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# Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

**- Δεκέμβριος 2010 -**

# Newsletter of the Hellenic Society of Archaeometry

**- December 2010 -**

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## ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

### ARCHAEOLOGICAL RESEARCH SEMINAR / WORKSHOPS

As a part of the Research Framework project looking at the archaeology of the extractive industries - mining and quarrying - there will be a series of seminar / workshops around England to examine the various specialist themes within the project. The first is on the subject of **bulk minerals (stone and aggregates)** and is being held on 26 November at the National Stone Centre near Wirksworth in Derbyshire. Full details are available from Ian Thomas at the National Stone Centre, tel: 01629 824833, e-mail: [ian@nationalstonecentre.org.uk](mailto:ian@nationalstonecentre.org.uk)

On Saturday 19 February, at the National Coal Mining Museum for England, Caphouse Colliery, near Wakefield there will be a further seminar looking at the archaeology of **coal, clay and ironstone**. The event will give participants the opportunity to discuss their work, to learn what others are doing and exchange ideas. For example, over the last few years a number of mining history interest groups have been investigating early steam engine sites associated with the coal industry. The work they are doing has the potential to expand our knowledge of early developments in pumping techniques. Sharing the results can help interpret the findings, adding value to the work and drive research forward. If you are involved in similar work on coal, clay or iron mining, then make sure you attend.

Other seminars on lead, tin, copper and slate working are also planned for the Winter of 2011 at venues in the South-West, Cumbria and Derbyshire. Details will be circulated widely and posted to the Research pages at the National Association of Mining History Organisations' website - [www.namho.org](http://www.namho.org)

For more details contact Peter Cloughton - [p.f.cloughton@exeter.ac.uk](mailto:p.f.cloughton@exeter.ac.uk) - or Phil Newman - [projectofficer@namho.org](mailto:projectofficer@namho.org)

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Co-owner - mining-history e-mail discussion list.  
See <http://www.jiscmail.ac.uk/files/mining-history/> for details.  
Mining History Pages - <http://www.people.exeter.ac.uk/pfclaugh/mhinf/>

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**CYPRUS AND THE AEGEAN IN THE  
EARLY IRON AGE - THE LEGACY OF  
NICOLAS COLDSTREAM, AN  
ARCHAEOLOGICAL WORKSHOP IN  
MEMORY OF PROFESSOR J.N.  
COLDSTREAM (1927-2008), MONDAY, 13  
DECEMBER 2010, ARCHAEOLOGICAL  
RESEARCH UNIT, UNIVERSITY OF  
CYPRUS**

**Guest of honour: Nicky Coldstream**

Two generations of Early Iron Age specialists from Greece and Cyprus that have followed in the footsteps of Professor Nicolas Coldstream will meet on the 13th of December in the Archaeological Research Unit of the University of Cyprus to honour the memory of their tutor and to highlight the long-term legacy of his enlightening and matter-of-fact contributions on the key role held by Cyprus in the economy of the Mediterranean world during the Early Iron Age.

With this meeting, the University of Cyprus and the Archaeological Research Unit wish to acknowledge a major debt owed to the late Professor Coldstream who, as chairman or member of many selection committees in the 1990s, was instrumental in electing the first professors of archaeology in the faculty of the Department of History and Archaeology.

The Workshop is open to the public (no fees) and all are welcome to attend.

**Program:**

***Introductions***

- 9.00-9.10: Prof. Demetrios Michaelides, Director, Archaeological Research Unit
- 9.10-9.20: Dr Maria Hadjicosti, Director, Department of Antiquities, Cyprus
- 9.20-9.30: Mrs Lefki Michaelides, Director, The Bank of Cyprus Cultural Foundation

***EARLY MORNING SESSION CHAIR: Prof. Maria Iacovou***

**9.30-9.55:** Prof. Vassos Karageorghis, Director, The A.G. Leventis Foundation  
*Nicolas Coldstream: The Man, the Scholar*

**9.55-10.20:** Dr Despo Pilides, Curator of Antiquities, Department of Antiquities, Cyprus  
*John Nicolas Coldstream: A personal appreciation of his legacy*

**10.20-10.45:** Prof. Nota Kourou, University of Athens

*Phoenicia, Cyprus and the Aegean in the Early Iron Age: J.N. Coldstream's strolls and legacy*

**COFFEE BREAK: 10.45-11.15**

*LATE MORNING SESSION CHAIR: Dr Robert Merrillees*

**11.15-11.40:** Prof. Alexander Mazarakis-Ainian, University of Thessaly  
*Euboean mobility in the Aegean and beyond during the Early Iron Age: some thoughts*

**11.40-12.05:** Dr Antonia Livieratou, Museum of Thebes, 9th Ephorate of Prehistoric and Classical Antiquities  
*East Phokis and Lokris in the light of interregional contacts across the Aegean and the Eastern Mediterranean during the transition from the Late Bronze to the Early Iron Age*

**12.05-12.30:** Dr Antonis Kotsonas, Post-Doctoral Researcher, University of Amsterdam  
*Nicolas Coldstream: an update on his work on Crete and Cyprus in the Early Iron Age*

**12.30-12.55:** Assistant Prof. Giorgos Papasavvas, University of Cyprus  
*Cretan bronze stands of Cypriot types from sanctuaries and cemeteries*

**12.55-13.20:** Associate Prof. Vasiliki Kassianidou, University of Cyprus  
*Metals for Iron Age Cyprus*

**LUNCH BREAK: 13.20-14.30**

*EARLY AFTERNOON SESSION CHAIR: Prof. Demetrios Michaelides*

**14.30 -14.55:** Prof. Maria Iacovou, University of Cyprus  
*Setting the stage for an economically successful Early Iron Age: The view from the 12th century harbour towns of Cyprus*

**14.55-15.20:** Dr Anna Satraki, University of Cyprus  
*“Light from the Greek Dark Age on Cyprus”: Cypriot polities in the Early Iron Age*

**15.20-15.45:** Anna Georgiadou, PhD candidate, Université de Provence - Université d’Athènes  
*L’atelier de la production céramique du Chypro-Géométrique I à Kition*

**TEA BREAK: 15.45-16.15**

*LATE AFTERNOON SESSION CHAIR: Nadia Charalambidou*

**16.15-16.40:** Dr Giorgos Papantoniou, Post-Doctoral Researcher, Trinity College, Dublin  
*Cypriot Sanctuaries and Religion in the Early Iron Age*

**16.40-17.05:** Dr Manos Mikrakis, Department of Antiquities, Cyprus  
*“The Originality of Ancient Cypriot Art” and the individuality of performing practices in Early Iron Age Cyprus*

**17.05-17.30:** Prof. Irene Lemos, The University of Oxford

*After Nicolas what? The future of Iron Age studies in the Aegean and the Eastern Mediterranean*

**Information:**

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**11TH INTERNATIONAL**  
**CRETOLOGICAL CONGRESS, 2ND**  
**CIRCULAR, RETHYMNON, 21 OCTOBER**  
**2010**

Dear Congress Participant!

This is the second circular of the congress copied from the website (bottom of page)  
<http://www.iler.gr/index.php?english>

The Organizing Committee of the 11th International Cretological Congress is grateful for your response to our invitation. We inform you on the following:

1. The Congress will take place from 21 to 27 October 2011 in the city of Rethymnon. Here will be available 4-5 lecture rooms of the city center within a maximum distance of 100m from each other.
2. The final full Program of the Congress will be announced in our Internet Site by May 2011 along with the abstracts of your contributions; for the participants, also, included will be travel information and residence arrangement in the city and the suburbs.
3. Due to the large number of participants, each presentation will last 15 minutes and discussion will follow at the end of the session.
4. Travel expenses, accommodation and lunch will be covered by the participants on the whole.
5. The critical committee approved your proposal after a thorough evaluation.
6. For further information please refer to Mrs Athina Vernardou, tel. ++302831020237 and e-mail [vernardou@libret.gr](mailto:vernardou@libret.gr)

On behalf of the Organizing Committee

The Secretary

Dr Ioannis Gryndakis

\*\*\*\*\*

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**THE HISTORICAL METALLURGY**  
**SOCIETY INTRODUCES ROYALTY,**  
**RELIGION AND RUST! SPRING**  
**MEETING AND AGM, 4TH-5TH JUNE**  
**2011. HELMSLEY, NORTH YORKSHIRE,**  
**CALL FOR PAPERS**

We are interested in any papers covering metallurgy in any form (archaeological, historical, scientific or practical reconstructions).

Papers on both ferrous and non-ferrous papers welcome from any place or period of time as long as they relate to:

Royalty or High Status sites/artefacts . Ecclesiastical or Religious sites/artefacts

Deadline for abstracts 21st January 2011 For more information please contact [eleanor.blakelock@ironsmelting.net](mailto:eleanor.blakelock@ironsmelting.net) or visit the website <http://hist-met.org/agm2011.html>

This meeting will include a guided field trip to nearby Rievaulx Abbey and Helmsley Castle, with a particular focus on the production and use of metals at these sites. There will also be limited places for the trip to the Bilsdale sites.

Please note accommodation in the village is limited, and the hotels and B&Bs are filling up fast. Early booking of accommodation is essential, a list with accommodation options will be available on the website <http://hist-met.org/agm2011.html> very soon.

Booking forms will also be available on the website soon.

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**EUROPEAN GEOSCIENCES UNION-**  
**GENERAL ASSEMBLY, VIENNA,**  
**AUSTRIA, APRIL 3-8, 2011**

There is a session on geoarchaeology (GM3.1) entitled ‘Advances in geoarchaeology: Using digital techniques for the analysis of past man-environmental systems.’

**Convener: Christoph Siart.**

**Co-Conveners: Matthieu Ghilardi, Markus Forbriger**

Deadline for abstracts submission: **10-1-2011.**

**More information: <http://meetings.copernicus.org/egu2011>**

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**COLLOQUE DU G.M.P.C.A.:**  
**‘ARCHÉOMÉTRIE 2011’, LIÈGE,**  
**BELGIQUE, 11-15 AVRIL 2011**

**Thèmes du colloque**

1. Archéologie du bâti
2. Matière picturale, matière organique, pierre
3. Céramique, verre, métal
4. Outils, méthodes et développements
5. Archéomatique, analyse spatiale et prospection
6. Relation homme- environnement
7. Datation et chronologie

**Abstract submission: 15 November 2010**

**Please visit the site: <http://www.archeometrie2011.ulg.ac.be>**

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**AGU CHAPMAN CONFERENCE ON  
CLIMATES, PAST LANDSCAPES, AND  
CIVILIZATIONS, SANTA FE, NEW  
MEXICO, USA, MARCH 21–25, 2011**

This Chapman meeting will assess the present state of science on how mankind and the environment have interacted over a variety of time and spatial scales. We encourage participation of scientists from across the fields of the ocean and Earth sciences, as well as anthropology, archaeology and historical sciences to present their recent research. Although the meeting will feature keynote speakers and established researchers we encourage participation from early career workers and Ph.D. students.

**Deadline for abstract submissions: 18-11-2010**

Please visit the site: <http://www.agu.org/meetings/chapman/2010>

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**ANNUAL CONFERENCE OF THE  
GERMAN WORKING GROUP ON  
GEOARCHAEOLOGY (ARBEITSKREIS  
GEOARCHÄOLOGIE), HEIDELBERG,  
GERMANY, MAY 6-8, 2011**

The upcoming annual conference of the German working group on Geoarchaeology (Arbeitskreis Geoarchäologie) will be organized by the Geographical Institute of the Heidelberg University from **May 6th to 8th 2011** as part of the 625th anniversary celebration of the University.

Researchers focusing on man-environmental interactions and past landscape evolution without any geographical restrictions are invited to participate and to submit abstracts for oral or poster presentations. Further information will soon be provided at:  
<http://www.akgeoarchaeologie.de>

**Preliminary contact: [olaf.bubbenzer@geog.uni-heidelberg.de](mailto:olaf.bubbenzer@geog.uni-heidelberg.de)**

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**FORUM DE LA FÉDÉRATION  
FRANÇAISE DES GÉOSCIENCES (FFG):  
'GEOREG: GÉOSCIENCES DES RÉGIONS  
DE FRANCE ET DES PAYS  
ENVIRONNANTS (REGIONAL  
GEOLOGICAL SCIENCES OF FRANCE AND  
NEIGHBOURING COUNTRIES)',  
VILLENEUVE D'ASCQ, FRANCE,  
OCTOBRE 23-27, 2011**

The GeoReg Forum is dedicated to all geosciences (including **geo-archaeology**, geodesy, geophysics, geography, geology, geomorphology, geotechnics, hydrogeology, karst science, Quaternary, soil sciences, ...) of the regions of France and neighbouring countries (Belgium, Luxembourg, Germany, Switzerland, Italy, Spain, United Kingdom and beyond). It aims at increasing interdisciplinary communication in order to establish fruitful, scientific and sociological exchange between regional, national or even European actors of all geoscientific matters, working at a regional scale. Experts from all fields of activity are concerned with, that is, academic structures (universities, CNRS) industrial/commercial national agencies (BRGM, IFREMER), private and public applied geoscience companies (quarries : Lhoist, Groupe CB; consulting firms), industrial companies (Total, Areva), museums, scientific-technical-industrial and artistic cultural centers, associations of both professionals and amateurs.

This Forum is organized by regional / national geoscience associations (Société Géologique du Nord, Geologica Belgica, Association Géologique Aubeoise) in relation with the Nord-Pas-de-Calais Natural Sites Conservation Unit (CSNNPC), the Natural History Museum of Lille, a student organization (AGEOL), and the regional network of the French IYPE Committee. It will have national geoscience associations as partners. It is organized in continuity with International Year of Planet Earth (IYPE 2007-2009), Darwin Year (2009) and International Year of Biodiversity (2010). The Forum will be mainly devoted to regional geology and geography s.l., to their applications in regions, to their development and environmental and sociological implications, to the relations between geology, geomorphology, soil sciences, environment, biodiversity, town and country planning, water, ocean, megacities, **geoarchaeology**.

**Programme of indoor sessions (projected):**

Acceptability of industrial projects and rehabilitation / remédiation  
Regional metropolitan areas in French regions and in neighbouring countries  
Town and country planning Quarries : rehabilitation or conservation ?  
Chalk – limestone – karst – groundwater  
Water / hydrosystems / pollutions / water supply in northern France  
Teaching / popularization / valuation-mediation in regions

Environment

Regional Quaternary faunas and floras

Applied geology and geography

Regional geology and geography

Quaternary and surface geosciences: geomorphology, **geo-archaeology**

Geotechnics – regional case studies

Professional competences and jobs

Regional geological / geographical /archaeological heritage

Regional projects on fossil fuels

Risks

Soils / pollutions

Industrial use of geosciences (session open to companies for their own presentation and illustration of leading projects)

Other(s)

**Programme of fieldtrips (projected):**

Fieldtrip in Nord – Pas-de-Calais: Geology in Lille

Fieldtrip in Belgium: Bernissart, its iguanodons and associated sediments

**Registration dead-line: May 31, 2011**

**For any question and for registration:** Alain.Blieck@univ-lille1.fr

**Please visit the site:** <http://geosystemes.univ-lille1.fr/sgn.php?page=forum>

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**HOMER 2011 COLLOQUE**  
**INTERNATIONAL / INTERNATIONAL**  
**CONFERENCE: ‘ANCIENS**  
**PEUPELEMENTS LITTORAUX ET**  
**RELATIONS HOMME/MILIEU SUR LES**  
**CÔTES DE L’EUROPE ATLANTIQUE /**  
**ANCIENT MARITIME COMMUNITIES**  
**AND THE RELATIONSHIP BETWEEN**  
**PEOPLE AND ENVIRONMENT ALONG**  
**THE EUROPEAN ATLANTIC COASTS’,**  
**VANNES (BRETAGNE), FRANCE, 27TH**  
**SEPTEMBER - 1ST OCTOBER 2011**

This international "HOMER 2011" conference aims to bring together the many researchers interested in questions of coastal archaeology, maritime communities and the interactions between people and the marine environment. The geographical frame of reference will be the Channel, North Sea and Atlantic areas of Europe.

The conference will feature recent research and shared experiences in the various European countries concerned (France, Scotland, England, Ireland, Wales, Belgium, Netherlands, Spain, Portugal, Denmark). It will also look forward to consider the future development of European research programs dedicated to coastal archaeology.

Sessions will consider the cultural identities of coasts and islands, the interrelationships between maritime communities, the character and evolution of maritime landscapes, and the production and transformation of marine resources. Attention will also be devoted to methodological questions and to the new challenges of European 'coastal archaeology' in its broadest sense.

The conference will be held from 27th September to 1st October 2011 in Vannes, a port and university centre on the south coast of Brittany famous for its historical and archaeological heritage. An attractive excursions programme will enable participants to experience the richness of the regional coastal and island heritage from early prehistory to historical times, and to explore the diverse and fascinating landscapes. The conference is organised by the CReAAH research team (Centre de Recherche en Archéologie, Archéosciences, Histoire), supported by the CNRS (Centre National de la Recherche Scientifique), the French Ministry of Culture, the Universities of Rennes 1, Rennes 2 and Nantes, and INRAP (Institut National de Recherche en Archéologie Préventive).

**Programme of sessions:**

Session 1: The potential of coastal archaeological sites (underwater, intertidal, shoreline) and specific methods linked to their field study

Session 2: New challenges for sustainable coastal archaeology in the 21st century

Session 3: Seafaring, maritime traffic and port installations

Session 4: Peoples of the shore, peoples of the sea: identity, space and territory

Session 5: Exploitation of coastal and marine resources: acquisition, distribution,

Session 6: Geoarchaeology and environmental studies of maritime and coastal landscapes

**Excursions: provisional programme**

1 - Hoedic, "A small island territory"

2 - Ria d'Étel, "Between land and sea"

3 - Quiberon peninsula, "Peninsular prehistory and history".

4 - Belle-Île en Mer, "6000 years of fortification on Belle-Île".

**Registration dead-line: 01/03/2011**

**For any question and for registration:** homer2011@univ-rennes1.fr

**Please visit the site:** <http://homer2011.univ-rennes1.fr/index.php>

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# **RESUME OF THE RADIO-PAST PROJECT'S 1ST SPECIALISATION FORUM ON "INTEGRATED NON- DESTRUCTIVE APPROACHES TO UNDERSTAND AND VALORISE COMPLEX ARCHAEOLOGICAL SITES", AMMAIA, PORTUGAL, JULY 4 TO 11, 2010**

Through the innovative application of sophisticated techniques of survey and data management, modern archaeology has today a series of non-invasive methods on its hands that allow for the study of buried archaeological sites without their excavation.

Training in these techniques is one of the objectives of the European Radio-Past Project, which will organize two other high-level training courses in the summers of 2011 and 2012.

This year's Specialisation Forum in Ammaia joined researchers and master and doctoral students from 13 European countries (Portugal, Spain, Italy, Greece, Romania, Denmark, Netherlands, Belgium, UK, Ireland, Germany, Austria, Slovenia), which allowed for a vivid cross-border exchange of expertise and experience. During one week, intensive study included both classroom sessions and practical applications, with focus on a wide range of remote sensing techniques (vertical and oblique airborne photography, satellite imagery, multispectral remote sensing, LiDAR...), on topographical and microtopographical survey, and on geomatics and GIS integrated data processing. In order to receive their certificate of successful participation, the students had to pass a test on the material learned during classes and fieldwork.

The 2nd Specialisation Forum in the summer of 2011 will focus on geophysics and geomorphological survey applied to complex archaeological sites. You will receive more detailed information on this course in the spring of 2011.

The Radio-Past Project was launched under the Marie Curie Actions / IAPP (Industry-Academia Partnerships and Pathways) and includes, apart from the University of Evora (Portugal) as coordinator of the Project, three academic institutions and three private European companies - University of Ghent (Belgium), University of Ljubljana (Slovenia), The British School at Rome (Italy), Media Agency 7Reasons (Austria), Past2Present (Netherlands) and Eastern Atlas (Germany).

At the Open Lab site of Ammaia, the Project works in close cooperation with the Fundação Cidade de Ammaia and the Parque Natural da Serra de São Mamede.

If you want to receive more information on our work, we invite you to have a look at our website ([www.radiopast.eu](http://www.radiopast.eu)) or to contact us via e-mail: [cornelia.fischer@sapo.pt](mailto:cornelia.fischer@sapo.pt)

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

**GETTY CONSERVATION INSTITUTE**  
**AWARDED NATIONAL SCIENCE**  
**FOUNDATION GRANT TO STUDY**  
**ANCIENT GREEK POTTERY**

The National Science Foundation (NSF) has awarded a collaborative group of California scientists from the Getty Conservation Institute (GCI), The Aerospace Corporation, and the Department of Energy's SLAC National Accelerator Laboratory (SLAC) at Stanford \$495,723 over three years to investigate the chemical and physical makeup of Attic pottery—long considered to be the pinnacle of ancient ceramic craftsmanship.

The collaborative partnership received the grant as part of the NSF's SCIART program which seeks to fund projects at the intersection of science and art.

Attic pottery, the iconic red-and-black figure pottery produced in ancient Greece from the 6th to the 4th centuries B.C., required immense precision to produce, and the means by which craftsman created these vessels is still not completely understood.

Led by Karen Trentelman, a conservation scientist at the GCI, along with GCI scientist Marc Walton, who helped develop the grant, the project team already is analyzing fragments of ancient pottery. Working with conservators and curators from the J. Paul Getty Museum to select fragments that have been attributed to specific artists, the scientific analysis will enable a characteristic material "signature" of known artists to be established, which should help unsigned works to be classified. In the process, the information they discover will provide a deeper understanding of ancient pottery techniques and inform future conservation methods, as well as create a deeper knowledge of iron spinel chemistry, used in the advanced ceramics found in aerospace applications.

The primary scientific techniques used will be x-ray absorption near edge structure (XANES), a spectroscopic tool used to determine iron oxidation states in the Attic pottery, which gives it the iconic black and red coloring; along with X-ray absorption fine structure (EXAFS) to provide information on the molecular structure of the iron minerals, and high resolution digital microscopy to study the surface of the work, among other analytical methods.

The scientists ultimately hope to uncover whether works attributed to different artists used the same methods, or if techniques for creating the work differed across workshops producing the pots at the same time. They also hope to document how the process evolved over time. The results are expected to impact a diverse range of fields in both art and science, including materials science, chemistry, archaeology, art history, and art conservation.

"By partnering with SLAC and The Aerospace Corporation, we can look at the artwork in a new way," said Trentelman. "Scientific analysis gives us new insight into how and when the work was produced. In turn, our analysis can support hypotheses developed by art historians about ancient workshop practices, and also inform museum conservation efforts. Using nothing but clay dug from the ground, ancient craftsmen were able to create magnificent vessels with amazing detail. Something doesn't need to be complex to be sophisticated. If we can understand the technology with which these works of art were made, we can use the knowledge for a surprisingly wide variety of applications." The funding will in large part be used to support a postdoctoral student who will be able to work in all three labs in three very different environments.

This research is funded by the new National Science Foundation (NSF) SCIART Program, which supports collaborative research between academic, industrial and cultural heritage institutions. This program was developed out of a workshop jointly sponsored by the NSF and the Andrew W. Mellon Foundation.

Please visit the site: [http://www.artdaily.org/index.asp?int\\_sec=2&int\\_new=42731](http://www.artdaily.org/index.asp?int_sec=2&int_new=42731)

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## **POSITION AVAILABLE, DIRECTOR OF THE AMERICAN SCHOOL OF CLASSICAL STUDIES AT ATHENS**

The American School of Classical Studies at Athens seeks a distinguished scholar with close familiarity with the School and experienced administrator for the position of Director of the School. The Director works with the School's Managing Committee and Trustees in developing and implementing the academic and fiscal policy of the School and reports to the Managing Committee through its Chair. The Director leads the School's mission in Greece and oversees the School's activities, including its academic program, excavations, and other research. The Director is expected to participate actively in the design of academic programs and the instruction of students at the School. All department heads, including those of the Blegen and Gennadius libraries, the Archives, the Athenian Agora and Ancient Corinth excavations, and the Wiener Lab, report to the Director. The Director also oversees relations between the School and the host country, especially with the Ministry of Culture, and is active in seeking funding opportunities for the School in Greece and in the E.U. Good command of Modern Greek is essential. Candidates must demonstrate strong qualities of leadership and articulate clearly their vision for the future of the School.

The term is flexible, two to five years. It begins on July 2, 2012, and is renewable. Salary and benefits commensurate with rank and experience, housing in the Director's residence, travel and entertainment budgets provided. The incumbent is not seeking a second term. The deadline for applications is January 31, 2011. Candidates should send a curriculum vitae, a statement explaining their interest in the position and their vision for it (max. 750 words), and the names of three referees to Daniel Pullen, Chair, Committee on Personnel, American School of Classical Studies at Athens, 6 - 8 Charlton Street, Princeton, NJ 08540-5232 or e-mail to [application@ascsa.org](mailto:application@ascsa.org), marked "Director of the School Application" in the subject area.

ASCSA is an EO/AA employer.

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

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# **FELLOWSHIPS AT THE AMERICAN SCHOOL**

## **Study in Greece**

*The American School of Classical Studies at Athens, one of America's most distinguished centers devoted to advanced teaching and research, was founded in 1881 to provide American graduate students and scholars a base for their studies in the history and civilization of the Greek world. Today, 130 years later, it is still a teaching institution, providing graduate students a unique opportunity to study firsthand the sites and monuments of Greece. The School is also a superb resource for senior scholars pursuing research in fields ranging from antiquity to modern Greece, thanks to its internationally renowned libraries, the Blegen, dedicated to classical antiquity, and the Gennadius, which concentrates on the Greek world after the end of antiquity.*

## **Programs for 2011–2012**

**REGULAR MEMBERSHIP:** Graduate students in classical and ancient Mediterranean studies or related fields (e.g., history of art, anthropology, prehistory, studies in post-classical Greece), who, preferably, have completed at least one year of graduate work. Competition is on the basis of transcripts, recommendations, and examinations. Up to 13 predoctoral fellowships offered for Regular Members for the nine-month program with a stipend of \$11,500 plus room and board at Loring Hall on the School grounds, and waiver of School fees. DEADLINE: JANUARY 15, 2011.

**STUDENT ASSOCIATE MEMBERSHIP:** Advanced graduate students in the same fields as for Regular Membership who plan to pursue independent research projects, and who do not wish to commit to the full Regular Program. DEADLINE: JANUARY 15, 2011.

**SENIOR ASSOCIATE MEMBERSHIP:** Postdoctoral scholars with suitable research projects. Application should be made online at [www.ascsa.org](http://www.ascsa.org). NO APPLICATION DEADLINE.

**SUMMER SESSIONS MEMBERSHIP:** Two six-week sessions explore the sites and museums in Greece. Open to graduate and undergraduate students and to secondary school and college teachers. The fee of \$4,050 includes tuition, travel within Greece, room, and partial board. Scholarships available. DEADLINE: JANUARY 15, 2011.

**MEDIEVAL GREEK SUMMER SESSION AT THE GENNADIUS LIBRARY:** Graduate students and professors in Byzantine studies from any university worldwide. Month-long program in intermediate level Medieval Greek language and philology at the Gennadius Library, with site and museum trips. The fee of \$3,000 includes tuition, travel within Greece, lodging but no meals. Scholarships available (pending funding). APPLICATION DEADLINE: JANUARY 15, 2011.

**ATHENIAN AGORA EXCAVATIONS VOLUNTEER PROGRAM:** Volunteers wishing to participate in the archaeological excavations of the Athenian Agora during the



summer of 2011, for eight weeks beginning early June and continuing until early August.  
APPLICATION DEADLINE: DECEMBER 15, 2010.

### **Fellowships and Grants 2011-2012**

Membership application to the School must be made online at [www.ascsa.edu.gr](http://www.ascsa.edu.gr) at the same time you apply to any outside funding organization for work at the School.

#### ASCSA-Sponsored Fellowships

**ADVANCED FELLOWSHIPS:** Several fellowships for the full academic year at the School with a stipend of \$11,500 plus room, board, and waiver of School fees are available to students who have completed the Regular Program or one year as a Student Associate Member and plan to return to the School to pursue independent research, usually for their Ph.D. dissertation.

Advanced Fellowships awarded by the School: the Samuel H. Kress Fellowship in art and architecture of antiquity; the Gorham Phillips Stevens Fellowship in the history of architecture; the Ione Mylonas Shear Fellowship in Mycenaean archaeology or Athenian architecture and/or archaeology; the Homer A. and Dorothy B. Thompson Fellowship in the study of pottery; and three Fellowships unrestricted as to field: the Edward Capps, the Doreen Canaday Spitzer, and the Eugene Vanderpool Fellowships.

Submit application for Student Associate Membership with fellowships (long form).

DEADLINE: FEBRUARY 19, 2011.

**THE HARRY BIKAKIS FELLOWSHIP:** North American or Greek graduate students researching ancient Greek law or Greek graduate students working on a School excavation. The \$1,875 fellowship is awarded periodically.

Submit application for Student Associate Membership with fellowships (long form).

DEADLINE: JANUARY 15, 2011.

**COTSEN TRAVELING FELLOWSHIP FOR RESEARCH IN GREECE:** Short-term travel-to-collections award of \$2,000 for senior scholars and graduate students for projects and research at the Gennadius Library. At least one month of residency required.

Submit application for Associate Membership with fellowships (long form).

DEADLINE: JANUARY 15, 2011.

**THE M. ALISON FRANTZ FELLOWSHIP:** Ph.D. candidates and recent Ph.D.'s for work in the Gennadius Library. A stipend of \$11,500 plus room, board, and waiver of School fees.

Submit application for Associate Membership with fellowships (long form).

DEADLINE: JANUARY 15, 2011.

THE JACOB HIRSCH FELLOWSHIP: For projects carried out in Greece, Ph.D. candidate from U.S. or Israel writing a dissertation or recent Ph.D. revising a dissertation for publication. A stipend of \$11,500 plus room, board, and waiver of School fees.

Submit application for Associate Membership with fellowships (long form).

DEADLINE: JANUARY 15, 2011.

THE GEORGE PAPAIOANNOU FELLOWSHIP: Ph.D. candidates or recent Ph.D.'s writing on the Greek Civil War, Fellows are required to make use of and refer to the George Papaioannou Papers housed at the Archives of the Gennadius Library. Open to all nationalities. Stipend of &euro1,000.

Submit application for Associate Membership with fellowships (long form).

DEADLINE: JANUARY 15, 2011.

THE PAUL REHAK MEMORIAL TRAVELING FELLOWSHIP 2010-2011: Regular members and Student Associate members already attending the School for the entire 2010-2011 academic year. A grant of \$1,000 or grants of lesser amounts. The purpose is to allow individuals to travel in Greece to conduct a research project during the 2010-2011 academic year from September 1, 2010 to July 1, 2011.

Submit application for Student Associate Membership with fellowships (long form).

DEADLINE: MAY 1, 2011.

THE HENRY S. ROBINSON CORINTH RESEARCH FELLOWSHIP: Ph.D. candidate or recent Ph.D. (within five years), for research on a doctoral dissertation or primary publication specifically on Corinth, requiring the use of the resources, archaeological site, and collections at the ASCSA excavations at Ancient Corinth. Open to all nationalities. The Robinson Fellowship may not be held concurrently with another School fellowship. One or more grants for up to three months, maximum amount of stipend is \$4,500.

Submit application for Associate Membership with fellowships (long form).

DEADLINE: JANUARY 15, 2011.

WIENER LABORATORY POST-DOCTORAL RESEARCH FELLOWSHIP, 2011-2013: Fellowship awarded to a recent postdoctoral scholar working on well-defined project at the Wiener Laboratory for two years. Project utilizes the resources of the Wiener Laboratory and enhances the teaching mission of the ASCSA. Stipend of \$35,000 with additional perquisites.

Submit application for Associate Membership with fellowships (long form).

DEADLINE: JANUARY 15, 2011.

WIENER LABORATORY FELLOWSHIPS, 2011-2012: Fellowships awarded annually to graduate students or postdoctoral scholars working on well-defined projects in skeletal, faunal, geoarchaeological, or environmental studies. Stipends of \$15,500 to \$27,000.

Submit application for Associate Membership with fellowships (long form).

DEADLINE: JANUARY 15, 2011.

WIENER LABORATORY RESEARCH ASSOCIATESHIPS, 2010: Funding up to \$7,000 for well-defined research projects at the Wiener Laboratory.

Submit application for Associate Membership with fellowships (long form).

DEADLINE: DECEMBER 1, 2010.

WIENER LABORATORY TRAVEL GRANTS FOR ARCHAEOLOGICAL SCIENCE RESEARCH IN GREECE, 2010: Travel grants of \$2,000 for graduate students or postdoctoral scholars from North American institutions working on projects in archaeological science in Greece.

Submit application for Associate Membership with fellowships (long form).

DEADLINE: DECEMBER 1, 2010.

### **Other Fellowships**

THE OSCAR BRONEER TRAVELING FELLOWSHIP: Ph.D. candidate or recent Ph.D. for study in Athens and Rome in alternate years, using either the American Academy in Rome or the American School of Classical Studies at Athens as a base from which to pursue work through trips to sites, museums, or repositories of materials of interest to the Fellow's studies. Funding up to \$30,000 will be considered for candidates performing research at the American Academy in Rome during the 2011-2012 academic year.

Submit application to the American Academy in Rome. AAR web site: [www.aarome.org](http://www.aarome.org).

DEADLINE: JANUARY 31, 2011.

CAORC COULSON/CROSS AEGEAN EXCHANGE PROGRAM: Short-term fellowships for Greek nationals and scholars to pursue research in Turkey under the auspices of the American Research Institute in Turkey (ARIT). Stipend of \$250 per week plus round-trip airfare. Send applications to ASCSA.

Submit application for Associate Membership with fellowships (long form).

DEADLINE: MARCH 15, 2011.

CAORC MULTI-COUNTRY RESEARCH FELLOWSHIPS: Ph.D. candidates and postdoctoral scholars with research requiring travel to several countries with an American overseas research center. CAORC application on web site: [www.caorc.org](http://www.caorc.org).

Submit application for Associate Membership with fellowships (long form).

DEADLINE: JANUARY 12, 2011.

FULBRIGHT FELLOWSHIPS: Contact the Institute of International Education, at 809 United Nations Plaza, NY 10017 or (<http://us.fulbrightonline.org/home.html>) for an application and stipend information. Candidates must submit ASCSA application for Regular or Student Associate Membership by due date for Fulbright application.

Submit application for Regular Membership or Student Associate Membership (long form).

DEADLINE: OCTOBER 18, 2010.

### **Senior Fellowships**

KRESS PUBLICATIONS FELLOWSHIPS: Postdoctoral scholars working on a Corinth or Agora publication. Grants for at least three months (up to \$10,000) to a maximum of nine months (up to \$30,000).

Submit application for Senior Associate Membership with fellowships (long form).

DEADLINE: JANUARY 15, 2011.

### **MELLON FELLOWSHIPS**

Scholars with the Ph.D. or equivalent from Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, and Slovakia. Three months from early January 2011 to June 30, 2011. Any field of classical studies, e.g., archaeology, art, history, epigraphy, or philology, or post-classical studies, e.g., Byzantine, post-Byzantine. Cash stipend per Fellowship of \$14,100 and waiver of School fees. All expenses are to be paid from the stipend including room, board, travel. Housing may not be available at the ASCSA.

Submit application for Senior Associate Membership with fellowships (long form).

DEADLINE DECEMBER 1, 2010

NEH FELLOWSHIPS (Pending Funding): Two awards for postdoctoral scholars and professionals in the humanities. U.S. citizens or foreign nationals being U.S. residents for three years before application deadline. Applicants must hold their Ph.D. or equivalent terminal degree. Terms: Maximum stipend of \$25,200 for six months from January 1 to June 30, 2012.

Submit application for Senior Associate Membership with fellowships (long form).

DEADLINE: DECEMBER 1, 2010.

For MORE information and TO APPLY ONLINE:

Visit our web site at [www.ascsa.edu.gr](http://www.ascsa.edu.gr) or contact: ASCSA, 6-8 Charlton Street, Princeton, NJ 08540

Tel: 609-683-0800 &bull; E-mail: [ascsa@ascsa.org](mailto:ascsa@ascsa.org)

*School programs are generally open to qualified students and scholars at colleges or universities in the U.S. or Canada; restrictions may apply for specific fellowships and programs. The American School of Classical Studies at Athens does not discriminate on the basis of race, age, sex, sexual orientation, color, religion, ethnic origin, or disability when considering admission to any form of membership.*

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# **NARNIA: NEW ARCHAEOLOGICAL RESEARCH NETWORK FOR INTEGRATING APPROACHES TO ANCIENT MATERIAL STUDIES**

A Marie Curie Initial Training Network – Proposal Number 265010 Call: FP7-PEOPLE-2010-ITN

**NARNIA** is an **interdisciplinary project**, the main objective of which is to provide young researchers with the means to conduct research on **ancient Eastern Mediterranean material culture** and to develop their **analytical skills** through a series of research and training activities.

An awareness of the recent advances in technology and an understanding of the implications for theory and practice in the heritage environment have brought together a consortium of academic institutions (The University of Cyprus, University College London, The University of Sheffield, Vrije Universiteit Brussel, Université Paris-Ouest, and The Hashemite University), a Research Institute (National Centre for Scientific Research “Demokritos”) and two private enterprises (G.M EUROCY INNOVATIONS LTD and Thetis Authentics LTD) in this collaborative project to support young researchers in their first steps into the competitive and complementary worlds of academia and private enterprise.

This well-structured research network aims to improve the career prospects of employment for young researchers, developing their lab-based skills in the study of ancient materials, while contributing to the history and archaeology of the Eastern Mediterranean basin, a region of great historical, cultural and geopolitical significance.

In particular, through a comprehensive mobility scheme, young researchers will have the opportunity to continue their research careers at high profile universities and well-established private enterprises while working in research projects focused on the study of ancient material culture.

Sixteen ESR (Doctoral) and three ER (Post Doctoral) Fellows will be trained to integrate theory and archaeological sciences for the study of different material categories, including ceramics, metals, glass and mosaics from primarily Cyprus, Greece and Jordan.

The proposed program engages experienced academic and research staff, young entrepreneurs, and young researchers for a broad collaboration network, which will facilitate the exploration of analytical equipment and research data, while concurrently directing and promoting research activities in Eastern Mediterranean countries.

For more information see:

<http://www.ucy.ac.cy/data/archreun/narnia%20information.pdf>

## **Project Coordinator**

Associate Professor Vasiliki Kassianidou, Department of History and Archaeology, University of Cyprus

Contact: [v.kassianidou@ucy.ac.cy](mailto:v.kassianidou@ucy.ac.cy)

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tel. 357 22 893564  
fax. 357 22 674101  
<http://www.ucy.ac.cy/~arkasian.aspx>

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# **ALEXANDER S. ONASSIS PUBLIC BENEFIT FOUNDATION ANNOUNCES ITS 17TH FOREIGNERS' FELLOWSHIP PROGRAM FOR 2011-12**

The Alexander S. Onassis Public Benefit Foundation operates an annual Programme of Research Grants and Educational Scholarships addressed to foreign (non-Greek) Members of Academies of Sciences, Scholars, Researchers, Elementary and Secondary School Teachers of Greek language, Artists and Postgraduate Students.

Deadline: January 31, 2011.

More information is available at [www.onassis.gr](http://www.onassis.gr).

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ALEXANDER S. ONASSIS PUBLIC BENEFIT FOUNDATION  
REGISTERED - HEAD OFFICE: STÄDTLE 27, VADUZ, FL 9490, LIECHTENSTEIN  
TEL: 00423 23 50 220, FAX: 00423 23 50 221, E-MAIL: [contact.asof@adon.li](mailto:contact.asof@adon.li)

S E V E N T E E N T H ( 1 7 t h )  
F O R E I G N E R S ' F E L L O W S H I P S P R O G R A M M E  
A C A D E M I C Y E A R : O C T O B E R 2 0 1 1 - S E P T E M B E R 2 0 1 2  
D E A D L I N E F O R S U B M I S S I O N O F C A N D I D A T U R E S :  
J A N U A R Y 3 1 s t , 2 0 1 1

The Foundation announces the seventeenth (17th) annual Programme of research grants and educational scholarships starting on October 1st, 2011 which is addressed to non Greeks, full Members of National Academies, University Professors of all levels (Ph.D. holders), postdoctoral researchers (Ph.D. holders), artists, elementary and secondary school teachers of the Greek language as a foreign one, post-graduate students and Ph.D. candidates.

## **FIELDS/SECTIONS OF RESEARCH OR STUDY**

The Programme covers the following fields only:

- ♣ Humanities: Philology, Literature, Linguistics, , History, Archaeology, Philosophy, Educational Studies, Psychology
- ♣ Social Science: Sociology, International Relations
- ♣ Arts: Visual Arts, Music, Dance, Theatre, Photography, Film Studies, Media in the arts.

## **GENERAL CONDITIONS OF PARTICIPATION**

The grants and scholarships offered within the framework of this Programme cover scholarly research, posteducational training in the teaching of the Greek language and culture and/or artistic creation in Greece only and in the fields stated in the above paragraph only.



Eligible to participate are the following candidates:

- a) Persons of non Greek descent.
- b) Cypriot citizens are also eligible to apply for category AI and AII grants only, provided they are permanently residing and working outside Greece.
- c) Persons of Greek descent (second generation and on) are also eligible to apply for a grant or scholarship, provided they are permanently residing and working abroad or currently studying in foreign Universities.
- d) Categories AI and AII also apply to Scholars of Greek descent or citizenship provided they have a professional academic career of at least ten (10) years in a University or Research Institute abroad.
- e) The above mentioned clarification (d) also applies to teachers of the Greek Language of Greek descent or citizenship, who work at elementary or secondary schools outside of Greece and post-graduate students of Greek descent or citizenship, who pursue post-graduate studies outside of Greece (categories B and C), have obtained a degree outside of Greece and are permanently residing outside of Greece for more than fifteen (15) years.

The decision to authorize each application for a grant or scholarship is left to the absolute discretion of the Board of Directors of the Foundation. The Board takes into account the recommendations of the Foundation's Scientific Committee, which is selected by the Board, but is not bound by these recommendations. Furthermore, the Board of Directors can either approve or reject an application without communicating the rationale. All meetings of the Board and all recommendations of the Committee are confidential and under no circumstances will they be communicated to the applicants. The submission of an application equals acceptance of all the conditions of the Announcement. Postal address:

Athens Office: 56, Amalias Aven. 105 58 Athens-Greece

Tel.: 0030 210 37 13 000 fax: 0030 210 37 13 013 e-mail: [ffp@onassis.gr](mailto:ffp@onassis.gr)

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#### APPLICATION FORMS /DEADLINE ANNOUNCEMENT & NOMINATION/APPLICATION FORM

Copies of the Announcement and the relevant nomination/application forms are available from ARIONA HELLAS S.A., Representative of the Onassis Foundation in Greece:

♣ Monday to Friday, 10:00-15:00 hrs. at the Foreigners' Fellowships Department, 7 Aeschinou Street, 105 58 Plaka, Athens

♣ by regular mail to the interested parties, upon their request and after written indication of the relevant address. Please contact the Foreigners' Fellowships Department by post, fax (0030210 3713013) or e-mail: [ffp@onassis.gr](mailto:ffp@onassis.gr), to request this material.

♣ by e-mail, as attachments (please write to [ffp@onassis.gr](mailto:ffp@onassis.gr))

♣ at the Foundation's web site: [www.onassis.gr](http://www.onassis.gr).

In case you ask for the form by mail, please indicate clearly a) the category of grant/scholarship you are interested in and b) your complete postal or e-mail address

#### DEADLINE

JANUARY 31, 2011

The application form can be sent online. In this case, see the requirements and the deadline stated on the online document. In case the application form is sent by surface mail, it must imperatively be accompanied by all supporting documents and post-marked no later than JANUARY 31, 2011. Application files can either be sent online or by

registered mail at the Foundation's offices or handed in at the Foundation's Foreigners' Fellowships Department (address above) in person or by representative, from Monday to Friday 10:00-15:00 hrs.

Applications sent after the above-mentioned deadline will not be accepted. Applicants will be informed of the results by regular mail by the end of July 2011.

#### GENERAL INFORMATION

1. No candidacy will be taken in for examination unless accompanied by all of the required supporting documents (including the recommendation letters).
2. The letters of recommendation must be strictly addressed to the Alexander S. Onassis Public Benefit Foundation, Foreigners' Fellowships Programme. Please note that photocopies of letters of recommendation will not be accepted. The letters can be included in the candidate's file or be sent directly to the Foundation by the referees.
3. Any correspondence with the Foundation as well as the nomination/application forms and all supporting documents, i.e. certificates, letters of recommendation, degrees, diplomas, university transcripts etc. must be written and submitted in Greek, English or French. Otherwise, they must be translated in one of those languages and the copies must be legalised by Public Authority.
4. The submitted supporting documents will not be returned. Applicants are kindly requested to submit copies, legalised by Public Authority, on A4 paper size [297x210mm].
5. The artists should also include samples of their artistic work and/or audiovisual material in the application file. Original artifacts are not accepted. The samples will not be returned to the candidate after two years of their submission to the Foundation.
6. All applicants are kindly requested to send their applications to the Foundation directly and not through private or public institutions or organisations.
7. Those candidates who have already applied for a grant/scholarship within the last two years and wish to apply again this year do not have to submit all the required documents. Only the following are required:
  - a) application form
  - b) a new CV
  - c) a new letter with the project proposal.
8. Former Fellows of the Foundation can re-apply for a grant or scholarship only if five years have elapsed since their previous grant or scholarship.
9. Former Fellows of the Foundation who have received a grant or scholarship twice cannot apply again for a grant or scholarship.

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17<sup>th</sup> FOREIGNERS' FELLOWSHIPS PROGRAMME 2011-2012  
CATEGORY AI RESEARCH GRANTS UNIVERSITY FULL AND ASSOCIATE PROFESSORS

Number of Grants: Up to ten [10]

Duration: One [1] month during the academic year Oct. 2011 – Sept. 2012

Addressed to: Full Members of National Academies, Full University Professors and Associate Professors whose scholarly or artistic work has been widely acclaimed and who wish to visit Greece in order to conduct scholarly research or to collaborate with educational or research institutions and/or organisations  
Tenure: All nominees are expected to have had at least five-years' tenure of office as full or associate professors before applying for the grant  
Condition: Only Full or Associate Professors are eligible to submit a nomination for this grant. The grantees of category AI will be invited, on a case by case basis, to deliver a lecture or to conduct a seminar during their stay in

Greece, either at the Onassis Cultural Centre of Athens or at a University or another research or cultural centre.

Subject of Research: The proposed research subject should be either directly related to the Greek culture, civilization and history or have an obvious social return for Greece.

Requirements: The grantees are bound to publish 1 (one) scientific article dealing with findings of the research granted by the Foundation within a period of 24 months from the expiration of their grant. The Foundation's name has to be mentioned as the sponsor of the research. The candidate must have a specific collaboration with a Full Professor from a Greek Public University, whose name and University must be mentioned in the candidate's application form.

#### REQUIRED DOCUMENTS FOR THE SUBMISSION OF NOMINATIONS IN CATEGORY AI

1. The nomination form (see Nomination/Application Forms-Deadline)
2. A copy of your passport page where your birth date is mentioned
3. One (1) passport size photograph
4. A letter including all of the following information:
  - ♣ The title, purpose and specific object of the research that the grantee intends to carry out in Greece.Additionally, the grantee must mention why it is considered necessary for him/her to carry out research in Greece
  - ♣ Specific publishing plan/schedule
  - ♣ Specific collaboration with a Full Professor from a Greek Public University (name of Professor and University)
  - ♣ Any scientific research or artistic project in Greece already completed or in which you are currently involved
  - ♣ Any previous collaboration with Universities or Institutions in Greece
  - ♣ The University or Institution and the name of Greek colleagues you intend to collaborate with
  - ♣ The name of members of the academic community or university professors, the name of the universities, institutes or research centres with which the candidate intend to collaborate
  - ♣ The proposed period and place(s) of research in Greece. Please indicate whether travel within Greece will be necessary for your research and include a project plan of the trips you intend to make in Greece.
  - ♣ Knowledge of Modern or Ancient Greek. Knowledge of the Greek language, whenever not necessary by definition for scholarly purposes, is not a prerequisite. However, elementary knowledge of the Greek language will be taken into consideration
5. An acceptance letter from a Full Professor of a Greek Public University stating his/her agreement to collaborate with the candidate on the specific project
6. A detailed Curriculum Vitae/ List of publications
7. Full names, postal and e-mail addresses and fax numbers of two [2] referees who could provide the Foundation with academic references, if asked to do so. The nominees do not need to include any recommendation letters in the nomination file, unless they wish to.

#### PROVISIONS OF THE RESEARCH GRANTS, CATEGORY AI

1. A round trip air-ticket (business class) from and to the country and place where the grantee is permanently living and for the grantee only. This air-ticket is issued for the beginning of the grant and upon definite departure from Greece

2. A monetary grant of Four Thousand Five Hundred Euros (€ 4.500.-) for subsistence, accommodation and all other expenses.

NOTE: The grant does not cover the period from July 15 to August 31. The Foundation wishes to advise the applicants that it will not extend any facility other than the described above under any circumstances whatsoever.

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17th FOREIGNERS' FELLOWSHIPS PROGRAMME 2011-2012  
CATEGORY AII RESEARCH GRANTS UNIVERSITY FACULTY OF ALL LEVELS  
(PH.D. HOLDERS) / POSTDOCTORAL RESEARCHERS (PH.D HOLDERS) /  
ARTISTS-MUSICIANS

Number of Grants: Up to ten [10]

Duration: From three [3] up to six [6] months maximum during the academic year Oct. 2011–Sept. 2012

Addressed to:

(a) University Professors of all levels: 1) Full Professors (PhD holders) 2) Associate Professors (PhD holders), 3) Assistant Professors (PhD holders) and 4) Lecturers (PhD holders)

(b) Postdoctoral Researchers (Ph.D. holders) and

(c) Renowned artists and musicians who wish to visit Greece in order to conduct scholarly research or to collaborate with educational or research or art institutions and organizations.

Condition: For cases (a) 1, (a) 2, (a) 3, (a) 4 and b) above, all applicants should have already finished their Ph.D. The grantees of category AII will be invited, on a case by case basis, to deliver a lecture or to conduct a seminar during their stay in Greece, either at the Onassis Cultural Centre of Athens or at a University or another research or cultural centre.

Subject of Research: The proposed research subject should be either directly related to the Greek culture, civilization and history or have an obvious social return for Greece.

Requirement: The grantees (of case a-b) are bound to publish up to two (2) scientific articles dealing with findings deduced from their research granted by the Foundation, within a period of twenty four (24) months from the use of their grant.

A specific collaboration with a Full Professor of a Greek University

#### REQUIRED DOCUMENTS FOR THE SUBMISSION OF APPLICATIONS IN CATEGORY AII

1. The application form (see Nomination/Application Forms-Deadline)

2. A copy of the passport page where your birth date is mentioned

3. One (1) passport size photograph

4. A letter including the following information:

♣ The title, purpose and specific object of the research that the grantee intends to conduct in Greece.

Additionally, the grantee must mention why it is judged necessary for him/her to carry out research in Greece

♣ Specific publication plan/schedule (for cases (a) 1, (a) 2, (a) 3, (a) 4 & (b) only)

♣ Specific collaboration with a Full Professor from a Greek Public University (for cases (a) 1, (a) 2, (a) 3 & (a) 4 & (b) only)

♣ Any research in Greece already completed or in which you are currently involved

♣ Any previous collaboration with Universities or Institutions in Greece

♣ The University or Institution and the Greek colleagues you will collaborate with

♣ The proposed period and place(s) of research in Greece. Please indicate whether travel within Greece will be necessary for your research and include a project plan of the trips you intend to make in Greece. While outlining your plan, please keep in mind that the month of August is not covered by the grant

♣ Knowledge of Modern or Ancient Greek. Knowledge of the Greek language, whenever not necessary by definition for scholarly purposes, is not a prerequisite. However, elementary knowledge of the Greek language will be favourably taken into consideration

5. An acceptance letter from a Full Professor of a Greek Public University stating his/her agreement to collaborate with the candidate on the specific project (only for candidates (a)1,(a)2,(a)3,(a)4 and b))

6. Four (4) recommendation letters from Greece (if possible) and/or abroad

7. All candidates of cases (a)1,(a)2,(a)3,(a)4 and b) above should also include a certificate from their university attesting their exact academic position

8. All candidates of cases (a)1, (a)2, (a)3,(a)4 and (b) should include a photocopy of their Ph.D. degree

9. A detailed Curriculum Vitae/ List of publications

#### PROVISIONS OF THE RESEARCH GRANTS - CATEGORY AII

1. A round trip air-ticket (economy class) from and to the country and place where the grantee is permanently living, for the grantee only, for the beginning of the scholarship and upon definite departure from Greece.

2. A monthly allowance of Two Thousand Five Hundred Euros (€ 2.500) for subsistence, accommodation and all other expenses.

NOTE: The grant does not cover the period from July 15 to August 31. The Foundation wishes to advise the applicants that it will not extend any facility other than the described above under any circumstances whatsoever. No allowance or air ticket is provided to the grantee's spouse or dependents.

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17th FOREIGNERS' FELLOWSHIPS PROGRAMME 2011-2012  
CATEGORY B TEACHER – TRAINING SCHOLARSHIPS TEACHERS OF THE  
GREEK LANGUAGE

Number of scholarships: Five [5]

Duration: up to six [6] months during the academic year Oct. 2011-Sept. 2012

Addressed to: active elementary or school foreign teachers, who currently teach the Modern Greek language and Modern Greek literature in schools abroad. For the applicants of this category very good and certified knowledge of Modern Greek language is absolutely compulsory.

Age Limit: None

Aim of the Scholarship: These scholarships aim at the acquaintance, collaboration and exchange of information between the scholarship recipients and their Greek colleagues in Greek schools, education or other relevant departments of Greek universities. The Scholarship does not cover the learning of the Greek language at language courses. The fellows will have the opportunity to attend as external students the postgraduate programme of Teaching Greek as a Foreign Language of the University of Athens. They will also be able to attend for free the programme of the Modern Greek Language Teaching Center organized by the University of Athens.

Condition: This programme presupposes that the scholarship recipients will continue offering their services to their country of origin, after they have completed their training in Greece.

#### REQUIRED DOCUMENTS FOR THE SUBMISSION OF CANDIDATURES IN CATEGORY B

1. The application form (see Nomination/Application Forms-Deadline)
2. One (1) passport size photograph
3. Official copies of all University diplomas, translated in either Greek, English or French and legalised by Public Authority
4. An official Greek language certificate/degree. Knowledge of Modern Greek language is compulsory for submission of candidature in this Category
5. Employment confirmation from the Director of the School where the applicant is currently employed
6. A recommendation letter from the Director of the School where the applicant is working
7. Two (2) recommendation letters either from Greece or abroad
8. A detailed Curriculum Vitae

#### PROVISIONS OF THE EDUCATIONAL SCHOLARSHIPS - CATEGORY B

1. A round trip air-ticket (economy class) for the scholarship recipient only for the beginning of the scholarship and upon definite departure from Greece.
2. A monthly allowance of One Thousand Two Hundred Euros (€ 1.200.-) for subsistence, accommodation and all other expenses.

NOTE: The scholarship does not cover the Summer months (July and August) The Foundation also wishes to advise the applicants that it will not extend any facility other than the described above under any circumstances. No allowance or air ticket is provided to the grantee's spouse or dependents.

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#### 17th FOREIGNERS' FELLOWSHIPS PROGRAMME 2011-2012 CATEGORY C EDUCATIONAL SCHOLARSHIPS POSTGRADUATE STUDENTS & Ph.D CANDIDATES

Number of scholarships: Ten [10]

Duration: From five [5] up to ten [10] months during the acad. year Oct. 2011–Sept. 2012

Addressed to: Postgraduate Students & Ph.D Candidates

Age Limit: All candidates should be under forty [40] years old

Conditions: a) the field of study should be covered by the Programme (see p. 1) b) at the time of application the applicants should be enrolled for a postgraduate course (Master's, M.Phil., Ph.D) at a University either outside Greece or in Greece c) the scholarships are offered for research in Greece only

#### REQUIRED DOCUMENTS FOR THE SUBMISSION OF CANDIDATURES IN CATEGORY C

1. The application form (see Nomination/Application Forms-Deadline)
2. One (1) passport size photograph
3. Official copies of all university diploma(s)/degree(s), with final grade(s), translated in either Greek, English or French and legalized by Public Authority
4. Official transcript or university record showing grades obtained in each course for all previous years of study, where the final grade of the diploma / degree will be clearly stated
5. A certificate from the University where the applicant is currently enrolled, attesting that he/she is enrolled for postgraduate studies/doctoral diploma and the exact title of the post-graduate thesis or the doctoral dissertation

6. Official certificate attesting adequate knowledge of the Greek language. Please contact the relevant university departments or language schools or Greek embassy offices in your country for more information. Please note that basic knowledge of the Greek language is a necessary prerequisite for applying, unless the applicant can prove that the research can be conducted in another language. The certificate can be submitted at a later date, but no later than March 31st, 2011.

7. Four (4) original recommendation letters, two (2) from outside Greece and, if possible, two (2) from Greece. In case the applicant has no contact with any persons in Greece, he/she may send four (4) recommendation letters from University Professors or qualified persons from abroad

8. A complete Curriculum Vitae

#### PROVISIONS OF THE EDUCATIONAL SCHOLARSHIPS, CATEGORY C

1. A round trip air-ticket (economy class) for the scholarship recipient only for the beginning of the scholarship and upon definite departure from Greece

2. A monthly allowance of One Thousand Two Hundred Euros (€ 1.200.-) for subsistence, accommodation and all other expenses

NOTE: The scholarship does not cover the month of August. The Foundation wishes to advise the applicants that it will not extend any facility other than the described above under any circumstances. No allowance or air ticket is provided to the grantee's spouse or dependents.

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## **ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS**

# **OXFORD CENTRE FOR BYZANTINE**

# **RESEARCH**

It is a great pleasure to announce the establishment of The Oxford Centre for Byzantine Research. Based in the Ioannou Centre for Classical & Byzantine Studies at the University of Oxford, the new Centre presents and promotes research activity by senior scholars and emeriti working in Byzantine Studies and related fields.

The foundation of the Centre is a major new initiative to help strengthen the subject at Oxford and internationally, and is the result of collaboration between the faculties of History, Classics, Modern and Medieval Languages, Oriental Studies and Theology, as well as the School of Archaeology.

The Centre has an active programme for 2010-11, including workshops on the Transformation of Byzantium in the eleventh century, colloquia on the book production and on the manuscripts of St. Catherine's of Sinai.

Special lectures are also scheduled to take place throughout the year which are also available as podcasts.

Travel awards and conference grants have been established for the current academic year.

The Centre will be formally launched on Friday 3 December with a lecture by James Howard-Johnston, entitled 'The Seventh Century and the Formation of Byzantium.' The lecture will take place in the Lecture Theatre at the Ioannou Centre at 5pm and will be followed by a reception. All are welcome.

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More details about the Centre, whose Director is Dr. Peter Frankopan and Chair Prof. Dame Averil Cameron, can be found at [www.ocbr.ox.ac.uk](http://www.ocbr.ox.ac.uk) <<http://www.ocbr.ox.ac.uk>>  
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## INTERNET SITES

# ARCHAEOLOGY MAGAZINE - TOP 10 DISCOVERIES OF 2010, VOLUME 64 NUMBER 1, JANUARY/FEBRUARY 2011

Decades from now people may remember 2010 for the BP oil spill, the Tea Party, and the iPad. But for our money, it's a lock people will still be excited about the year's most remarkable archaeological discoveries, which we explore (along with one "undiscovery") in the following pages.

This was the year we learned that looters led archaeologists to spectacular and unparalleled royal tombs in both Turkey and Guatemala. An unexpected find brought us closer to Pocahontas, and an underwater archaeological survey in the high Canadian Arctic located the ill-fated HMS *Investigator*, abandoned in 1853.

Archaeologists weren't just busy in the field, though. A number of breakthroughs happened in the lab, too. A new radiocarbon dating technique was perfected this year that will allow scientists to date artifacts without harming them.

Laboratory analysis of the bones of a close relative of Lucy revealed how early hominins walked. And anthropologists in Germany announced startling news about the Neanderthal genome that might send you scrambling to submit your own DNA for sequencing.



[The Tomb of Hecatomnus Milas, Turkey](#)



[Paleolithic Tools Plakias, Crete](#)



[Royal Tomb El Zotz, Guatemala](#)



[Early Pyramids Jaen, Peru](#)



[HMS Investigator Banks Island, Canada](#)



[Decoding the Neanderthal Genome Leipzig, Germany](#)



[Child Burials Carthage, Tunisia](#)



["Kadanuumuu" Woranso-Mille, Ethiopia](#)



[1608 Church Jamestown, Virginia](#)



[Nondestructive Radiocarbon Dating College Station, Texas](#)

Please visit the site: <http://www.archaeology.org/1101/topten/>

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## **SOCIETY OF AEGEAN PREHISTORY**

Welcome to Aegeus!  
Society of Aegean Prehistory

Welcome to the official, new website of Aegeus. Aegeus's aim is to contribute substantially to the direct information, communication and fruitful collaboration of archaeologists and friends of prehistoric Aegean archaeology.

We hope that you will support, contribute and participate in this effort and we wish you happy surfing on the website!

Do not forget that the website of Aegeus will be updated with new information on a daily basis and we, therefore, recommend that you visit it regularly.

Please visit the site: <http://www.aegeussociety.org/en/index.php/home/>

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## Η ΘΕΩΡΙΑ ΤΗΣ ΕΠΑΝΑΛΗΨΗΣ

Η Θεωρία της Επανάληψης αφορά την ερμηνεία των νεολιθικών ειδωλίων. Στοιχειοθετήθηκε και υποστηρίχθηκε για πρώτη φορά το 1990\* από την Λάια Ορφανίδη και βασίζεται στο γεγονός ότι μόνον ό,τι επαναλαμβάνεται σταθερά είναι σύμβολο, δηλ. απεικονιστική απόδοση εννοιών ή ιδεών. Η σχηματική της παράσταση εμφανίζεται στον παρακάτω πίνακα:

Παρακαλώ επισκεφθείτε το δικτυακό τόπο: <http://www.neolithic.gr/index.html>

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## ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

# X-RAY FLUORESCENCE SPECTROMETRY (XRF) IN GEOARCHAEOLOGY M. STEVEN SHACKLEY (EDITOR)

<http://www.springerlink.com/content/978-1-4419-6885-2/contents/>



### Book Chapters

- X-Ray Fluorescence Spectrometry in Twenty-First Century Archaeology

M. Steven Shackley

- An Introduction to X-Ray Fluorescence (XRF) Analysis in Archaeology

M. Steven Shackley

- Factors Affecting the Energy-Dispersive X-Ray Fluorescence (EDXRF) Analysis of Archaeological Obsidian

M. Kathleen Davis, Thomas L. Jackson, M. Steven Shackley, Timothy Teague and Joachim H. Hampel

- Non-destructive EDXRF Analyses of Archaeological Basalts

Steven P. Lundblad, Peter R. Mills, Arian Drake-Raue and Scott Kekuwa Kikilo

- Non-destructive Applications of Wavelength XRF in Obsidian Studies

Annamaria De Francesco, M. Bocci and G. M. Crisci

- Portable XRF of Archaeological Artifacts: Current Research, Potentials and Limitations

Ioannis Liritzis and Nikolaos Zacharias

- Elemental Analysis of Fine-Grained Basalt Sources from the Samoan Island of Tutuila: Applications of Energy Dispersive X-Ray Fluorescence (EDXRF) and Instrumental Neutron Activation Analysis (INAA) Toward an Intra-Island Provenance Study

Phillip R. Johnson

- Comparison and Contrast Between XRF and NAA: Used for Characterization of Obsidian Sources in Central Mexico

Michael D. Glascock

**- Is There a Future for XRF in Twenty-First Century Archaeology?**

Rosemary A. Joyce

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**HORIZON: A COLLOQUIUM ON THE  
PREHISTORY OF THE CYCLADES. NEIL  
BRODIE, JENNY DOOLE, GIORGOS  
GAVALAS, COLIN RENFREW (ED.),  
MCDONALD INSTITUTE MONOGRAPHS**

Cambridge: McDonald Institute for Archaeological Research, 2008. Pp. xxiv, 540.  
ISBN 9781902937366. \$130.00.

Reviewed by Athena Hadji, University of Patras ([athenahadji@upatras.gr](mailto:athenahadji@upatras.gr)) [Table of contents are listed at the end of the review.]

The book is the thorough publication of a 2004 colloquium on Cycladic prehistory. It comprises 43 chapters with an introduction by C. Renfrew. Even a cursory glimpse at the table of contents (pp. v-vii) is indicative of the book's scholarly range, which, to a certain extent, justifies its length. Horizon is a much needed and long-awaited endeavor, because recent research in the Cyclades remains for the most part unpublished; also because it attempts to contextualize Cycladic prehistory within its broader Aegean context. Chronologically, the book covers the time span from the Aegean Mesolithic down to Mycenaean times, which in its turn is a novelty, given that interest in the prehistory of the Cyclades traditionally focuses on the Early Bronze Age.

A table of contents, contributors' contact information, an extensive list of figures and a corresponding list of tables, a short preface and acknowledgements is included in pp. v-xxiv. All references are collected in a separate section at the end of the book, which greatly facilitates searching for titles (pp. 493-528), but does not help those who are interested in the literature of a specific subject. The bibliography is comprehensive and up-to-date. The book concludes with a detailed index (pp. 529-540).

Individual chapters are preceded by an introduction by Renfrew, however a conclusion, desirable in a massive volume like the one in question, is missing. Renfrew begins with a brief review of research on Cycladic prehistory from the beginnings in the 1880s and the pioneering work of Christos Tsountas to present times. He stresses the need for systematic surveys (p.1) and urges the contextual use of chronological terms, -either the traditional tripartite chronological division or the so-called culture scheme. The conclusion of Renfrew's introduction is reminiscent of his earlier work,<sup>1</sup> as he advocates for a diachronic perspective in Cycladic research.

In Chapter 1, Papageorgiou presents evidence on sea routes in the prehistoric Cyclades, based on environmental data and (indirectly) later literary sources. Two types of routes are distinguished: intra-island and inter-island routes, whereas the conclusion supports a seasonal pattern of seafaring.

In Chapter 2, Sampson discusses the Cycladic Mesolithic, presenting evidence from his excavation at the site of Maroulas on Kythnos, otherwise relatively unknown. After a brief discussion of different classes of features and artifacts, Sampson concludes that the evidence, though provisional, indicates patterns of island adaptation as early as the mid-7th millennium B.C.

Chapter 3, while it touches upon the Mesolithic, is the first of a series (Chs. 3-6) of chapters that deal with the Neolithic in the Cyclades, discussing sites such as Cyclops Cave on Youra, Ftelia on Mykonos, and Strofilas on Andros. In Chapter 5, Phoca-Cosmetatou starts with the analysis of the faunal remains in light of the economy of the site, and employs the theory of transported landscape, arguing - albeit inconclusively - that the transport of communities of people, plants and animals from the mainland carried along a perception of landscape to the island of Mykonos. This is a significant point since perceptions of landscape in Aegean prehistory have not been extensively studied as yet.

>

Televantou on Chapter 6 presents the hitherto virtually unknown prehistory of Andros, focusing on her excavation at Strofilas. The most interesting and intriguing features of the on-going excavation are the so-called rock-cut compositions (p.46), the existence of which allows for the possibility of a sanctuary with a floor adorned with figures of symbolic, perhaps ritual character. Conclusions are tenuous, and so are the author's explanations which belong to the symbolic sphere (p.53, Conclusions section).

Chapter 7 examines a matter of utmost importance for Cycladic prehistory, as yet unresolved: Final Neolithic/ Early Cycladic chronology. Manning proposes a tentative absolute chronology sequence based on new measurements, mostly unpublished, from newly located and excavated sites. A particular merit of the essay, which adds to its validity, is that the author details methods of measurement and calibration. The dates obtained do not alter the existing picture dramatically; the samples presented, though securely dated, are not sufficient to be suggestive of a firmly established Cycladic sequence.

Chapters 8-30 deal with the Early Bronze Age in the Cyclades and related Aegean areas (Attica, Crete). Since most of the known prehistoric material from the Cyclades dates to the EBA, it is not surprising that the EBA chapters cover the most extensive part of the book. In Chapter 8, Katsarou-Tzeveleki and Schilardi address the issue of disproportionate attention between cemeteries and settlement sites by researchers in Cycladic prehistory, presenting evidence from the ECII settlement of Koukounaries on Paros. The authors' discussion of the "boundary between funerary and domestic" (p.68), is crucial for the study of Cycladic prehistory and merits attention. On the other hand, the arguments put forward with regard to the preservation of ancestral memory are not particularly convincing.

In Chapters 9 and 10, issues of social differentiation are touched upon. Marthari discusses EBII pottery, based on material from her excavation of Skarkos on Ios. The examination is organized by pottery type. Whereas the minutiae of each pottery class presented might be burdensome to the non-specialist, the end discussion adopts a broader perspective: ostentatious display of wealth as a vehicle of social differentiation is related to finds of imported fine pottery of a standard inconceivable for the local potters (p.81).



Also, Zachos and Dousougli study the Early Bronze Age sealings from the Cave of Zas on Naxos in an attempt to refute the hypothesis of lack of social differentiation in the Cyclades based on the absence of seals. In the conclusions section, the authors discuss evidence for sealings in an Aegean context and they conclude with a provisional discussion of social complexity in the Early Bronze Age Aegean.

Chapters 11 and 12 focus on the sites of Markiani on Amorgos and Dhaskalio on Kavos, an islet off Keros, respectively and essentially summarize the content of the respective volumes which have been published recently. Markiani covers most of EC II-III and was a fortified settlement. Especially significant is the coherence of the pottery assemblage which allows for "a new basis for EC chronology" (p. 99) and "underlines the need for the island-by-island study of EC pottery" (p. 101) - as well as culture, one might add. Dhaskalio constitutes a unique specimen of an open-air Cycladic sanctuary with massive evidence for intentional breakage of objects (mostly marble figurines), however the character of the site - sanctuary, cemetery or even "island of the blessed" (p. 113) remains to be assessed.

Sotirakopoulou, in Chapter 13, studies pottery from investigations conducted on Dhaskalio in the 1960s and reaches a similar conclusion about the nature of the finds.

Chapters 14 and 15 draw from the N and EB phases of Akrotiri on Thera, most notable for its LBA phases, presenting a hitherto unknown picture of a prosperous site already in the EBA. The conclusions with regard to the issue of conspicuous display, inter-island relations, and manufacture of non-utilitarian goods and circulation in Chapter 15 (p. 146) are somewhat unsubstantiated and, at times, clichéd, e.g., "therefore, the choice of material was dependent on its properties and on the intended use of the final product".

>

Chapter 16 revolves around a much-debated assemblage, both in terms of chronology as well as its implications regarding ethnicity, the so-called Kastri group of pottery from the island of Syros. Angelopoulou, based on excavated evidence, makes the crucial point hitherto ignored, that "the [Kastri] group cannot be considered - a priori - as chronologically cohesive". (p. 150). The chapter offers an interesting insight into the EC fortified acropolis as a refuge for the population of a nearby settlement in times of trouble (p. 151), alluding to a well-known passage from Thucydides regarding piracy in the Aegean (p. 159).

>

Chapter 17 is an attempt to interpret the context of a series of rock-cut chambers unearthed at the site of Akrotiri. Doumas supports the idea of funerary use of the chambers (p. 168) in their original context (throughout the EC) and subsequent filling and abandonment (possibly due to the expansion of the MC city, p. 169) as well as the construction of a cenotaph. The tentative interpretation is based on contemporary ethnographic (p. 172, 174) and archaeological examples (p. 173) revolving around veneration for and grave offerings to the dead.

Chapter 18 examines the use of obsidian in the EBA Aegean in a new light. Moundrea-Agrafioti begins with the valid observation that obsidian is a rare find in EC tombs,

continues with a detailed typological examination and concludes with a plausible interpretation that obsidian objects functioned as heirlooms valued for the symbolic context, a practice already documented for metal daggers and EC figurines.

Chapters 19, 20 and 21 refer to cemetery excavations on Ano Kouphonisi, Naxos and Melos respectively. Zafeiropoulou (p. 192) briefly addresses the issue of choice of settlement in an area of no arable land, pointing out alternative ways of living, such as, in this case, fishing.

In Chapter 22, Sampson and Fotiadi discuss ECII-III finds from Rivari, focusing on the pottery range and warning against using pottery typology to infer ethnic background of users and producers (Kastri group, p. 223).

Chapter 23 is a discussion of EC obsidian. Carter summarizes the current state of research and discusses the sociocultural context of technological practices. He raises a significant point (p. 228): technological shifts in obsidian tools cannot be used as sole chronological markers in the absence of corroboration from other data types.

Chapters 24, 25 and 26 discuss connections between Crete and the Cyclades and the stance of each author is a case-study on traditional and new approaches to the study of archaeological material. Whereas Betancourt (Ch. 24) suggests that the cemetery of Hagia Photia with its strong and undeniable Cycladic affinities belonged to a Cycladic colony, Karantzali (Ch. 25) interprets her evidence as showing a local interpretation of Cycladica rather than import of vessels from the Cyclades.

Chapters 27 and 28 discuss the Cyclades in relation to the mainland, covering a rather extensive time span (N-EBII). Information provided in Ch. 27 (albeit condensed by necessity and thus hard to absorb) and a plethora of references make the contributions valuable as a starting point for the study of cultural developments from the Neolithic into the Bronze Age. Although its approach enforces uniformity, the chapter serves as a nice introduction to the following chapters which deal with the mainland.

Chapters 31, 32 and 33 (Overbeck and May Grego) move on to the Middle Cycladic period, examining material from Ayia Irini, Akrotiri, and Kolonna on Aegina.

Chapter 34 is a rather lengthy essay on the Minoanization of the Cyclades. Davis and Gorgianni argue for a participation in the "new environment" of the Neopalatial Period (pp. 340-341) in varying degrees for different communities contrary to the general assumption of an all-encompassing cultural and political homogenization process. They suggest differential adoption of Minoan elements, rather than direct access.

Chapter 35 refers to a rather neglected issue, the not-so-prestigious, but necessary task of cooking. Birtacha presents LC material from Akrotiri, accompanied by four appendices: lithics (Devetzi), mammal remains (Trantalidou), fish remains (Mylona), organic remains (Sarpaki and Asouti).

Chapters 36, 37, 38 and 39 touch upon issues that are thematically unrelated: from seals and Linear A inscriptions in the LBA Cyclades (Ch. 36), to Cycladic metallurgy (Ch. 37), a re-evaluation of the 1911 excavation at Phylakopi (Ch. 38) and the idea of the body in Cycladic prehistory (Ch. 39). Of particular interest is the discussion of Cycladic

metallurgy. Gale and Stos-Gale reach conclusions substantially different from their past stance on the matter. What is markedly different in this essay is a detailed description of their methodology (analytical, rather than sampling, though that would also be interesting) on p. 390, where the authors admit to lack of confidence in earlier results.<sup>2</sup> There are quite a few misspellings of names and place names, i.e. Chrysostomos on p. 393 must refer to the site of Chrysokamino.

Chapters 40 and 41 continue the shift to the symbolic domain, already suggested in Chapter 39, with material from Akrotiri. The layout of the two chapters follows the conventions of art presentations (catalogue, description, interpretation). In Ch. 40, the Papagiannopoulou follows a rather conventional art historical approach with the consequent problems, i.e. the application of terms such as "essentialist" art/ rendering to MC pottery decoration. Chapter 41 is accompanied by an extensive set of high-quality photographs of the spectacular wall-paintings as well as a very useful floor plan with an indicative placement of wall-paintings on each room (fig. 41.51, p. 465).

Chapters 42 and 43 complete the volume as we reach the end of prehistory in the Cyclades. In Chapter 42, the presentation of the material follows a chronological order and an analysis by site which is rather useful since it allows for the emergence of patterns, showing clearly regional differentiation rather than overwhelming homogeneity, whereas the concluding chapter presents evidence for the Cyclades of the 12th century B.C. According to the author, the pattern of regional differentiation continues from the Mycenaean period.

Overall, the book is well planned and laid-out, extremely informative, but sometimes hard to navigate.

Introduction Colin Renfrew, *Cycladic Studies Today* 1

Chapter 1 Despina Papageorgiou, *Sea Routes in the Prehistoric Cyclades* 9

Chapter 2 Adamantios Sampson, *The Mesolithic Settlement and Cemetery of Maroulas on Kythnos* 13

Chapter 3 Katerina Trantalidou, *Glimpses of Aegean Island Communities during the Mesolithic and Neolithic Periods: the Zooarchaeological Point of View* 19

Chapter 4 Adamantios Sampson *The Architectural Phases of the Neolithic Settlement of Ftelia on Mykonos* 29

Chapter 5 Nellie Phoca-Cosmetatou, *Economy and Occupation in the Cyclades during the Late Neolithic: the Example of Ftelia, Mykonos* 37

Chapter 6 Christina A. Televantou, *Strofilas: a Neolithic Settlement on Andros* 43

Chapter 7 Sturt W. Manning, *Some Initial Wobbly Steps Towards a Late Neolithic to Early Bronze III Radiocarbon Chronology for the Cyclades* 55

Chapter 8 Stella Katsarou-Tzeveleki and Demetrius U. Schilardi, *Some Reflections on EC Domestic Space Arising from Observations at Koukounaries, Paros* 61

Chapter 9 Marisa Marthari, Aspects of Pottery Circulation in the Cyclades during the Early EB II Period: Fine and Semi-fine Imported Ceramic Wares at Skarkos, 71

Chapter 10 Konstantinos Zachos and Angelika Dousougli, Observations on the Early Bronze Age Sealings from the Cave of Zas at Naxos 85

Chapter 11 Lila Marangou, Colin Renfrew, Christos Doumas and Giorgos Gavalas, Markiani on Amorgos: an Early Bronze Age Fortified Settlement -Overview of the 1985-91 Investigations 97

Chapter 12 Colin Renfrew, Christos Doumas, Lila Marangou and Giorgos Gavalas, Dhaskalio Kavos, Keros: the Investigations of 1987-88 107

Chapter 13 Panayiota Sotirakopoulou, Dhaskalio Kavos, Keros: the Pottery from the Investigations of the 1960s 115

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  2. See the relevant debate, in *JMA* 8 (1), 1995.
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# **IMAGING OF THE DEAD SEA SCROLLS,** **BRUCE ZUCKERMAN, DIGITAL DESIGN** **BY TARA WAUGHJJ**

The Dynamics of Change in the Computer Imaging of the Dead Sea Scrolls and Other Ancient Inscriptions Revised and enlarged from Rediscovering the Dead Sea Scrolls: An Assessment of Old and New Approaches and Methods (Maxine L. Gorsman, ed.; Grand Rapids: Eerdmans, 2010): 69-88. This version is dated October 1, 2010.

This article is a revised and enlarged version of a study previously published in conventional book form. Its aim is to see what can be done, using current technologies, to transform a static text into a dynamic, all-electronic, media-rich essay. The transformation was designed not simply to illustrate key points in this study, but to begin to embody a new form of visual analysis that takes full advantage of high resolution photography, special imaging techniques and animation to enhance its narrative.

This article is intended to be fully readable on either a PC or a Mac platform using Adobe's Acrobat software. It is written using Adobe's "In-Design" programming and in order to be fully used requires Adobe Reader version 9. The latest version can be downloaded at <http://get.adobe.com/reader>. Note: Be sure that you are reading this article in Acrobat 9 or higher. If this article defaults to another program or an earlier version of Acrobat, neither the "layers" nor the "animation" functions will be operative. On a Mac platform, you can tell if Acrobat is employed if "Adobe Reader" appears in the upper left corner of your screen to the right of the "Apple" icon. On a PC platform, the "Adobe Reader" should appear in the upper left title of the window containing the open document. To ensure the program opens in Adobe Reader, you should open the article by right clicking on it with your mouse, selecting "Open With" and then selecting Adobe Reader 9.

The electronic version of this article was done in collaboration with USC's Institute of Multimedia Literacy (IML; see <http://iml.usc.edu/>) in the School of Cinematic Arts and particularly in close coordination with Tara Waugh of the IML. I am grateful to Holly Willis, director of the IML, and Elizabeth Daley, Dean of the School of Cinematic arts for making this possible.

Please report any technical difficulties encountered in downloading this article to [bzuckerm@usc.edu](mailto:bzuckerm@usc.edu).

Please visit the site: <http://www.usc.edu/dept/LAS/wsrp/information/DynamicsDSS/>

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## *EIAHΣEΙΣ - NEWS RELEASE*

# SCIENCE DEVISES NEW METHOD TO SORT DEAD SEA SCROLLS

Berlin - Physicists are on the verge of more breakthrough discoveries about the Dead Sea Scrolls, a stock of 2,000-year-old religious documents found in the West Bank desert, a Berlin science institute says.

From 1947 to 1956, an estimated 900 distinct documents were recovered by Bedouins and archaeologists from 11 caves near Qumran, a ruined settlement at the north-west corner of the Dead Sea.

The documents contain several books of the Bible, making them of vital interest to Jews, Christians and Muslims. All three religions are rooted in ancient Jewish doctrines. Unproved conspiracy theories have swirled round the scrolls for 60 years.

Some of the parchment scrolls were found intact, but many of the 17,000 torn fragments have been difficult to piece together.

To date, scholars have used a jig-saw-puzzle method, trying to match adjacent pieces by the words and style of script.

This week, Berlin scientists are to brief scholars on 21st century methods of sorting the fragments, which contain Hebrew, Greek and Aramaic writing and are kept at the Israel Museum in Jerusalem.

The new methods, which include shining X-rays through the parchment and papyrus, are guaranteed not to damage them.

Re-analysis would not only help to resolve some fierce academic and religious disputes that have been based on differing readings of the texts, but also help reconstruct several more documents which had seemed lost for ever in the muddle of fragments.

The new methods were evolved by BAM, Germany's material-science laboratory in Berlin.

"We'll be able to say if any two fragments have identical material properties," explained BAM spokeswoman Ulrike Rockland. "If they do, they come from the same piece. No one could say that with certainty before."

The Dead Sea Scrolls were one of the greatest archaeological discoveries of the 20th century.

A Bedouin shepherd, Muhammad edh-Dhib, discovered the first scrolls by chance in 1947. At the time the site was in Jordan.



A history published in 2009 says that to prevent pillaging in the caves before a scientific excavation could be financed and begun, Jordan's curator of antiquities, Gerald Lankester Harding, paid the Bedouin from 1950 to collect and hand in fragments.

To ensure no one ripped them, his agent paid by the square centimetre, with bonuses for especially large pieces.

But many of the scrolls had already crumbled to bits, despite the ideal dryness and darkness during the centuries they were hidden.

By the time they arrived in Jerusalem, it was often uncertain which cave each fragment had been found in. Even today it remains unproved that the caves even belonged to the people who lived at Qumran 2,000 years ago.

Most of the writing, dating from between the 3rd century BC and 68 AD, is on the cured skin of sheep and goats.

Last month the Israel Museum and Google announced plans to digitize the main scrolls and publish the images online for free within five years with a searchable database and translations.

The Scrolls have been a focus of public fascination for years, with sensationalist books claiming they debunk Christianity.

During the 1980s there was worldwide controversy over allegations that Israel was keeping the mass of tiny fragments "secret." Scholars broke embargoes and published images of the fragments in 1991.

Rockland said the Berlin laboratory worked on a variety of the goatskin fragments to develop procedures to catalogue them.

These include examination with light, electron and environmental scanning electron microscopes and advanced technologies known as X-ray fluorescence spectroscopy and Raman spectroscopy.

The experts devised standard ways to trace how each piece of parchment was made and how it aged.

"Goatskin is an organic material. If two fragments have the same X-ray, Raman and infrared signature, they must belong together," said Rockland.

The procedures can also identify different batches of handmade ink. The scientists manufactured their own iron-gall ink using ancient recipes to test what happens as it dries and eats its way into the parchment.

The sole disadvantage of the new tests is the high cost.

The Prussian Cultural Heritage Foundation in Berlin paid for the initial, joint German-Israeli research project.

The results will be presented at a "workshop" in Berlin Monday where scientists and humanities scholars will mingle to learn how they can help one another to take the research forward.

Authors: Jean-Baptiste Piggin, Ulrike von Leszczynski

Please visit the site: <http://www.earthtimes.org/articles/news/353531,sea-scrolls-feature.html> [See also <http://www.art-innovation.nl/event.php?id=4>]

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# **CHEMISTS HELP ARCHAEOLOGISTS TO PROBE BIBLICAL HISTORY : NATURE NEWS - COLLABORATION ESTABLISHES A NEW APPROACH FOR TEASING OUT CLUES HIDDEN IN THE SOIL. HAIM WATZMAN**

TEL MEGIDDO

Fabled as a site of biblical battles and spectacular palaces, Tel Megiddo today is a dusty mound overlooking Israel's Jezreel valley. It is also host to one of the hottest debates in archaeology — a controversy over the historical truth of the Bible's account of the first united Kingdom of Israel.

Ancient Megiddo is said to have been a key administrative and military centre in the kingdom ruled by King David and his son Solomon during the eleventh and tenth centuries BC. But the biblical narrative is challenged by archaeologists such as Israel Finkelstein of Tel Aviv University, who believe that David and Solomon did not rule over an Iron Age empire. Instead, they suggest, David and Solomon commanded a small and not terribly influential kingdom, and Megiddo's peak came nearly a century after the united kingdom had divided.

Important evidence relating to this debate is being unearthed by a unique collaboration between archaeologists and natural scientists, working shoulder-to-shoulder at Tel Megiddo and several other important Israeli sites. "In the past, all too often, archaeologists and scientists worked together, but it was two parallel lines," says archaeologist Aren Maeir of Bar-Ilan University in Ramat Gan, Israel. It could take months or even years before finds were sent away to the lab, he says, with results taking just as long to come back. "On top of that, sometimes the samples weren't taken correctly."

The Tel Megiddo dig is different. Chemists make up half of the two dozen excavators on the team, which is being led by Finkelstein and Steve Weiner, a structural biologist specializing in mineralized tissues who is director of the Kimmel Center for Archaeological Science at the Weizmann Institute in Rehovot, Israel. Funded by a European Research Council grant worth €3 million (US\$4 million) over five years, the pair hope that their work at Tel Megiddo and elsewhere will show that this model of close collaboration should become the norm for archaeology.

"It's definitely where archaeology is headed," says Ran Boytner of the University of California, Los Angeles, an archaeologist who works in South America. "This is partly to do with the miniaturization of analytical tools and the lowering of costs, as well as a revival of interest in archaeology, especially among senior scientists who are eager to get out of the lab."

Archaeologists are trained to use their eyes to identify a stratum — a buried layer representing a particular period of habitation. A black stripe, for example, might be a burn layer — evidence of a hearth, or of the ransacking of a city, depending on its size. Artefacts and pottery embedded in strata can also serve as markers for defining and dating them. But chemical analysis can add many more details to the picture.

“Chemical analysis can distinguish between soil layers that look identical to the naked eye.” When Nature visited Tel Megiddo in October, excavators were working with brushes, tweezers and teaspoons to gather sediment samples into small plastic vials before taking them to an infrared spectrometer set up on a folding table at the edge of the site. The chemical clues yielded by the spectrometer gave immediate feedback to the diggers as they collected further samples.

Chemical analysis can distinguish between soil layers that look identical to the naked eye, explains Weiner. In a paper published this month, for example, he and his colleagues show how infrared spectrometry can reveal the distinctive origins of seemingly identical layers of calcite, a form of calcium carbonate (L. Regev et al. *J. Archaeol. Sci.* 37, 3022–3029; 2010). Wood burnt at above 500 °C produces calcite, although the mineral can also come from limestone slaked to make lime for construction, and is found in the soil used to make mud bricks. Each type of calcite has a distinctive infrared signature, providing information that helps archaeologists to distinguish between a floor, a wall or a kiln.

In another part of Tel Megiddo, Weiner points out a layer rich in a form of silica (SiO<sub>2</sub>) that accreted in and around the cells of plants. These 'phytolith' layers mark locations where vegetation grew or was stored. Weiner and his team have calculated that the layer, now just 3–5 centimetres thick, was originally a metre or so deep. Their first assumption, based on similar findings in other locations, was that the area had been used as an animal enclosure. But an analysis of the phytoliths showed that they all came from domesticated grasses. Because the dung of grazing animals would be expected to contain a high proportion of wild plants, it seems possible that the phytoliths are evidence that animal fodder or grains were stockpiled at the site.

Experts in radiocarbon dating, who usually stick close to their laboratories, are also getting their hands dirty. Elisabetta Boaretto, a nuclear physicist at the Weizmann Institute, is a regular participant in digs, where she can be seen on her hands and knees scraping up samples with the rest of the team. "I'm one of the few, if not the only one, in my field who's down in the pits digging," she says. "But it's essential."

While digging in the southeastern area of Tel Megiddo, Boaretto's PhD student Michael Toffolo unearthed a pottery storage jar full of grains of wheat. After carefully photographing and noting the context of the find, he collected kernels in a vial so that they could be sent abroad to a particle-accelerator facility for dating. Boaretto is currently shopping for a particle accelerator for her lab at Weizmann. The machine, expected to cost about \$2 million, should be ready for radiocarbon dating work in 12–18 months. Having an accelerator near to local excavation sites will help to yield results much more quickly, says Boaretto, and her team will be able to supervise samples at every stage from the dig to the accelerator, preventing contamination that could otherwise cast doubt on the analysis.

Boaretto explains that she is on site because an understanding of precisely where samples came from is key to getting the most accurate dating. For instance, wheat grains and pieces of charcoal are often used to date pottery shards found in the same spot. But without seeing the stratigraphy, it is all too easy to miss evidence that the grains or chunks of burnt wood found in a particular layer actually originated elsewhere, making them useless for dating neighbouring samples. And if the carbon sample removed for analysis actually contains material from more than one source, it can throw the dating off completely.

Having scientists on site can help archaeologists to make faster decisions about where to excavate and what samples to collect, and, ultimately, yield more useful analyses. "Scientists in the field may come up with different questions than archaeologists," says archaeologist Joseph Maran at the University of Heidelberg, Germany, who specializes in ancient Greek sites. "It's different from having an archaeologist define the question and then call in a scientist to address that specific issue."

Maran says that the practice of having scientists actually excavating with archaeologists is, to the best of his knowledge, a uniquely Israeli phenomenon. As a small country rich in archaeological sites and with a strong science base, it may be much easier for Israel's scientists to spend extended periods at excavations than for those in other countries, he says.

But Weiner hopes that the collaborative approach will catch on elsewhere. Earlier this year, he published a book, *Microarchaeology: Beyond the Visible Archaeological Record*, about the union of archaeology and analytical science, which he hopes will inspire other digs.

In the past, few scientists have been willing to spend a large amount of time in the field, Weiner says. The key to making the collaboration work, he says, is "matching the right analytical tool to the challenge of revealing the microscopic record without slowing the excavation down enormously".

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**Please visit the site: <http://www.nature.com/news/2010/101130/full/468614a.html>**

## **PAUPERS AND THE PYRAMIDS: 400** **“POOR” BURIALS UNEARTHED NEAR** **GIZA, BY OWEN JARUS**

At a scholarly conference in Atlanta [ASOR] archaeologists announced that the burials of 400 people – dating between 2,700 and 2,000 years ago – have been excavated on the Giza plateau in Egypt.

The discovery was made by researchers with AERA (Ancient Egypt Research Associates), a group led by Mark Lehner that conducts work at Giza. Research shows that these individuals were malnourished and lacked grave goods. The pyramids at Giza were built about 4,500 years ago, so these people would have been buried long after it was constructed.

The burials were found beside a 200 meter long ancient wall called the “Wall of the Crow.” The wall was first constructed in the time of the pyramids and is located just south of the Sphinx. Analysis indicates that these 400 individuals were not well off. “These graves are generally poor, with little or no grave goods, and belong to people on the lower end of the socio-economic scale,” writes archaeologist Jessica Kaiser in a paper she presented at the conference. “There is a high incidence of haematological disorders present in the [bone] material, suggesting a sub-standard diet for this population.”

Curiously the men appear to be in worse shape than the women. “Traumatic injuries (fractures and dislocations) are almost exclusively occurring in the males, suggesting a definite difference in lifestyle between the sexes,” writes Kaiser.

### **An Egypt ruled by foreigners**

The Egypt these people lived in was a very different place than the one that existed at the time Giza’s pyramids were built. Between 2,700 and 2,000 years ago the country was under the sway of a large number of foreign rulers.

Starting in the 8th century BC the country was ruled by Nubian kings who had come from the south in modern day Sudan. Then in 671 BC the Assyrians drove them off, took control of the country, and decided to allow a series of native born rulers (also called the Saite Dynasty) to reign starting with Necho I.

These native rulers did not last. In 525 BC Egypt was conquered again, this time by the Persians. Then In 332 BC Alexander the Great came into Egypt inaugurating a line of Greek rulers. Finally in 30 BC the Roman Emperor Octavian took over after the suicide of Cleopatra – turning Egypt into a Roman province.

### **The Wall of the Crow**

“The Wall of the Crow” is the local name for a 200 meter long wall found just south of the Sphinx. AERA’s work suggests that construction of the wall started at the same time that the pyramids were being built 4,500 years ago.

The area beside the wall has been used as a burial ground for millennia, indicating that the structure had religious importance. The AERA team writes on their website that “the

Late Period (747-525 BC) residents of nearby towns must have considered the area around the Wall of the Crow as sacred ground.”

Giza is not the only Egyptian pyramid complex to be used as a burial ground long after it was constructed. Archaeological work at Seila, a pyramid slightly older than the ones at Giza, indicates that there are nearly one million mummies buried in its vicinity.

“It seems very reasonable to suppose that the pyramid designated that as a sacred place,” Seila Pyramid excavator Kerry Muhlestein said. “Once that place is a sacred place it typically will remain a sacred place.”

**Please visit the site: <http://www.unreportedheritagenews.com/2010/11/paupers-and-pyramids-400-poor-burials.html>**

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## **ARCHAEOLOGISTS: TOMBS DATING BACK TO 5TH MILLENNIUM BC UNEARTHED IN SYRIA**

Archaeological Discovery: Several dolmen tombs dating back to the 5th Millennium BC or the Stone–Copper Age (the Eneolithic Age) have been unearthed in several sites in southern Syria such as Ein Zakkar, Tsil, al-Bakkar and Jibilieh to the west of Daraa, in addition to al-Maysara, southeast Daraa, Syrian Archaeologists said.

The dolmen means "stone table" or the "holy cemeteries". It represents the beginning of human architectural art as the findings indicate that man used this kind of tombs for burial 5,000 years ago.

Archaeologist Yasser Abu Noktah said that the discovered dolmens at al-Maysara Spring consist of roofs with huge flagstones, on which animals' drawings are carved, adding that a number of stone and flint tools were also unearthed at the site.

Al-Maysara site is one of the most important Syrian sites which date back to the Neolithic Age between 7,000 to 4,500 BC. Abu Noktah added the archaeological expeditions have also unearthed several dolmen tombs to the northwest of Enkhil city.

"Other dolmen tombs were unearthed to the northwest of Nawa city where a large number of the Neolithic cemeteries were built," Abu Noktah said.

The tombs were built of rock on double bench with a circular 3- foot height basaltic projection. On the bench a row of upper slabs were built with a height of 10 to 17 cms surrounding a covered chamber with unsymmetrical sides.

Abu Noktah said the tombs which were discovered to the west of Tsil Village consist of two rows of straight irregular polished stones.

Chairman of Daraa Antiquities Department Mohammed Nasrallah said that the dolmen represents the prevailing lifestyle thousands of years ago, adding that his department set up a plan to study these tombs for identifying the food, burial rites and the tools used by man during these ages.

The dolmen is a stone-made burial chamber. Originally, it would have had soil over it in a mound but this has eroded away. It measures about 8-10ft across by 6ft high (2.4-3m by 2m).

**Please visit the site:**

**<http://www.english.globalarabnetwork.com/201011258161/Travel/archaeologists-tombs-dating-back-to-5th-millennium-bc-stonecopper-age-unearthed-in-syria.html>**

**[Go there for pix]**



## **EXCAVATION WORKS ON ANCIENT SHIPWRECK OFF NEA STYRA**

ANA-MPA/Excavation works on a sunken vessel dated to the post Hellenistic era off the resort town of Nea Styra, in the southern Evoikos Gulf separating the mainland and large Evia (Euboea) island, were concluded for 2010.

The ancient vessel was loaded with amphorae, considered extremely interesting, as the cargo, along with wooden remnants. The latter's presence indicates that the vessel also transported high-value products, possibly sculptures in whole or in parts.

Amphorae Brindisi and vases filled with foods and wines, bronze and iron nails and small parts of copper statues of natural size, along with two legs of a day-bed, were collected and lifted from the vessel.ana-mpa

The wreck was located in 2007 at a depth of 40 to 45 metres. Thirty-six divers, researchers, archaeologists, photographers, architects and other experts took part in the underwater excavation.ana-mpa

The research was organised by the Maritime Antiquities Ephorate and the Institute of Maritime Archaeological Research.ana-mpa

Excavation works will continue and in 2011.

**Please visit the site:**

**<http://www.ana-mpa.gr/anaweb/user/showplain?maindoc=9339442&maindocimg=9332094&service=144&showLink=true>**

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## MYSTERIES OF THE PYRAMIDS

Kiwi may have solved mystery of how the pyramids were built Wellington scientist has come up with an explanation that may help solve the question of how the ancient Egyptians built the pyramids.

It has been widely thought massive blocks of stone cut from quarries were dragged to the building sites. But Professor Ken MacKenzie from Victoria University had his doubts, so he tested a small sample of a block from the famous Bent Pyramid, built more than 4500 years ago, at his Lower Hutt lab.

He ground it to powder, put in a spectrometer containing a powerful magnet and spun it at a staggering 12,000 revolutions per second.

From that, he was able to get a sub-atomic analysis of the pyramid block. It showed that rather being solid stone, it was a mixture of several materials, a sort of ancient concrete.

"The concrete that would have been used in this instance, if we call it that, this re-constituted stone, would be the earliest form of concrete we know," said MacKenzie.

The mixture, limestone and silica mixed with water and poured into wooden moulds, would have formed symmetrical blocks after setting.

There could be a modern point to all this research into ancient architecture.

Scientists say that if we could replicate those building techniques and materials today, it would be much better for the environment

Making a tonne of modern cement produces almost the same weight in greenhouse gases.

**Please visit the site: <http://tvnz.co.nz/national-news/kiwi-may-have-solved-mystery-pyramids-3921043?ref=rss>**

## **BURNT CITY WOMAN'S FACE** **RECONSTRUCTED**

A 5,000-year-old female skeleton wearing an artificial eyeball was found in Iran's Burnt City archeological site in December 2006.

Rome's National Museum of Oriental Art has displayed the reconstructed face of a female skeleton which was found in Iran's Burnt City wearing an artificial eyeball.

The reconstructed version of the 5,000-year-old skeleton was unveiled during a ceremony attended by head of Iran's Cultural Heritage, Handicrafts and Tourism Organization Hamid Baqaei and Iran's ambassador to Italy Seyyed Mohammad-Ali Hosseini.

The woman, whose face has been reconstructed by a group of Iranian and Italian researchers, is famous for carrying the first prosthesis to have been used by man, ISNA reported.

This is a great scientific achievement which shows that Persians used innovative medical equipment 5,000 years ago, Baqaei said during the opening ceremony of the exhibition.

The unique discovery was the result of excavations in the Burnt City in 2006, when archaeologists found an artificial eyeball on a 1.82-meter- tall female skeleton, much taller than ordinary women of her time, and dated back to between 2900 and 2800 BCE.

The eyeball had a hemispherical form with a diameter of just over 2.5 cm and was made of very light material. The surface was covered with a thin golden layer, engraved with a central circle to represent the iris.

The eye was held in place with a golden thread, which went through tiny holes drilled on both sides of the eye.

Microscopic studies showed that the eye socket bore imprints of the golden thread, which suggest that the eyeball had been worn during its owner's lifetime.

Italian archaeobotanist and researcher with Rome's National Museum of Oriental Art Professor Lorenzo Costantini said that the face of the artificial eyeball's owner has been reconstructed using computer programs and criminology science.

"Head of the Burnt City archeology team Seyyed Mansour Seyyed Sajjadi greatly contributed to the joint Iranian-Italian project" he added.

The Burnt City is located near the city of Zabol, in the southeastern province of Sistan-Baluchestan and is considered Iran's largest prehistoric site.

Spanning more than 300,000 hectares, the site dates back to 5,200 years ago. Four civilizations have lived in the city which was burnt down three times and not rebuilt after the last fire.

The world's oldest animated picture, a dice and backgammon set, and the earliest known caraway are among the most significant discoveries at the site.

Please visit the site: <http://www.presstv.ir/detail/151936.html> [alas, no relevant pict]

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## **NON-DESTRUCTIVE X-RAY SCANNING OF ARCHEOLOGICAL FINDS, BY JUDY SIEGEL-ITZKOVICH**

Dating archeological finds has long required taking a bit of the artifact to find out how many years ago it lived or was made, and where it originated. But now, by adapting an off-the-shelf portable X-ray lab tool that analyzes the composition of chemicals, Prof. Yuval Goren of Tel Aviv University's department of archeology and ancient Near Eastern civilizations can reveal hidden information about a tablet's composition without damaging the precious ancient artifact. The X-rays also reveal the soil and clay composition of a tablet or artifact, to help determine its precise origin. Based on X-ray fluorescence (XRF) spectrometry, Goren's device can go much further. Over the years, he has collected extensive data through physical "destructive" sampling of artifacts. By comparing this data to readouts produced by the XRF device, he's built a table of results so that he can now scan a tablet – touching the surface of it gently with the machine – and immediately assess its clay type and the geographical origin of its minerals. He says the tool can also be applied to coins, ancient plasters and glass, and can be used on site or in a lab, and plans to make this information widely available to other researchers.

Goren's field intersects the worlds of geology, mineralogy and ancient technology as he tries to understand where ancient tablets and pots were made, based on the crystals and minerals found in these artifacts. "It's become a big ethical question," says Goren. "Many museums will not allow any more physical sampling of artifacts, and it's especially problematic for small tablet fragments and stamps that cannot be broken in the process. I had to find another way to know what these artifacts were made of."

In a recent study published in the Israel Exploration Journal, Goren and colleagues investigated a Late Bronze Age letter written in the Akkadian language, and found among the Ophel excavations in Jerusalem. Its style suggests that it is a rough contemporary tablet of the Amarna letters – written from officials throughout the Middle East to the Pharaohs in Egypt around 3,500 years ago. Using his device, the TAU scientists were able to determine that the letter is made from raw materials typical to the Terra Rossa soils of the central hill country around Jerusalem. This determination helped confirm both the origin of the letter and possibly its sender.

"We believe this is a local product written by Jerusalem scribes, made with locally available soil. Found close to an acropolis, it is also likely that the letter fragment does in fact come from a king of Jerusalem," the researchers reported, adding that it may well be an archival copy of a letter from King Abdi-Heba (a Jebusite king in Jerusalem) to the Pharaoh.

**Please visit the site:**

<http://www.jpost.com/HealthAndSci-Tech/Health/Article.aspx?id=196091>

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## **RESEARCHERS DISPUTE REPORT ON EARLY BUTCHERS, BY SINDYA N. BHANOO**

A report in August that the early ancestors of humans used stone tools to butcher meat at least 3.4 million years ago is being challenged by other researchers, who say that the study misinterpreted cut marks in animal bones.

“They look like cut marks made from stone tools, but they are not,” said Manuel Domínguez-Rodrigo, an archaeologist at the Complutense University of Madrid in Spain and one of the authors of the new report, published in *The Proceedings of the National Academy of Sciences*. “They look very different when you look at them microscopically.”

Microscopic analysis and comparisons with other bones revealed that the markings were more likely scratches caused by animals trampling across the bones, he said.

The first study, by an international team of paleoanthropologists, archaeologists and geologists, including Shannon P. McPherron, an archaeologist at the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany, and Zeresenay Alemseged, an Ethiopian paleoanthropologist at the California Academy of Sciences, proposed that the species *Australopithecus afarensis*, which lived in Ethiopia, Kenya and Tanzania, used stone tools.

The species is best known for a skeleton named Lucy. Because of its large teeth, it was assumed to be primarily vegetarian. But scientists who found the animal bones, a fossilized rib and thighbone, said that the cut marks on it were indisputable evidence that *Australopithecus* was using stone tools to butcher meat about 800,000 years earlier than previously thought.

Though the bones with cut marks were uncovered, no remnants of stone tools were found in the area, Dr. Domínguez-Rodrigo said. This made him and some of his colleagues suspicious. A microscopic analysis of the bones validated their doubts, he said.

That means that scientists must revert back to the previous date for when stone tools were first used to butcher meat, about 2.5 million years ago, he said.

“We must go back to this later date that we had,” Dr. Domínguez-Rodrigo said. “That is the oldest evidence that we can identify for meat consumption by humans.”

**Please visit the site:**

[http://www.nytimes.com/2010/11/16/science/16obbone.html?\\_r=1&scp=1&sq=butchering&st=cse](http://www.nytimes.com/2010/11/16/science/16obbone.html?_r=1&scp=1&sq=butchering&st=cse) [Go there for photo]

## **POMPEIANS FLASH-HEATED TO DEATH—"NO TIME TO SUFFOCATE"**

The famous lifelike poses of many victims at Pompeii—seated with face in hands, crawling, kneeling on a mother's lap—are helping to lead scientists toward a new interpretation of how these ancient Romans died in the A.D. 79 eruptions of Italy's Mount Vesuvius.

Until now it's been widely assumed that most of the victims were asphyxiated by volcanic ash and gas. But a recent study says most died instantly of extreme heat, with many casualties shocked into a sort of instant rigor mortis.

(Related: "Huge Vesuvius Eruption Buried Town 2,000 Years Before Pompeii.")

Volcanologist Giuseppe Mastrolorenzo and colleagues began by analyzing layers of buried volcanic ash and rock, then fed the data into a computer simulation of the Mount Vesuvius eruption.

They concluded that the volcano, some six miles (ten kilometers) from Pompeii, produced six different pyroclastic surges—fast-moving, ground-hugging waves of hot, toxic gases and ash (aerial picture of Pompeii ruins).

Most of the hundreds of fatalities occurred during the fourth surge—the first to reach Pompeii—even though that surge was relatively slow and ash-poor.

Ash-deposit analysis and computer simulations of the surges suggest that Pompeii was at the edge of the flows' reach. That would mean the fourth surge "was too weak to wreck buildings," Mastrolorenzo, of the Italian National Institute for Geophysics and Volcanology, told National Geographic News.

The surge also carried relatively little ash, leaving behind a sediment layer only about an inch (three centimeters) deep, previous sediment measurements have shown.

But during the surge "temperatures outdoors—and indoors—rose up to 300°C [570°F] and more, enough to kill hundreds of people in a fraction of a second," said Mastrolorenzo, who led the study, published in the June 2010 issue of the journal PLoS ONE.

Among the evidence for such fatal temperatures are the team's bone studies. In a lab the researchers heated bone samples of freshly dead modern-day humans and horses, then compared the results to those seen in bones of Pompeian victims of Vesuvius. Specific patterns of color and cracking in the ancient bones, among other features, "proved they were exposed to extreme heat," he said.

In addition, other reports have cited the melting of Pompeian lead-tin silverware, which occurs at about 480°F [250°C], and the telltale charring of wood objects and food as proof of the temperatures during the disaster, according to the new study.

And then there are those death postures. About three-quarters of the known Pompeii victims are "frozen in suspended actions" and show evidence of sudden muscle contractions, such as curled toes, the study says.

"Heretofore archaeologists misinterpreted them as people struggling to breathe and believed they died suffocated by ashes," Mastrolorenzo said. "Now we know that couldn't be."

Because of the extreme heat, "when the pyroclastic surge hit Pompeii, there was no time to suffocate," he said. "The contorted postures are not the effects of a long agony, but of the cadaveric spasm, a consequence of heat shock on corpses."

**Please visit the site:**

<http://news.nationalgeographic.com/news/2010/11/101102/pompeii-mount-vesuvius-science-died-instantly-heat-bodies/>

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## POMPEII'S MYSTERY HORSE IS A DONKEY

Indeed, the identity of the strange breed of 'horse' that has been discovered in 2004, at Pompeii, has been cleared out by a Cambridge University researcher, who realized it was actually a donkey.

Back in 2004, when academics unearthed skeletons found at a house in the ancient Roman town that was covered in ashes in 79 AD, they thought it belonged to an extinct breed of horse.

The mistake was made at the DNA analysis, and Susan Gurney – from the University's Institute of Continuing Education, working with Dr Peter Forster on horse genetics at the University of Cambridge, realized the mistake when she revisited the study.

What happened really was that there seems to have been a mix-up in the lab, which led to horse DNA being combined with donkey DNA, creating an artificial hybrid that actually never existed.

Six years ago, the skeletons of equids having belonged to a rich Roman household in Pompeii were analyzed.

There were found in the stables of a probably wealthy politician, and all five of them were very well preserved by the volcanic ash that covered Pompeii and Herculaneum, when Mount Vesuvius erupted.

The team then analyzed the mitochondrial DNA sequences (mtDNA) of each of the horses, and found that one of them had a mysterious type of DNA, that was no longer found today, probably an unknown breed of horse, which had disappeared.

Luckily, Susan Gurney examined the research and found that there was an accidental combination of a donkey mDNA sequence with that of a horse.

She explained in her journal article that the first 177 nucleotides matched existing patterns of donkey, and the next 193 nucleotides matched those of an existing breed of horse.

“Looking at the research with hindsight, it's possible to recognize two separate strands of horse and donkey DNA,” she said.

"In addition, the horse DNA that appears to have been inadvertently mixed in with the donkey's genetic information is the same type as that found in another Herculaneum horse, which might be the source of the mistake.”

This research could still have its importance, because apparently the DNA of this newly identified donkey finds its closest match with the DNA of domestic donkeys related to the Somali wild ass that lives in Italy today.

This might be evidence that the 'Somali' ass lineage dates back to at least Roman times, whereas in other European countries, asses are often descended from the Nubian lineage.

Susan Gurney wrote in the new issue of the Journal of Cellular Biochemistry.

**Please visit the site:**

<http://news.softpedia.com/news/Pompeii-s-Mystery-Horse-Is-a-Donkey-164598.shtml>

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## **EARLY CONSERVATION EFFORT? 3,400 YEAR OLD WALL FOUND AT GIZA SHOWS THUTMOSE IV TRIED TO PRESERVE SPHINX**

A new discovery made by Dr. Zahi Hawass and his team shows that an ancient pharaoh made serious efforts to save the Sphinx

At Giza his team found the remains of a mudbrick enclosure wall that would have surrounded the Sphinx, perhaps protecting it from sand blown by wind.

Made of mudbrick, the first section runs to the east of the Sphinx for 86 meters north-south and is 75 cm tall.

The second section is 46 meters long, 90 cm in size, and runs east-west along the perimeter of Khafre's valley temple. The two sides converge in the southeast.

Archaeologists are already aware of a wall that runs to the north of Sphinx, now they know that it is part of a larger enclosure.

According to ancient texts Thutmose IV decided to protect the Sphinx because of a dream he had.

“According to ancient Egyptian texts the construction of this wall was the result of a dream which Thutmose had after a long hunting trip in Wadi El-Ghezlan (Deer Valley), an area next to the Sphinx. In the king's dream, the Sphinx asked the king to move the sand away from his body because it choked him. For this favor, the Sphinx promised to make Thutmose IV King of Egypt,” reads the Supreme Council of Antiquities press release.

The remains of Khafre's Pyramid settlement?

While conducting work at Giza, the team also found a mudbrick wall on the eastern side of Khafre's valley temple. While a modest find it could have been part of something grander.

“This wall could be the remains of Khafre's pyramid settlement, which was inhabited by priests and officials who oversaw the activities of the mortuary cult of Khafre. This cult began at the king's death and continued until the eighth dynasty (ca. 2143-2134 BCE), which was the end of the Old Kingdom,” reads the statement.

It appears that this settlement was abandoned by the time of the Middle Kingdom (starting 2,000 BCE).

The team dug a six meter deep trench in the area in front of Khafre's valley temple. In the portion dating to the Middle Kingdom they found only sand.

Today, one of the main dangers to the Great Sphinx is the rising ground water levels. How do you keep the Great Sphinx's paws dry? Eight pumping stations were installed around the Sphinx and its associated temples that continue to remove 7,000 cubic meters of water every day. Since its activation the system has reduced the groundwater level by about a meter, nearly eliminating the water that had gathered around Khafre's Valley Temple and reversing the threat. Efforts to eliminate the threat altogether continue.

Learn more in this Heritage Key video about drilling under the Great Sphinx, featuring Dr Mark Lehner and Dr Zahi Hawass.

**Please visit the site:**

**<http://heritage-key.com/blogs/owenjarus/early-conservation-effort-3400-year-old-wall-found-giza-shows-thutmose-iv-tried-pres>**

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## **ARMENIAN ARCHAEOLOGISTS: 5,900- YEAR-OLD SKIRT FOUND**

YEREVAN, Armenia -- An Armenian archaeologist says that scientists have discovered a skirt that could be 5,900-year-old.

Pavel Avetisian, the head of the Institute of Archeology and Ethnography in Yerevan, said a fragment of skirt made of reed was found during recent digging in the Areni-1 cave in southeastern Armenia. Avetisian told Tuesday's news conference in the Armenian capital that the find could be one of the world's oldest piece of reed clothing.

Earlier excavation in the same location has produced what researchers believe is a 5,500-year-old shoe, making it the oldest piece of leather footwear known to researchers.

Boris Gasparian, an Armenian archaeologist who worked jointly with U.S. and Irish scientists at the site, said they also found a mummified goat that could be 5,900-year-old, or more than 1,000 years older than the mummified animals found in Egypt.

**Please visit the site:**

<http://www.washingtonpost.com/wp-dyn/content/article/2010/10/26/AR2010102604184.html>

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