software for GIS," says Dr. Scott Madry of the University of North Carolina at Chapel Hill, an archaeologist who studies European prehistoric sites. "We don't have a whole lot of money," he says. "You should never go into archaeology for the money, and a lot of the commercial software tools are very expensive."

GIS helps researchers make the most of time in the field. "For example, I live and teach in the U.S., and my primary research area is in France," Madry says. "It's very expensive for me to get over there and to get a team of students over there; all the travel, all the cars, all the logistics are very expensive. By doing our GIS mapping and our modeling, we're able to be much more targeted and efficient in terms of how we use the time that we have in the field."

**Please visit the site: <http://tinyurl.com/cvtuja4>**

## **İZMİR LOOKS FOR INPUT ON RESTORATION PLAN İZMİR**

With a new project, İzmir's historic area of Kadifekale, featuring an ancient theater, an agora and Kemeraltı, will be revived for tourism with the input of locals. New areas expected to draw tourists will also be created in the locale without destroying the historical texture

İzmir Municipality is looking to develop new tourism strategies that will include a 300-square-meter historical area. Municipal authorities in İzmir are calling for public participation amid an ambitious new project to redevelop some of the Aegean province's most famous tourists sites in a bid to draw more visitors.

“We want to share ideas with scientists and the residents of İzmir. If we cannot get the support of citizens, it will not be possible to realize this project,” İzmir Metropolitan Mayor Aziz Kocaoğlu said.

“We are the leader of the project and plan to revive the area together with people there. Now new buildings are being constructed here and development rights are not being given. We are only trying to find a road map to get permission for restoration,” Kocaoğlu said.

The municipality is looking to develop new tourism strategies that will include a 300-square-meter historical area of Kadifekale, which is home to a number of areas from both antiquity and more recent times, such as an ancient theater, an agora and the Kemeraltı.

### **Centers of attraction**

The endeavor, dubbed the İzmir-History Project, was initiated at a recent meeting with the attendance of architects, city planners, engineers, designers, academics and businessmen.

“We have so far expropriated the agora and its surroundings, as well as an ancient Roman theater, restored the Kadifekale walls, [conducted] geological and archaeological works in the Aegean Civilizations Museum, as well as the land arrangement of Anafartalar and İkiçeşmelik streets and the restoration of the Haremlik-Selamlık building,” the mayor said. “We are now working to rehabilitate the Basmane region without destroying its structural texture. To us, this is the most important center for tourists. There will be boutique hotels, streets for designers and Aegean cuisine there.”

Explaining the reason behind the launching of the long-term project, the mayor said it was difficult to draw local and tourists to the city without restoring one of the country's most famous landmarks, the ancient theater at Ephesus, as well as Bergama and the historical area in the city center.

İzmir Metropolitan Municipality Mayor Consultant and Mediterranean Academy Director Professor İlhan Tekeli said the İzmir-History Project would enrich the relationship between İzmir's residents and history.

“This project will develop with the participation of the people. When the strategy process is finished, the design and application process will start. We should determine what kind of a center of attraction can be created here,” he said.

Please visit the site: <http://www.hurriyetdailynews.com/izmir-looks-for-input-on-restoration-plan.aspx?pageID=238&nID=42970&NewsCatID=375>

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## **WHO LIVES LONGEST? BY MAGGIE KOERTH-BAKER**

A Swedish baby born in 1800 had a life expectancy of just 32 years. We know this because Sweden was one of the first countries to keep extensive records of births and deaths and, by 1800, had a reliable national system that allowed this morbid statistic to be calculated.

That baby's life may sound nasty, brutish and short, especially for a nation advanced enough to keep such detailed records, but before you imagine 19th-century Swedish teenagers suffering the regret and ennui of midlife crises, consider this: that same year, a 20-year-old Swede could reasonably expect to live another 37 years.

Life expectancy is an average, and it fluctuates with age as the risks we face change throughout our lifetimes. Both those facts make it a frequently misunderstood statistic. High infant-mortality rates depress the figure substantially. This can lead contemporary observers to the false conclusion that most humans died quite young, even in the not-so-distant past. (Were you ever told, as a petulant teenager, that you'd have been considered middle-aged in medieval Europe?)

“ ‘Life expectancy’ is this term that entered public lingo without public understanding of what it really means,” says Andrew Noymer, associate professor of public health and sociology at the University of California, Irvine. Our hypothetical Swedish baby's 1832 expiration date is, of course, nothing of the sort. It's a way of expressing, statistically, that lots of babies and small children were dying in 19th-century Sweden. By simply surviving childhood, a young Swede could expect a relatively long life — and if he was lucky, a proper midlife crisis.

But so could Fred Flintstone. In the last decade, scientists have concluded that humans have lived into older adulthood since 30,000 years ago, during the Upper Paleolithic (part of the era more commonly known as the Stone Age). Michael Gurven, a professor of anthropology at U.C. Santa Barbara who has studied modern hunter-gatherer and horticultural tribes, found that people in these societies who survived childhood lived about as long as 19th-century Swedes did — into their 50s and beyond. His work is one clue that suggests Enlightenment Age Europeans could have had the same longevity as our ancestors who painted caves and hunted the woolly mammoth.

Before the Upper Paleolithic, early humans really did die young, most before their 30th birthdays. Then, during the late Stone Age, there was a significant increase in the number of people living into older adulthood. The scientific and technological advances that made the modern era possible are well known to us, but the Upper Paleolithic was also host to a flourishing of early human culture.

Rachel Caspari, a paleoanthropologist at Central Michigan University, studies the life spans of ancient humans, their ancestors and close relatives — together, known as hominins. In 2004, she and a colleague examined teeth from 768 hominin fossils representing three million years of primate evolution.



Looking at wear and other signs of aging in the teeth, Caspari split the fossils into groups of old and young adults, creating rough approximations of ancient demographics. Examining a span from between 100,000 and 30,000 years ago, Caspari found about four old adults for every 10 young adults. But beginning around 30,000 years ago, during the Upper Paleolithic, this reversed: Caspari counted 20 old adults for every 10 young adults.

This demographic shift coincided with an explosion of cultural production: clay figurines; carvings made of bone, wood and stone; cave art and jewelry making; and complex burial practices. According to Caspari, it was longer human life spans that seem to have made this flourishing possible. Having more time on earth allows our species to progress.

The most recent rapid increase in human life expectancy started around 1880 in Europe, North America and Japan. Now we might be approaching another age of great technological upheaval, as stem cells and gene therapy offer the potential to extend lives to unprecedented lengths.

But life expectancy measures only gains that refer to a whole population, and in the United States, rising inequality has become a drag on this most basic measure of human progress.

Currently, life expectancy at birth in the United States is roughly 79 years, and it's the same at age 25, but our gains have slowed considerably. The U.S. ranks 51st in the world for life expectancy at birth. Around 1950, we were ninth. Furthermore, what improvements we do see are not spread evenly across the population. For example, between 1990 and 2008, white women with college degrees picked up three and a half years of life expectancy, while those without a high-school diploma lost five years.

Meanwhile, researchers are experimenting on mice, trying to isolate the mechanisms that cause aging, in an effort to slow (or stop) them.

These mice have been injected with stem cells and subjected to various forms of DNA tampering. Perhaps someday, thanks to these mice, we'll be able to extend human life to Old Testament lengths — for those who can afford it. Perhaps not. Scientists disagree about whether there's a biological limit to human life expectancy, but it does seem possible that we're approaching a sort of sociological limit here in the U.S.

Justin Denney, assistant professor of sociology at Rice University, has studied the ways that certain health issues disproportionately affect the most disadvantaged people in this country. For example, he told me other studies have shown that wealthy, well-educated smokers outlive poorer, less-educated smokers, even if you control for the amount of tobacco consumed. The biggest barriers to improving life expectancy in the United States are societal issues, Denney says. You can't get a shot to undo the effects of growing up in a lead- and asbestos-contaminated row house. There's no laser surgery to fix the detrimental effects of generations of chronic stress.

Perhaps one day there will be a stem-cell treatment that can double one's life expectancy by slowing the aging process, making a centenarian as spry as a quinquagenarian. But if such a serum benefits only the few who can afford it, our national life expectancy will hardly budge — it's an average, after all. In 19th-century Sweden, the figure was dragged down by infant mortality. Today in the United States, it grows slowly because of the

premature deaths of the less fortunate. Thanks to this vast inequality, even a high-tech fountain of youth would hardly move the needle.

“Look at the countries with the highest average life expectancy,” says Denney, referring to places like Japan, Australia, Canada and, yes, Sweden — nations that distribute their health resources more evenly.

“Ultimately,” he says, “life expectancy is a measure of quality of life.”

Maggie Koerth-Baker is science editor at BoingBoing.net and author of “Before the Lights Go Out,” on the future of energy production and consumption.

Please visit the site: <http://www.nytimes.com/2013/03/24/magazine/who-lives-longest.html>

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## **2,400-YEAR-OLD MYTHS OF MUMMY- MAKING BUSTED, BY TIA GHOSE**

Contrary to reports by famous Greek historian Herodotus, the ancient Egyptians probably didn't remove mummy guts using cedar oil enemas, new research on the reality of mummification suggests.

The ancient embalmers also didn't always leave the mummy's heart in place, the researchers added.

The findings, published in the February issue of HOMO – Journal of Comparative Human Biology, come from analyzing 150 mummies from the ancient world.

### **Mummy history**

In the fifth century B.C., Herodotus, the "father of history," got an inside peek at the Egyptian mummification process. Embalming was a competitive business, and the tricks of the trade were closely guarded secrets, said study co-author Andrew Wade, an anthropologist at the University of Western Ontario.

Herodotus described multiple levels of embalming: The elites, he said, got a slit through the belly, through which organs were removed. For the lower class, mummies had organs eaten away with an enema of cedar oil, which was thought to be similar to turpentine, Herodotus reported.

In addition, Herodotus claimed the brain was removed during embalming and other accounts suggested the heart was always left in place.

"A lot of his accounts sound more like tourist stories, so we're reticent to take everything he said at face value," Wade told LiveScience.

### **Mummy tales**

To see how eviscerations really took place, Wade and his colleague Andrew Nelson looked through the literature, finding details on how 150 mummies were embalmed over thousands of years in ancient Egypt.

They also conducted CT scans and 3D reconstructions on seven mummies.

The team found that rich and poor alike most commonly had the transabdominal slit performed, although for the elites evisceration was sometimes performed through a slit through the anus.

In addition, there wasn't much indication that cedar oil enemas were used.

Only a quarter of mummies had their hearts left in place. The removal of the heart seems to coincide with the transition period when the middle class gained access to mummification, so getting to keep the heart may have become a status symbol after that point, Wade said.

"The elites need some way to distinguish themselves from the people that they're ruling," he said.

And whereas Herodotus had suggested mummies had their brains removed and discarded, Wade and his colleagues found about a fifth of the brains were left inside the mummies' skulls. Almost all the others were pulled out through the nose, Wade's team described in another study detailed in the August 2011 issue of the same journal.

After the evisceration, the bodies were rubbed down with a mild antiseptic such as palm wine. They were also covered with packets of natron, a naturally occurring salt, left to dry out for many days, packed with linen or wood shavings, and sometimes perfumed with scented items, Wade said.

#### **Varied traditions**

The findings show just how varied embalming techniques were in the ancient world, said David Hunt, a physical anthropologist at the Smithsonian Institution in Washington, D.C.

"A lot of people have taken the idea that it was all done the same way, but over the course of 3,000 years? Heck no," Hunt told LiveScience. "We know that folks in the Sudan didn't follow the exact same methodology as people that were in Alexandria."

Please visit the site: <http://news.yahoo.com/2-400-old-myths-mummy-making-busted-165148963.html> [Based on article posted at <http://www.sciencedirect.com/science/article/pii/S0018442X12001278>]

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## **ARCHAEOLOGISTS EXPLORE EARLY BRONZE AGE SETTLEMENT ON GREEK ISLAND OF KEROS-ISLAND OF THE FAMOUS "KEROS HOARD" MAY HOLD MORE SECRETS**

Keros Island. It is known for the famous assemblage of fragmentary Cycladic marble figurines popularly known as the "Keros Hoard", a collection of artifacts purportedly found by looters at the site of Kavos on the west coast of this now uninhabited Greek island in the Cyclades, southeast of Naxos in the Mediterranean. Many of the figurines, traded on the antiquities market, ended up in the Erlenmeyer Collection in Basel, Switzerland, with the rest dispersed among various museums and private collections. The figurines were said to have inspired the work of Pablo Picasso and Henry Moore.

Now, archaeologists will be returning to the island to conduct a survey that will, they hope, shed additional light on the settlement and civilization that constituted the famous hoard's context, with an eye toward further targeted excavations.

The ancient people who presumably produced or traded the figurines inhabited a settlement that, based on previous investigations and excavations, flourished during the 3rd millennium B.C. as a part of the Early Bronze Age Cycladic civilization. Excavations carried out under the direction of Professor Colin Renfrew of the University of Cambridge and the British School at Athens (the "Cambridge Keros Project") from 2006 to 2007 at Kavos uncovered more fragmentary Cycladic figurines, vessels and other objects made of marble, suggested by the excavators to have been broken elsewhere but brought to Kavos for deposition.

In 2008 they excavated a large area they identified as part of a Cycladic period settlement on the nearby associated islet of Dhaskalio. That excavation revealed a substantial building 16 metres long and 4 metres wide, considered to be the largest from this period in the Cyclades — within which was discovered an assemblage comprising a chisel, an axe-adze and a shaft-hole axe of copper or bronze. In addition to excavation, survey of the islet showed that most of it evidenced Early Bronze Age occupation, making this the largest archaeological site in the Cyclades.

"A pedestrian surface survey of the island of Keros was begun in 2012 in order to place the results of the 2006-2008 excavations in a wider context", reports the Project leadership. "Much of the west of the island was covered in 2012, and so the work this year will concentrate in the east, although some intensive collections will also be scheduled in the west. The aim is to complete the survey in 2013."

**For more information about the Keros Island Survey go to <http://www.arch.cam.ac.uk/keros/> and <http://www.archaeological.org/fieldwork/afob/11749>**

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Please visit the site: <http://popular-archaeology.com/issue/march-2013/article/archaeologists-explore-early-bronze-age-settlement-on-greek-island-of-keros>

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## **TURKEY’S YALIN MIMARLIK WINS ANCIENT TROY ARCHAEOLOGICAL MUSEUM DESIGN COMPETITION TAFLINE LAYLIN**

Yalin Mimarlık won first place in an international design competition for an archaeological museum on the site of ancient Troy. Renowned for the famous Trojan horse story in Homer’s Iliad, this historic site in the northwestern corner of Turkey reveals a lot about the country’s artistic and cultural development leading up to World War I; the new museum will help make that legacy known to a greater number of visitors.

Turkey’s Ministry of Culture and Tourism chose the team led by Ömer Selçuk Baz out of 132 project submissions for their design of a corten-clad cubic structure that resembles an archaeological excavation site.

The museum’s weathered exterior conceptually matches the antiquities that will be held inside.

Tendered in beautiful images by Cihan Poçan, the winning concept design includes 2,000 square meters of storage space, conservation and restoration labs, both permanent and temporary exhibition space, and a series of food and retail establishments.

We spotted Yalin Mimarlık’s design for the project slated for construction at the UNESCO World Heritage site in the province of Çanakkale over at Dezeen, where it’s also possible to watch a short video presentation.

Overall it was important to the design team to create a sort of dissonance in observers that would allow them a more acute perspective of the site’s historical importance.

A 12 meter wide ramp leads underground and then winds up through the rusted steel exhibition to a rooftop terrace flanked by remarkable views of the 5,000 year old site. Small cutouts in the weathered facade permit panoramic views of the mythical battlefield.

It’s a spectacular design and we can’t wait to see its implementation.

Please visit the site: <http://tinyurl.com/cwq2toq> [Go there for many pix]

## **ANCIENT IRAQ YIELDS FRESH FINDS FOR RETURNING ARCHAEOLOGISTS, BY JANE ARRAF**

A British archaeologist, back in Iraq for the first time since the 1980s, has unearthed a palace or temple near the ancient city of Ur that is 'breathtaking' in size.

British archaeologists have discovered a previously unknown palace or temple near the ancient city of Ur in the first foreign excavation at the site in southern Iraq since the 1930s.

A small team of archaeologists working from satellite images hinting at a buried structure have uncovered the corner of a monumental complex with rows of rooms around a large courtyard, believed to be about 4,000 years old.

“The size is breathtaking,” says Jane Moon, a University of Manchester archaeologist who heads the expedition. Ms. Moon says the walls of the structure are almost nine feet thick, indicating that the building was of great importance or indicated great wealth.

The discovery is even more significant because of its location more than 10 miles from Ur, on what would then have been the banks of the Euphrates River – the first major archaeological find that far from the city.

Ur, the last capital of the Sumerian empire, was invaded and collapsed in about 2000 BC before being rebuilt. The city was dedicated to the moon god and is famous for its ziggurat (a stepped temple). Many believe it is the birthplace of the prophet Abraham, known as the father of monotheistic religion.

### **Modern methods**

The last major excavation at Ur was performed by a British-American team led by Sir Charles Leonard Woolley in the 1920s and the 1930s.

After the 1950s revolution, which toppled Iraq’s monarchy, a nearby military air base put the area off limits to foreign archaeologists for the next half century.

“What Wooley found were these tremendous monumental buildings, but it’s difficult to tell a coherent story about them because they were restored again and again and again, and what you see is neo-Babylonian, 7th century BC – very much later,” says Moon. “He wasn’t able to see what they were really used for and that’s where I’m hoping our modern methods might be able to say something.”

At Ur, Wooley also discovered a spectacular treasure trove that rivals King Tut’s tomb. At least 16 members of royalty were buried at Ur with elaborate gold jewelry, including a queen’s headdress made of gold leaves and studded with lapis lazuli. Other objects included a gold and lapis lyre, one of the first known musical instruments.



In the 1930s, the treasures were split between the British Museum and the University of Pennsylvania, which funded Wooley's work, and the newly created Iraq museum.

Moon says it's impossible to tell whether the new site might contain similar finds.

"Ultimately we're not looking for objects we're looking for information... I guess it's always a possibility. In archaeology you can always be surprised."

### **A learning opportunity**

She says modern methods, such as examining very thin slices of soil hardened with resin under a microscope, can shed light on details like whether there were carpets on the floor or whether a surface was used for cutting. Putting samples of earth through a wet sieving machine can provide information about climate and agriculture by revealing bone fragments from rodents or lizards.

"You can really look at the ancient economy and that's the kind of thing they couldn't do when they last found big buildings like this," says Moon, who last worked in Iraq in the 1980s during the Iran-Iraq War, documenting archaeological sites in the north before they were submerged by Saddam Hussein's dam-building projects.

Her team, which has struggled for both funding and visas, consists of six British archaeologists, an Iraqi archaeologist, and two Iraqi trainees. It is funded mostly by a Swiss benefactor, with participation by the British Institute for the Study of Iraq, the successor to an organization founded in 1932 in honor of Gertrude Bell. "Miss Bell," as she is still known in Iraq, was the British administrator of Iraq after World War II and the founder of the Iraq Museum.

A law passed in 1932 bars archaeologists from removing antiquities from the country, but Moon believes making the knowledge about the antiquities available is as important as the objects themselves.

"There's always been a sense of taking the intellectual property away," she says, adding that all the information, including drawings, was being done electronically to make it easier to compile and to share.

"We want to make this as public as possible so we can give this information to anyone who wants it. We have no reason to hang on to it and we have the means to spread it around, so that's what we're doing," she says.

**Please visit the site: <http://www.csmonitor.com/World/Middle-East/2013/0327/Ancient-Iraq-yields-fresh-finds-for-returning-archaeologists>**

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## **STONE AGE PHALLUS FOUND IN ISRAEL**

Some remarkable traces of Stone Age life were unearthed recently in northern Israel, including a pit of burned bean seeds and a carving of a penis that's more than 6,000 years old, the Israeli Antiquities Authority (IAA) reported.

Archaeologists are excavating at Ahihud Junction ahead of the construction of a new Israeli railroad line to the city of Karmiel.

They found evidence of ancient settlements from two eras: the Pre-Pottery Neolithic period and the Early Chalcolithic period (seventh millennium B.C. to fifth millennium B.C.).

"For the first time in the country, entire buildings and extensive habitation levels were exposed from these early periods, in which the rich material culture of the local residents was discovered," IAA excavation directors, Yitzhak Paz and Ya'akov Vardi, said in a statement this month.

"We found a large number of flint and obsidian arrowheads, polished miniature stone axes, blades and other flint and stone tools," the archaeologists added. "The large amount of tools made of obsidian, a material that is not indigenous to Israel, is indicative of the trade relations that already existed with Turkey, Georgia and other regions during this period."

The team said they also found thousands of charred broad bean seeds inside of a pit — providing an early example of legume cultivation in the Middle East — and the remains of early Chalcolithic rectangular buildings, replete with pottery, as well as flint and stone tools.

Other artifacts were slightly more enigmatic, such as the phallic figurine and a palette bearing a schematic etching of female genitals.

The IAA called these objects "cultic sexual symbols" that might have represented the fertility of the earth.

Israel's rich ancient history means that artifacts are often uncovered when the ground is broken for construction projects. Animal and human figurines, some more than 9,000 years old, have been found at Tel Motza, an archaeological site being excavated ahead of the expansion of Highway 1, the main road connecting Jerusalem and Tel Aviv.

And the phallus is not the first such find from the ancient world. A Stone Age carving that scientists said looked like an "ancient dildo" was unearthed in Sweden a few years ago. However, that item may have had a more innocent purpose as a flint-carving tool, researchers speculated.

Please visit the site: <http://www.livescience.com/28199-stone-age-phallus-found-in-israel.html>

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## **NEWLY FOUND PYRAMIDS REVEAL ASPECTS OF SOCIAL EQUALITY IN ANCIENT SUDAN, BY IAN TIMBERLAKE**

Three years of digging by French team at Sedeinga unearth 35 pyramids that emphasise contrast between ancient cultures of Sudan, Egypt.

Little has been found inside because of plundering

People power may have come to modern-day Egypt and not Sudan, but the unearthing of ancient pyramids in Egypt's southern neighbour shows that greater social equality existed there 2,000 years ago, a French archeologist says.

Three years of digging by a French team at Sedeinga, about 200 kilometres (120 miles) from the Egyptian border, has unearthed 35 pyramids that emphasise the contrast between the two ancient cultures, said Claude Rilly, director of the mission.

"Pyramids were so fashionable that everybody that could afford to build one, did," said Rilly, referring to the latter part of the Meroe kingdom, around 100-200 AD.

"So we have really a kind of inflation, what I call a democratisation of the pyramid which is without equivalent anywhere, especially in Egypt."

Sudan's remote and relatively undiscovered pyramids contrast with their grander and better-known cousins to the north.

Egyptian pyramids, built far earlier than those in Sudan, held the tombs of kings, the royal family and nobles -- but never the middle class, Rilly said.

Sudanese royalty also got their pyramids, but later so did many other lesser souls, said the 53-year-old archeologist, who began studying hieroglyphics when he was only seven.

"It reached layers of the population which have never been concerned by building of pyramids in Egypt," Rilly said. "This is really something new, which we didn't expect."

That is why there is such a large number. Sometimes they were built so close together, typically in a circular pattern, that there isn't enough room to squeeze between them.

The pyramids are in a necropolis of about 40 hectares (99 acres) that is thought to hold more than 1,000 tombs. One quarter have been found and opened so far, he said.

The structures come in various sizes, with some no more than a metre (yard) high.

All of them were made from mud brick, which wasn't expensive but still required a designer and workmen to construct.

That meant that the poorest people could not afford pyramids but were buried in surrounding pits, he said in his office at Sudan's National Museum.

Archaeologists began work on the site in the 1960s, focusing on a section reserved for princes. But during the past three years they discovered that more common folk had also been buried there.

Little remains, however, of Sedeinga's grandest structure. That was a temple which Egyptian Pharaoh Amenhotep III built for his wife Queen Tiye, grandmother of the boy pharaoh Tutankhamen.

It appears to have been heavily damaged during flooding perhaps around 400 or 500 BC, said Rilly, whose team is funded by the French government and the University of Paris-Sorbonne.

Despite the large number of pyramids recently unearthed, little has been found inside because of plundering by tomb raiders, both ancient and modern.

But the robbers missed one tomb that has yielded "a rich site" for archaeologists -- the skeleton of a child buried with four decorative collars and anklets of bronze.

The youngster was four or five years old "and we wondered why they took so much precaution to bury a young child like that," said Rilly.

Egypt occupied northern Sudan for about 500 years until roughly 1,000 BC but its cultural influence faded during the 700-year reign of the Meroe kingdom from about 350 BC.

Inscriptions found in the Sedeinga tombs are in Meroitic, a phonetic writing simplified from the Egyptian.

Rilly, a world expert in the language, said Meroitic is still little understood.

But he has been able to decipher details about the social structure of families, concluding that this part of the necropolis holds "a lot of women."

Many were priestesses of the goddess Isis, of whom Queen Tiye was considered an incarnation.

In one of those female tombs late last year Rilly himself made a rare discovery as he dug amid extreme heat after water entered the structure. He found a sandstone slab bearing an image of the main Egyptian god Amun.

It had originally been part of a wall in Queen Tiye's temple, and is the only entirely preserved divine figure to have been recovered.

Finds like this are rapidly advancing knowledge about the ancestors of today's Sudanese, said Rilly, who is hopeful of more revelations.

The first archeological digs in Sudan took place only about 100 years ago, much later than in Egypt or Greece.

"The field to research is still very open and this is a science... changing all the time. That is very stimulating," he said.

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