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Πληροφοριακό Δελτίο της Ελληνικής Αρχαιομετρικής Εταιρείας

- Ιανουάριος 2005 -

ΧΡΟΝΙΑ ΠΟΛΛΑ ΚΑΙ ΚΑΛΗ ΧΡΟΝΙΑ
HAPPY NEW YEAR

Newsletter of the Hellenic Society of Archaeometry

- January 2005 -

Nr. 47

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ΣΥΝΕΔΡΙΑ - CONFERENCES/WORKSHOPS

**THIRD FORBES SYMPOSIUM ON
SCIENTIFIC RESEARCH IN THE FIELD
OF ASIAN ART, "STUDIES OF THE
SCULPTURAL ARTS OF ASIA USING
SCIENTIFIC METHODS"**

Freer Gallery of Art, Washington, D.C., September 2005

Final call for papers

In September 2005, the Freer Gallery of Art will hold the Third Forbes Symposium on Scientific Research in the Field of Asian Art in Washington, DC. The theme will be "Studies of the Sculptural Arts of Asia using Scientific Methods", and will focus on the impact of scientific methods of study on broader questions of a technical, historical, or art historical nature.

Those interested in giving a paper are invited to submit an abstract (approximately 200 words) on original, previously unpublished research by 31 January 2005. Notifications of acceptance will be sent by 15 March 2005. Speakers should plan a 25-minute presentation and submit a manuscript (3000-4000 words) at the time of the symposium. Funding to offset speakers' travel expenses will be available.

December 12th to 15th 2005
Contact: Forbes Symposium 2005/DCSR
Freer Gallery of Art/Arthur M. Sackler Gallery
Smithsonian Institution
MRC 707
P.O. Box 37012
Washington D.C.
20013-7012, U.S.A
Fax: 202-633-9474
email: dcsr@asia.si.edu

Please check the symposium website at:
<http://www.asia.si.edu/visitor/dcsrSymposium.htm>.

LSC 2005 CONFERENCE "ADVANCES IN LIQUID SCINTILLATION SPECTROMETRY"

Katowice, Poland, October 17th -21st , 2005

1st Circular

Welcome

It is with a great pleasure the Central Mining Institute welcomes you to attend LSC 2005 Conference. It will be organized in Katowice, a capital city of Upper Silesia, Poland. The meeting will be held in October, 17th – 21st 2005. Come join us to present your achievements, to learn the latest developments of our colleagues and to enjoy the traditional hospitality of Polish people.

General

The main goal of the Conference is to provide a forum for all scientists, working in areas related to Liquid Scintillation Counting and Spectrometry (LSC). One of the objectives of the Conference is to enable and promote the exchange of information among scientists, develop future directions in LSC and give the opportunity to meet old and new friends. We would like to pay particular emphasis on the environmental studies and applications. Participation of young scientists and students is highly encouraged.

Tentative topics:

- Instrumentation and methods;
- Data evaluation;
- Quality assurance;
- Applications in environmental monitoring;
- Scintillators and development in scintillator components;
- Natural & artificial radionuclides in LSC;
- Applications in radiocarbon dating;
- Applications in bioassay and medicine;
- Data evaluation and spectrum analysis;
- Radionuclides in nuclear materials and waste matrices;
- LSC in decommissioning and remediation studies;
- Instrumental alpha & beta spectrometry (**not only LSC**).

Tentative Conference Timeline:

September 2004 – preliminary circular, call for papers, e-mail account open for abstract submission (lsc@gig.katowice.pl),

15th of April 2005 – deadline for abstract submission

15th of June 2005 – preliminary programme, 2nd circular

15th of September 2005 – submission of full texts for CD proceedings, final programme,
3rd circular

17th – 21st of October 2005 – the conference, Katowice, Poland

Contact - Secretary of the Conference:

Malgorzata Wysocka

(+48-32) 2592382, fax (+48-32) 2585979

lsc@gig.katowice.pl (preferably), m.wysocka@gig.katowice.pl,

Chair of the Scientific Committee

Stanislaw Chalupnik s.chalupnik@gig.katowice.pl

(+48-32) 2592815, fax (+48-32) 2585979

Postal address

**LSC2005 Laboratory of Radiometry
Central Mining Institute
40-166 Katowice
Pl. Gwarkow 1, POLAND**

Call for papers

You are welcome to submit papers, related to mentioned above tentative topics. If you are interested in presenting such contribution, please, prepare an abstract and send it to the Secretary of the Conference before 15th of April 2005. Abstract must be written in English, not more than 400 words. The preferred letter font is "Times New Roman" and the recommended font size is 12-point. The title should be in 14-point and in bold, capital letters. Within paragraph the text must be 1.5 lines spaced. Please leave two blank lines between the title and the names(s) of the author(s) and one blank line between the author(s) name(s) and address(s) (all in normal letters). Leave two blank lines before starting the text. Give the name(s), affiliation(s), and full address(es) of author(s) including e-mail address of the main author. Underline the name of the author presenting the paper. All abstracts will be revised. If major revision is requested by reviewers, the contribution will be returned for improvement prior to acceptance. Therefore you are encouraged to mail your contribution before the deadline. Contributions with unrestricted length will appear in electronic proceedings. The deadline for these papers is 15th of September 2005. Papers will be revised, too. We will need two files with your contribution – one Word file to use it for proceedings and pdf (Adobe Acrobat) file to be sent for the review.

Technical issues

Scientific Committee of the LSC 2005 Conference

Chairman

Stanislaw Chalupnik

GIG Katowice, Poland

Members

Joan Albert Sanchez-Cabeza	IAEA
Philippe Cassette	France
Jost Eikenberg	Switzerland
Alan Hogg	New Zealand
Chang Kyu Kim	Korea
Siegurd Möbius	Germany
John E. Noakes	USA
Kunio Omoto	Japan
Anna Pazdur	Poland
Chin-Tzu Peng	USA
Laina Salonen	Finland
Franz Schönhofer	Austria
Nora Vajda	Hungary
Gabrielle Voigt	IAEA

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Web Page Maintenance:

Małgorzata Grabowska

m.grabowska@gig.katowice.pl

Programme of the Conference:

We intend to organise oral sessions and poster presentations. Contribution's authors are requested to express their interest. The division into panels will be done after submission and acceptance of abstracts. The programme will be presented in the 2nd Circular.

Proceedings:

We plan to print only abstracts with length up to 400 words before the Conference. All papers, also with unrestricted length will be included in electronic proceedings. The distribution of CD will be done during conference. We plan to publish proceedings of LSC 2005 as a special edition of Radiocarbon. The agreement with Radiocarbon has been already signed, requirements concerning full text submission for publishing will be included into second circular.

Call for participation

All scientists, dealing with problems related to the LSC and alpha/beta spectrometry, are encouraged to participate in LSC 2005 Conference. We promise you traditional Polish hospitality and very beautiful surroundings. Scientific quality of the meeting is on YOU....

Registration

A preliminary circular, already mailed to many colleagues, is presented at the previous page. You can make the registration through e-mail (lsc@gig.katowice.pl) as well as by ordinary mail. Online registration is available at our web site: <http://www.gig.katowice.pl> (click the banner described as LSC 2005).

Please, send us abstracts as soon as possible – thanks in advance.

Conference fees

Early registration (before 15 th of April 2005) 500 Euro

After 15 th of April 2005 550 Euro

During conference 600 Euro

Students (early/normal) 150/200 Euro

Accompanying person (early/normal) 350/400 Euro

Conference Venue

LSC 2005 Conference will be held in Qubus Hotel, in the downtown of Katowice. Katowice is a capital city of Silesia (ϵ 1¹ sk, southern Poland), with a relatively good communication possibilities by planes, cars of trains.

Several hotels are located in the vicinity of Qubus Hotel, giving a possibility to choose the one suits you. More information can be found at web site:

http://www.hotelfinfoland.com/hotel_qubus_katowice.htm

Hotel Qubus Hotel Prestige Katowice

Location

ul. Uniwersytecka

13, Katowice

Katowice

City Center

Qubus Hotel Prestige is a recently opened four-star hotel, located in the centre of Katowice, not far from the popular “flying saucer” sports hall and the old town, as well as local government offices and cultural and financial institutions of the Silesian provincial capital.

Conferences

There are also 7 conference and banqueting rooms at the disposal of hotel guests, which have been professionally prepared for meetings, conferences, and various functions. The fully air-conditioned conference centre has rooms of various sizes, ranging from 48 do

205 m² . The total area of these rooms is over 590 m² , and they are able to accommodate up to 600 people.

Central Mining Institute
40-166 Katowice
Pl. Gwarkow 1, POLAND

See You There!
Katowice, Poland – October 17 th -21 st , 2005



HISTORICAL METALLURGY SOCIETY (HMS) CONFERENCE, WENSLEYDALE, NORTH YORKSHIRE, 9-11 SEPTEMBER 2005

In 2005 the Historical Metallurgy Society (HMS) conference will be held in Wensleydale, North Yorkshire, 9-11 September, based in Middleham. All lectures and meals will be at the Key Centre in the middle of the township which provides a wide range of accommodation. Delegates are expected to book their own accommodation - however, the area can be busy in September and early booking is advisable. For details of accommodation on the Internet go to <http://www.middlehamonline.com> where you will also find information on the conference venue.

The conference theme will focus on lead/silver smelting and refining, with the opportunity to review work done since the 'Boles and Smelting' conference in Swaledale in 1992, but we are also looking for papers on iron metallurgy, and associated subjects, related to the Yorkshire Dales area. Offers of papers, help in organising field trips or any enquiries regarding the conference should be sent to Dr Peter Cloughton, Blaenpant Morfil, Clynderwen, Pembrokeshire, Wales SA66 7RE - e-mail: P.F.Cloughton@exeter.ac.uk

A conference booking form will be circulated to members with the HMS newsletter in Spring 2005. Non-members should contact me, as above, and I'll make sure they receive a form when available.

Peter

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E-mail: P.F.Cloughton@exeter.ac.uk

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

METALLURGY - A TOUCHSTONE FOR CROSS-CULTURAL INTERACTION, BRITISH MUSEUM, LONDON, 28TH APRIL - 30TH APRIL 2005

The preliminary programme and registration form for the conference are below. Future updates to the programme, registration details and information on hotels will be posted on the conference web site. We may not be sending further mailings so please refer to the web site. www.thebritishmuseum.ac.uk/whatson/events/conferences.html

We have had a wonderful response to the call for papers – more than 120 have been offered for presentation at the conference. To accommodate as many as possible, as well as oral presentations, we will be having two poster sessions, with time allocated in the programme for viewing. The papers which have been selected for oral presentation are those which fit best into the session themes.

Venue

The conference will be taking place in the BP lecture theatre in the Clore Centre at the British Museum, Great Russell Street, London and will take three full days, Thursday 28th April – Saturday 30th April, with the Conference Reception on the final evening.

Evening lectures and receptions

The main Conference Reception for delegates will take place in the Enlightenment Gallery at the British Museum on Saturday evening. We are delighted to announce that on the evening of Thursday 28th April there will be talks by Robert Maddin and Paul Craddock, followed by a reception in the Clore Centre in the British Museum

Information for speakers.

The time allotted for oral presentation will be 15 minutes, with 5 minutes for questions. The Clore centre is fully equipped for slide presentations, PowerPoint and overhead projection (please let us know well before the conference if you have any special requirements). Please could you ensure that your co-authors receive the conference information as we do not have all their email addresses.

Information for poster presentations

See below

Publication

A selection of the conference papers will be published in a peer reviewed volume in honour of Paul Craddock. Further details of this to follow.

We look forward to seeing you in April.

Susan La Niece

Duncan Hook

Nigel Meeks

metals@thebritishmuseum.ac.uk

Metallurgy – a touchstone for cross-cultural interaction, The British Museum
28th – 30th April 2005

REGISTRATION FORM

Title _____ Last Name _____ First Name _____

Institution (for name badge) _____

Mailing Address _____

City _____ State _____ Postal Code _____ Country _____

Contact Tel. _____ Fax No. _____

E-mail _____

Please tick if you have special needs. Attach a written description of the assistance you would need to participate fully.

Registration Fee (please tick one box)

Full rate £130 inc. VAT (£145 after 25th March 2005)

Students and BM Friends £75 inc. VAT
(*Students apply with letter from your supervisor/tutor*)

In addition, a limited number of bursaries are available to students – apply with a letter from your supervisor/tutor to slaniece@thebritishmuseum.ac.uk

Payment

My cheque or money order payment to “The British Museum” is enclosed in the amount of £ _____ (marked on the reverse ‘Metallurgy Conference’)

Please bill my credit card in the amount of

£ _____

MasterCard

Visa

Card Number _____ Expiration Date ____/____

Name of Card Holder (print as on card) _____

Signature _____

Please mail form to: Box Office, The British Museum, London WC1B 3DG, UK
Or FAX to: 00 44 20 7323 8616

PRELIMINARY PROGRAMME (December 2004)

Oral Presentations:

(Note: affiliation given is of first author only)

Early metallurgy

E. Pernicka - Institut für Archäometrie, Technische Universität Bergakademie Freiberg; *Copper production and distribution in Central Europe from the Neolithic to the Late Bronze Age.*

D. Bourgarit, B. Mille, A. Burens & L. Carozza - CNRS, Palais du Louvre, Paris; *Chalcolithic copper smelting.*

J.D. Muhly - American School of Classical Studies, Athens; *The First Use of Metal on Minoan Crete.*

Noel H. Gale & Zofia Anna Stos-Gale - University of Oxford, Isotrace laboratory; *Cross-cultural Minoan networks and the development of metallurgy in Bronze Age Crete.*

Lloyd Weeks - Peabody Museum, Harvard University; *Coals to Newcastle and copper to Oman: compositional and lead isotope studies of the Persian Gulf metals trade.*

A. Hauptmann, R. Eichmann, L. Khalil & K. Schmidt - Deutsches Bergbau-Museum; *Timna again – a view from the East.*

R. Müller, G. Goldenberg, M. Kunst, M. Bartelheim and E. Pernicka - University of Mining and Technology, Freiberg; *The beginnings of metallurgy in south-central Portugal: archaeometallurgical investigations at Zambujal.*

T.M. Mighall, S. Timberlake, S. Singh, J.P. Gentry, J.P. Grattan & M. Bateman - Coventry University; *Palaeo-pollution records from peat bogs: recording the history of mining and metalworking in the British Isles.*

Roberto Maggi & Mark Pearce - Direzione regionale archeologici, Genova; *Ore and pasture: the discovery of new resources.*

Barbara S. Ottaway & Ben Roberts - University of Exeter; *Innovation, acceptance, tradition: the emergence of metallurgy in Europe.*

Stuart Needham - Prehistory and Europe, The British Museum; *Recycling and axes of affinity in Bronze Age systems of metal-use.*

Alessandra Giumlia-Mair, Marco Pacciarelli, Tiziano Trocchi & Patrizia von Eles - AGM Archeoanalisi, Merano; *The metallurgy of Villanovan centres in the Po Plain.*

Alexander Veldhuijzen & Thilo Rehren - Institute of Archaeology, University College, London; *Early Iron in the Near East: 900 BC iron smelting at Tell Hammeh (az-Zarqa), Jordan, and its regional context.*

Technology and innovation

Jack Ogden - Gemmological Association, Gem-A, London; *5000 years of copper in the goldsmith's workshop.*

Barbara Armbruster & Alicia Perea - CNRS University of Toulouse; *Rotary motion tools and techniques for gold metallurgy during Late Prehistory in the Iberian Peninsula.*

Peter Northover & Chris Salter - University of Oxford; *Copper in the Industrial Age.*

Simon Timberlake - University of Coventry; *The use of experimental archaeology/archaeo-metallurgy as a tool in the understanding and reconstruction of Early Bronze Age mining and smelting technologies.*

Justine Bayley & Thilo Rehren - English Heritage Centre for Archaeology; *A functional and typological classification of crucibles.*

Peter Crew & Michael Charlton - Snowdonia National Park Study Centre; *The anatomy of a furnace.*

Gerry McDonnell - University of Bradford; *Evidence of the transition from bloomery to blast furnace, at Rievaulx Abbey, North Yorkshire.*

Sarah Paynter - English Heritage Centre for Archaeology; *Continuity and change in bloomery iron smelting in England.*

Asian interactions

Vincent C. Pigott - Institute of Archaeology, University College London; *On the origins of metallurgy in Prehistoric Southeast Asia: the view from Thailand.*

Elizabeth G. Hamilton & Samuel Nash - University of Pennsylvania Museum of Archaeology and Anthropology; *The development of metallurgy in Prehistoric NE Thailand: 2000 years at Ban Chiang.*

Jianjun Mei - Institute of the History of Metallurgy and Materials, University of Science and Technology, Beijing; *Early cross-cultural interaction as evidenced by discoveries of bronze mirrors in Xinjian, Northwest China.*

Liudmila V. Konkova - Russian Academy of Sciences, Vladivostok; *Early Medieval bronzes from Russian Far East as a source for ethnic and cultural information.*

Sharada Srinivasan - Indian Institute of Science, Bangalore; *Investigating martial arts swords from Kerala, India.*

Susanne Gänsicke & Richard Newman - Museum of Fine Arts, Boston Massachusetts; *Silver vessels and golden phoenixes: luxury goods from China. A technical Study of precious metal from the Tang through Liao Dynasties at the Museum of Fine Arts, Boston.*

Koichi Ueda - Mining and Materials Processing Institute of Japan, Kumamoto City; *Introduction of cupellation technology from Korea to Japan in the first half of 16th century.*

Donald B. Wagner - Nordic Institute of Asian Studies, Copenhagen; *Some Chinese steelmaking techniques.*

Michael L. Wayman & Carol Michaelson - University of Alberta; *Early Chinese iron from the British Museum collections.*

Alan Williams - Wallace Collection, London; *Crucible steel in Medieval swords.*

Ryndina Natalia Vadimovna & Ravich Irina Grigorievna - Moscow State University; *The role of Anterior Asia in the inception and development of metal production within the Maikop Culture of the Northern Caucasus.*

Zinc & Brass

Gerd Weisgerber - *Roman brass ingots from the Mediterranean.*

Christopher P. Thornton - University of Pennsylvania Museum of Archaeology and Anthropology; *Of brass and bronze in the Greater Near East.*

Janka Istenič - National Museum of Slovenia, Ljubljana; *The beginning of the use of brass in Europe with particular reference to the south-eastern Alpine region.*

Ignacio Montero-Ruiz & Alicia Perea - Instituto de Historia, Madrid; *Brasses in the early metallurgy of the Iberian Peninsula.*

CHEN Jianli, LI Yanxiang, BAO Wenbo, WU Xiaohong, LIU Haiwang & HAN Rubin - Peking University, Beijing; *Chronological and metallurgical studies for the zinc smelting ruins at Yangliusi site, Fengdu County, Chongqing.*

Aryeh E. Shimron, Irena Segal & Yoetz Deutsch - Geological Survey of Israel, Jerusalem; *Metallography of zinc metal from a tomb in the ancient cemetery of Khirbet Qumran on the Dead Sea.*

Lalit K. Gurjar & Paul Craddock - Hindustan Zinc, Udaipur; *India and the discovery of zinc production.*

Brian Newbury, Bruce Stephenson, Michael Notis, G. Slade Cargill, Brian Stephenson & John Almer - Lehigh University, Pennsylvania; *Evidence for use of metallic zinc in brass astrolabe production in Lahore.*

African metal production and trade

Duncan Miller - University of Cape Town, Rondebosch; *Tin and bronze in the Late Iron Age of southern Africa.*

David Killick & Thomas Fenn - University of Arizona; *Metallurgy on the Swahili Coast, c. 700-1500 CE: technology transfer within an Islamic world system.*

Laurence Garenne-Marot, Caroline Robion & Benoît Mille - *Copper-based metal in the Inland Niger Delta (Mali, West Africa). Metal and technology at the time of the Mali Empire.*

Thilo Rehren, Michael Charlton, Shadreck Chirikure; Jane Humphris, Akin Ige, Andrew Reid & Alexander Veldhuijzen - Institute of Archeology, University College London; *The human factor in African iron slag: variability, homogeneity and the role of choice.*

M.F. Guerra and M.R. Cowell - CNRS, Palais du Louvre, Paris; *Tracing the West African gold from the 8th to the 17th century AD.*

Poster Presentations

(Note: affiliation given is of first author only)

Meg Abraham, Lynn Swartz Dodd, Fen Claudia Zhang, Ashley Sands and Bradley Parker - Oxford University; *Tests on a Middle Bronze Age furnace from the Upper Tigris River.*

Rosa Maria Albanese Procelli, Alessandra Giumlia-Mair and Fulvia Lo Schiavo; *The Sicilian BA-IA Necropolis of Madonna Del Piano: finds and analyses.*

Carlos Ignacio Angiorama - Instituto de Arqueología y Museo, Universidad Nacional de Tucumán, Argentina; *Inca Conquest and Metallurgy in Los Amarillos (Quebrada de Humahuaca, Jujuy, Argentina).*

Adrien Arles, Paolo Piccardo and Florian Tereygeol - Laboratoire Métallurgies et Cultures, Belfort France; *Coins: minting before the introduction of the screw press.*

Barbara Armbruster, Konstantin Čugunov and Hermann Parzinger - CNRS, Université Toulouse le Mirail; *On the art of the early Scythian goldsmith. Technological aspects of the gold from the kurgan Aržan 2 in Tuva, Siberia.*

Bedini, S. Sciuti, M. Piacentini, J. Polakova, I.A. Rapinesi and D. Ferro - Ministero per i Beni e le Attività Culturali, Rome; *Gold Reflexes in a Silver Mirror.*

Brigitte Cech, Hubert Presslinger and Georg Walsch - Institute for Prehistory, University of Vienna; *Interdisciplinary research on Ferrum Noricum – Celtic and Roman iron production in Hüttenberg, Carinthia, Austria.*

Claudia Chemello - Smithsonian Center for Materials Research and Education; *Study of Roman copper-alloy objects (1st-3rd century) from a military fort at Diospolis Parva, Egypt.*

Anastasia Cholakova - Institute of Archaeology, Sofia, Bulgaria; *Recent Research on Metal working in Nicopolis ad Istrum, North Bulgaria.*

Peter Cloughton, Sarah Paynter and Trevor Dunkerley - Centre for South Western Historical Studies, University of Exeter; *Residues from 16/17th century lead/silver smelting at Combe Martin, North Devon.*

C. Colombo, Laura Rampazzi, Marco Realini and Antonio Sansonetti - Istituto per la Conservazione e Valorizzazione dei Beni Culturali, Milan; *Thin lead sheet in the decorative features in Pavia Charterhouse.*

V. Costa and S.C. Lima - University of Sao Paulo, Brazil; *Structural examination of metallic artifacts from pre-Columbian South America.*

L. Costantini, P. D'Amore, D. Ferro, S. Strika and V. Virgili - Museo Nazionale di Aite Orientale, Roma; *Scientific Investigation on the Granulation Technique of Ancient Jewellery in Oriental Areas.*

Antoine Courcier - Université de Paris, France; *New researches in extractive metallurgy in the Caucasus during the Chalcolithic and Early Bronze Age.*

Massimo Cultraro - Istituto IBAM, Catania, Italy; *Lemnos before Hephaistos. Metalworking and technological interactions in the Northern Aegean during the Third Millennium BC.*

P. Dillmann, A.M. Desaulty and P. Fluzin - CNRS, France; *Archaeometallurgical investigations on the early blast furnace and refinery site of Glinet (France), 16th century.*

Howell G.M. Edwards, Susana E. Jorge Villar, Ian J. Scowen and Tasnim Munshi - University of Bradford; *Burnished Mosaic Gold: An ancient technology revisited using Raman spectroscopy.*

Seyed Mohammadamin Emami - Parse Pasargadae Research Foundation (PPRF), Shiraz; *Some new excavations in archaeometallurgy and ancient mining at the Achaemenian period in Takht-e-Djamshid, Shiraz.*

Natasha Eniosova and Thilo Rehren - Moscow State University; *Metal melting crucibles form medieval Novgorod.*

Katherine Eremin, Ulrike Al-Khamis, Henry Lie, Richard Newman and Michelle Derrick - National Museums of Scotland, Edinburgh; *India or Iran? Dilemmas in late 15th to 17th century Islamic metalwork.*

Jui-Lien Fang, and G. McDonnell - Bradford University; *The cold-working and hot-working properties of high-tin bronze.*

Elin Figueiredo, Maria de Fátima Araújo and Ana Ávila de Melo - Instituto Tecnológico e Nuclear, Sacavém, Portugal; *EDXRF studies of prehistoric metal artefacts from “Castro de Pragança” (Estremadura, Portugal).*

Laurence Garenne-Marot; *Occurrence of the process of mould-cum-crucible in the lost-wax (cire-perdue) casting technique in West Africa: Independent innovation or importation?*

Brian Gilmour - University of Oxford; *East meets West: some evidence for iron and steel working in different regions from medieval written sources of Europe and the Near East.*

G. Giovannelli, B. Bozzini, C. Pagliara, S. Natali - Università di Roma; *A Metallurgical study of the Gold Disk of Redù.*

Jonathan Golden - Drew University USA; *Technological Milieu and the Rise of Metallurgy in the southern Levant.*

Janet Goldner - New York; *Forging connections: Art and life in Mali.*

Luis R. González, Edgardo D. Cabanillas, Tulio A. Palacios and María R. Eppis - Museo Etnográfico, Universidad de Buenos Aires, Argentina; *Prehispanic bronze discs from north-western Argentina.*

Jean Gran-Aymerich and Almudena Dominguez Arranz - CNRS-ENS, Paris; *A new metallurgical workshop from the Orientalizing Period in Southern Etruria. La Castellina, South of Civitavecchia, Province of Rome.*

Elisa M. Grassi - Università Cattolica del S. Cuore, Milano, Italy; *Evidence for metalworking from a Roman suburban settlement.*

M.F. Guerra - CNRS, France; *Is it Etruscan? Study of the Campana collection gold jewels by combining SEM and IBA.*

Eva Hjärthner-Holdar and Christina Risberg, UV, Geoarchaeological Laboratory, the National Heritage Board; *A new look at the innovation of iron.*

Jiří Hošek & Alena Šilhová - Institute of Archaeology, CAS Prague; *Pre-conservation research of metallic objects from the 10th century grave of a warrior from Kanín (Bohemia).*

V. Imbeni, C. Martini and G.L. Garagnani - University of Bologna, Italy; *Bronze artifacts from the 'Terramare' culture (XVI-XII century B.C.).*

Ralph Jackson, Duncan Hook and Susan La Niece - The British Museum; *The power of the tools: inlays, innovation and ingenuity in the manufacture of Roman surgical instruments.*

Arne Jouttijärvi - Virum, Denmark; *Roman metalwork in Danish votive offerings.*

G. Juleff and G. Tabor - University of Exeter; *Application of computational methods to the analysis of pre-industrial metallurgy.*

Tobias L. Kienlin - Johann Wolfgang Goethe-Universität, Frankfurt am Main, Germany; *Arsenical copper and tin bronze during the Eneolithic and Early Bronze Age: a metallographic examination of axes from the north alpine region.*

W. Kockelmann, L.C. Chapon, R. Linke, R. Traum, M. Schreiner, E. Pantos, R. Garner, A.J.N.W. Prag, G. Artioli, G. De Marinis and S. Siano - Rutherford Appleton Laboratory, ISIS Facility, Chilton, UK; *Non-Invasive texture analyses of metal objects at ISIS.*

Anne Lehoërff - Université de Lille 3, France; *The technology of leggings from the hoard of Cannes-Ecluse (France, Seine-et-Marne).*

C. Mapelli, W. Nicodemi and R. Venturini - Politecnico di Milano, Italy; *Updating of the metallurgical investigations on two spears of III-I century B.C. found in Central Italy.*

Marcos Martín-Torres, Thilo Rehren and Bill Sillar - Institute of Archaeology, University College London; *The Triangular Crucible: A Renaissance melting pot of alchemy, chemistry and metallurgy.*

F. Mathis, M. Aucouturier, S. Descamps, E. Delange - CNRS, Palais du Louvre, Paris; *Non destructive in-depth profile analysis of ancient patina. A necessary step for understanding their history*

Nigel Meeks and Judith Swaddling - The British Museum; *Acheloos-head pendant and chain, Etruscan goldsmith's work?*

Valeria Meirano - Università di Torino, Italy; *Bronze knucklebones-boxes. New evidence from ancient Lokroi Epizephyrioi (Southern Italy).*

John F. Merkel - Institute of Archaeology, University College London; *A report on Imperial Roman production of lead and silver in Upper Moesia (Serbia and Montenegro).*

Nicolas Monteix and Michel Pernot - CNRS / Université de Provence et Université Bordeaux ; *Some features of the lead craftsmanship in Pompeii and Herculaneum.*

Rossitsa Nenova-Merdjanova - Norwich, UK; *From Bronze to Silver and Gilt (On the transformation of the Roman bronze vessels in Late Antiquity).*

Barbara Niemeyer - Staatliche Museen zu Berlin; *Results of the technological investigation on the Athena bowl of the Hildesheim silver treasure, including the analyses of the parcel-gildings.*

Nicole Poissonnier; *The acquisition of metal working skills and softening of a traditional taboo: An example from the Bashada in south-western Ethiopia.*

Suzanne Preston Blier and Allen Whitehill Clowes - Arthur M. Sackler Museum, Harvard University; *Trophy Heads: metallurgy and meaning in ancient Ife portrait arts.*

Bénédicte Quilliec - Université, Nanterre, France; *Ewart Park and Carp's Tongue swords: production techniques behind typology.*

Salvador Rovira-Llorens, Marc Gener, Ignacio Montero-Ruiz and Francisco Rodríguez-Vinceiro - Museo Arqueológico Nacional, Madrid; *Evolution of the technological features of cutting edges in prehistoric axes.*

S. Rubinson and G. McDonnell - Bradford University; *An investigation into the corrosion mechanisms of phosphoric iron.*

C.J. Salter - Oxford University; *The identification of Calcium Ferrite slag in Bronze Age copper smelting.*

C.J. Salter - Oxford University; *Early steel in Britain – introduction, production, and use.*

S. Salvatori, M. Vidale, E. Masioli, G. Guida, G.M. Ingo and S. Caropreso - IsIAO, Treviso, Italy; *Protohistoric metallurgy at Ilgynly-Depe (Turkmenistan, c. 3800-3200 BC) and its place in the evolution of the central Asian picture.*

Irena Saprykina and Robert Mitoyan - Institute of Archaeology, Russian Academy of Sciences and Geochemical laboratory, Moscow State University; *Non-ferrous metalworking in the Volga – the Oka Rivers watershed in the Early Iron Age.*

Giovanna Saviano, Ferdinando Felli and Luciana Drago - Università degli Studi di Roma “La Sapienza”; *Metallurgy in southern Etruria: data from Veii funerary goods and Pyrgi sanctuary.*

Deborah Schorsch - Metropolitan Museum of Art, New York; *Etruscan bronze disks—manufacture and function.*

R. Schwab, E. Pernicka and S. Sievers - Institut für Archäometrie, TU Bergakademie Freiberg, Germany; *Scrap metal economy in Celtic oppida.*

Aaron N. Shugar and Christopher J. Gohm - Smithsonian Center for Materials Research and Education; *Archaeometallurgy and Radiometry in the ‘Ghassulian’ Chalcolithic: Tracking changes in compositional trends from the 5th to 4th millennium cal B.C.E.*

R. Slater, G. McDonnell and J. Cowgill - Bradford University; *The metallurgy and technology of 12th/13th C AD wire fish hook manufacture.*

A. Swiss and G. McDonnell - Bradford University; *Evidence and interpretation of cold working in ferritic iron.*

Jim Tate, Katharine Eremin, George Dalglish and Fiona Slattery - National Museums of Scotland, Edinburgh; *Scottish pewter: the poor relative?*

Florian Tereygeol, Arnaud Clairand and Peter Horn - IRAMAT, CEA-CNRS, Saclay, France; *Importance of Melle’s mining for silver coin minting between the VII and the X centuries: contribution of lead isotopic analyses.*

Pedro Valério, Maria Fátima Araújo, João Carlos Senna-Martinez and João Luís Inês Vaz - Instituto Tecnológico e Nuclear, Sacavém, Portugal; *Non-invasive EDXRF analysis of artifacts from Baiões/Santa Luzia Late Bronze Age metallurgy.*

C. Vlachou-Mogire - Numismatic Museum, Athens; *Silver amalgam plating: a new integrated approach.*

Ulrich Weser and Hans-Jürgen Hartmann - Eberhard-Karls-Universität Tübingen, Germany; *Galena and lead dross used in ancient medicine.*

Rachel Ward, Paul Mullarky and Susan La Niece – British Museum and National Museum of Ireland; *Cross dressing – the oriental mode.*

Preparation of poster presentations

- The Conference display boards are 110 cm square, and are suitable for A0 size poster
- Fixing materials will be provided.
- Please include on the poster a passport size photograph of the author(s) present at the meeting.
- Handouts in the form of A4/A3 copies of the poster are often appreciated by delegates.

The following suggestions to formatting may help, but are not obligatory –

Title - 80pt **Arial bold** (centred). Avoid using all capitals for titles and do not underline.

Authors' names - 54pt **Arial bold** (centred).

Contact address/email - 36pt Arial (centred).

Main headings - 36pt **Arial bold**.

Main text - use at least 20pt Arial fully justified text. Anything smaller is difficult to read on a poster.

Figure captions - 18pt *italic*.

Use the same text font and sizes on all figures.

AUSTRALASIAN ARCHAEOLOGY **CONFERENCE 2005, CANBERRA,** **DECEMBER 12TH TO 15TH 2005**

Conference Announcement and call for Sessions

EVENT: Australasian Archaeology Conference 2005

VENUE: Department of Archaeology and Natural History, Coombs Building, Australian National University, Canberra, Australia

DATE: December 12th to 15th 2005

DEADLINE FOR SESSION/WORKSHOP PROPOSALS: February 11th 2005

FIRST CALL FOR PAPERS: End February 2005

The 2005 Australasian Archaeology Conference will be held at the ANU, Canberra, hosted by the Department of Archaeology and Natural History, RSPAS, and the Centre for Archaeological Research. The organising committee invite sessions covering all aspects of scientific applications (biological, physical and chemical sciences) in archaeology. Session proposals (title and max. 200 word abstract) are now being considered and should reach the committee by February 11th 2005. Proposals for technical workshops are also being sought and should include details of technical/space requirements. The organising committee will consider theoretical and interpretative sessions as well as those discussing archaeological techniques. Sessions and papers usually focus on Australasia and the broader Asia-Pacific region, but sessions/papers by researchers working in other geographical areas will also be considered, especially if they have some relevance to work within the region (e.g. help to build up technical competency etc).

Details will be regularly posted on the conference website: http://car.anu.edu.au/archaeology_conference.html and sent out to this email list. If you do not wish to be included on the conference email list please reply to this email and write: "PLEASE REMOVE ME FROM THE LIST" in the subject line.

For further details and to submit session/workshop proposals contact: Andy Fairbairn (andrew.fairbairn@anu.edu.au) or Sue O'Connor (sue.oconnor@anu.edu.au) at the Department of Archaeology and Natural History, RSPAS, Coombs Building, Australian National University, ACT 0200, Australia.

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**THE MINOANS IN THE SOUTHERN,
EASTERN AND NORTHERN AEGEAN
NEW EVIDENCE, COLLOQUIUM 22-23
JANUARY 2005**

Minoan Seminar

in collaboration with the Danish Institute at Athens and
the German Archaeological Institute at Athens

Papers will present new, unpublished Minoan finds of the Old and/or New Palace Period

The colloquium will take place at the German Archaeological Institute at
Athens, Fidiou 1, GR-10678 Athens

Preliminary Programme

Saturday morning (9-14)

Chairman: Ch. Doumas

Welcome: E. Hallager and W.-D. Niemeier

Introduction: W.-D. Niemeier

Thera: E. Nikolakopoulou

Ios: M. Marthari

Coffee break

Karpathos: E. Melas

Rhodes and surrounding area: T. Marketou

Saturday afternoon (16-20)

Chairman: Ch. Doumas

Iasos: N. Momigliano

Miletos: W.-D. Niemeier

Coffee break

Miletos: A. Raymond (read by Niemeier), I. Kaiser

Cesme: H. Erkanal, L. Keskin

Sunday morning (9-14)

Chairman: P.M. Warren

Lemnos: Ch. Boulotis

Lemnos: M. Cultraro

Coffee break

Troy: M. Guzowska

Samothrace: D. Matsas

Sunday afternoon (17-19)

Chairman: P.M. Warren

General discussion on Minoan activities in the southern, eastern and northern Aegean

No registration required but please Email secretary@minoanseminar.gr or Telephone +30-210-3244644 between 09.00 and 13.30 Mon-Fri; or Fax +30-210-3247230 if you will attend.

ΔΙΕΘΝΕΣ ΣΥΝΕΔΡΙΟ: ΜΙΑ ΠΟΛΥΕΠΙΣΤΗΜΟΝΙΚΗ ΠΡΟΣΕΓΓΙΣΗ ΣΤΟΝ ΟΜΗΡΟ

Οργάνωση: Πανεπιστήμιο Πατρών

Τόπος: Διεθνής Ολυμπιακή Ακαδημία, Αρχαία Ολυμπία

Χρόνος: Αύγουστος 2006

Διάρκεια: 3,5 ημέρες

Γλώσσες του Συνεδρίου: Ελληνική και Αγγλική

Αριθμός συνέδρων: 100-120

Περιγραφή του Συνεδρίου:

Πέρα από τους παραδοσιακά ασχολούμενους, δηλ. τους φιλόλογους, τους ιστορικούς, τους αρχαιολόγους κλπ., ο σύγχρονος επιστήμονας ή τεχνολόγος που εξετάζει σε βάθος την αφήγηση της Ιλιάδας και της Οδύσσειας, των Ομηρικών Επών, ανακαλύπτει σε κάθε σχεδόν επιστημονικό πεδίο περιγραφές που περιέχουν ψήγματα γνώσης περίπου σύγχρονης. Π.χ. ο Όμηρος περιγράφει πολλές αξιοπερίεργες μηχανές και μηχανικές διατάξεις. Κατά κύριο λόγο η σημασία τους βρίσκεται στην αυτοματοποίηση και την τεχνητή νοημοσύνη. Πολλοί ερευνητές έχουν την πεποίθηση ότι ο Όμηρος κυριολεκτούσε στις περιγραφές αυτές και ότι οι μηχανές αυτές υπήρχαν πράγματι, ενώ άλλοι πιστεύουν ότι τουλάχιστο κάποια χαρακτηριστικά τους αποτελούν σε κάποιο βαθμό δραματουργικά εφευρήματα. Όμως οι αναφορές του Ομήρου έχουν ουσιαστική σημασία, επειδή δείχνουν ότι στην ομηρική εποχή η ιδέα ενός αυτομάτου που εκτελεί πρακτική εργασία, ακόμη και κατασκευαστική, δεν θεωρείτο τελείως ανυπόστατη. Συνδέονται επίσης προς την ύπαρξη πρακτικών αναγκών για αυτοματισμούς. Οι ανάγκες αυτού του είδους αποτελούν συνήθως τους καταλύτες για την τεχνολογική εξέλιξη.

Το ελληνικό Δωδεκάθεο περιλάμβανε τον Ήφαιστο, ένα θεό-τεχνίτη, στο σιδηρουργείο του οποίου λειτουργούσε το πρώτο πλήρως αυτοματοποιημένο εργοστάσιο. Ο ίδιος ο θεός είχε ως βοηθούς δυο μεταλλικά κορίτσια με ανθρώπινες ιδιότητες, πράγμα που κατά τον Isaac Asimov αποτελεί την πρώτη αναφορά σε ρομπότ.

Στην Ιλιάδα βρίσκεται η πρώτη αναφορά σε προηγμένα σύνθετα υλικά και συγκεκριμένα στις περιγραφές της κατασκευής και της συμπεριφοράς στη μάχη των ασπίδων του Αχιλλέα και του Αίαντα, για τις οποίες σύγχρονες έρευνες απέδειξαν ότι είναι απόλυτα ακριβείς και επιστημονικά ορθές.

Στην Οδύσσεια οι οδηγίες της Κίρκης προς τον Οδυσσέα πώς να διασχίσει με ασφάλεια το στενό της Σκύλλας και της Χάρυβδης, αναλύθηκαν με σύγχρονους αριθμητικούς κώδικες και αποκάλυψαν βαθιά γνώση Δυναμικής των Ρευστών.

Τα αποτελέσματα αυτά ουσιαστικά επαναφέρουν το ερώτημα του κατά πόσον υπήρχε κάποιο είδος «σύγχρονης» επιστήμης και τεχνολογίας στη μυκηναϊκή Ελλάδα. Το ερώτημα χρήζει περαιτέρω διερεύνησης, επειδή, με την πρόοδο της Επιστήμης, εμφανίζονται νέα ευρήματα που στηρίζουν την υπόθεση αυτή. Ίσως μάλιστα το περιεχόμενο των δύο Επών θα έπρεπε να επανεξετάζεται κάθε 20-30 χρόνια, με μεγάλη πιθανότητα να ανακαλύπτονται συνεχώς νέες εκπληκτικές γνώσεις στα διάφορα επιστημονικά πεδία, όπως στην Αστρονομία, τη Μετεωρολογία, τη Χημεία, την Ιατρική, την Επιστήμη των Υλικών, την

Ορυκτολογία, τη Μεταλλουργία, τη Γεωλογία, τη Βοτανολογία, τη Φαρμακευτική, τη Ζωολογία κλπ. και επίσης στις Μηχανικές Επιστήμες.

Στο παρόν Συμπόσιο, μαζί με τις παραδοσιακές ειδικότητες, προσκαλούνται επιστήμονες όλων των παραπάνω περιοχών, θεωρητικών αφ' ενός και της επιστήμης και της τεχνολογίας αφ' ετέρου, που εργάζονται πάνω στο ιστορικό, πολιτιστικό, επιστημονικό, τεχνολογικό κλπ. περιεχόμενο των ομηρικών επών, να συνεργαστούν με σκοπό την περαιτέρω εμβάθυνση σε αυτό και στην εξαιρετική σπουδαιότητά τους για τους σύγχρονους θεσμούς στη σημερινή Ευρώπη και τον κόσμο γενικότερα.

Προσκεκλημένοι ομιλητές:

Ο παρακάτω πίνακας περιέχει ονόματα διαπρεπών επιστημόνων από όλες τις παραπάνω περιοχές οι οποίοι ενημερώθηκαν ήδη ή θα ενημερωθούν ευθύς μέχρι την οριστικοποίηση του συνεδρίου και οι οποίοι είναι επί πλέον άμεσα σχετιζόμενοι με τα πολιτιστικά δεδομένα μέσω της επιστήμης που υπηρετούν:

Prof. R. Macleod, Univ. of Sydney, Australia
Prof. G. S. Holister, UNESCO
Prof. Teun Kotsier, Univ. of Amsterdam, NL
Mr M. T. Wright, Science Museum, London, UK
Prof. G. Vatistas, Univ. of Toronto, CA
Καθηγ. Θ. Τάσιος, Ε. Μ. Πολυτεχνείο
Prof. Robert Fowler, Univ. of Bristol, UK
Prof. C. Rorres, Drexel Univ., USA
Prof. I. Popescu, Univ. of Bucarest, Ro
Prof. M. I. Marchetti, Univ. of Rome, I

Προθεσμίες:

01.01.05 Αναγγελία
31.03.05 Υποβολή περιλήψεων
15.04.05 Έγκριση περιλήψεων
15.07.05 Υποβολή ολοκληρωμένων εργασιών
30.10.05 Έγκριση ολοκληρωμένων εργασιών

WORKSHOP ON "SYNCHROTRON RADIATION IN ART AND ARCHAEOLOGY" (ESRF-CNRS, 9TH-11TH, FEBRUARY 2005, GRENOBLE, FRANCE)

Dear Colleagues,

The international Workshop (SR2A 2005) on "Synchrotron Radiation in Art and Archaeology" is taking place on February 9th-11th, 2005 at the ESRF and CNRS sites (Polygone Scientifique, Grenoble, France). This workshop is a satellite of the 15th ESRF Users' Meeting, February 8th and 9th, 2005. The aim of SR2A 2005 is to discuss and explore the current and potential applications of synchrotron science to problems in archaeology and art conservation. Bringing together key members of the synchrotron community and experts in the disciplines of Archaeology, Archaeological Science, Art Conservation and Materials Science, SR2A 2005 will report their latest research accomplishments, highlight ongoing projects, and catalyze new interactions between these fields. Some sessions will address specific problems in archaeology and their relation to SR methods, others will discuss the development and integration of experimental and analytical SR methods in archaeological issues. The workshop is open to all interested (120 participants max.). More information on SR2A 2005 (all details, description, registration and updates are available at:

<http://www.esrf.fr/Conferences/UsersMeeting2005/SRArtArchaeology/>

Deadline for abstract submission (oral/poster) and bursaries is 14th January 2005:
<http://www.esrf.fr/Conferences/UsersMeeting2005/SRArtArchaeology/PresentationAndPosters/>

You will not receive any further notification. Please forward this email and the following flyer to whom it may concern:

http://www.esrf.fr/Conferences/UsersMeeting2005/SRArtArchaeology/Flyer/affiche_sr2a.pdf

Looking forward to seeing you in Grenoble.

Yours sincerely,

Jean Susini and Eric Dooryhee

LACONA 6

Third announcement

Due to some changes we will extend the submission of abstracts for Lacona 6 in Vienna from 14th of December 2004 to the 7th of January 2005.

For remembrance we repeat the most important facts:

Location

Academy of Fine Arts Vienna, Austria

Time

21. – 25. September 2005

List of conference topics

Laser cleaning of monuments and artefacts (e.g. stone, metal, glass, paper, parchment, paintings, wood etc.), application and evaluation

Laser for documentation and diagnosis of works of art (3D-measurements, holography, vibrometry etc.)

Laser for material analysis (RAMAN, LIBS, LIF etc.)

Laser for monitoring of environmental conditions

Safety and health aspects

3rd call for papers

We invite you to submit abstracts for oral (15-20 minutes) or poster presentations. We prefer to receive the abstracts on-line in electronic form.

The abstract should be written in English and should be single-spaced throughout.

The abstract should be written with type face Times using the font size 12 pt.

Maximum 1 page, size A4 (i.e. 210x297mm) with 2.5 cm margins on all four sides.

The abstract should be headed by title, author(s), affiliation(s), address(es), e-mail.

The abstract should be informative with the following disposition: (a) Objectives, (b) Methods, (c) Results, (d) Conclusions.

Authors should indicate under which of the main topics, mentioned above, their presentation should belong.

The abstract should also contain telephone number, fax number and e-mail address of the corresponding author.

Underline the name of the presenting author.

Deadline for extended submission of abstract is January 7, 2005.

Abstracts (including black/white figures or illustrations) will be distributed during the conference.

A special volume will be published after the congress.

Social program

21-09-2005: Welcome Reception in the Academy of Fine Arts in Vienna

22-09-2005: Reception in the City Hall of Vienna

23-09-2005: Organ concert in the Cathedral of St. Stephens

24-09-2005: Congress dinner at a "Heurigen-Restaurant".

Accommodation

Possibilities for hotel reservations are offered at: www.lacona6.at

Important Deadlines

January 7, 2004

February 15, 2005

April 30, 2005

June 30, 2005

July 31, 2005

September 21 – 25, 2005

September 24, 2005

submission of abstract

notification of acceptance

submission of revised abstract

mailing of the final programme

deadline for reduced registration fee

conference

submission of manuscripts for the conference volume

Registration/Payment

Registration fee

before July 31 2005: 240 Euro

after July 31: 280 Euro

Registration fee for students

before July 31 2005: 120 Euro

after July 31: 280 Euro

Quick Registration form

- | | |
|--------------------------|--|
| <input type="checkbox"/> | I am interested in presenting a paper and will submit an abstract until January 7 th 2005 |
| | Preliminary title:..... |
| | Author(s):..... |
| | Institution(s):..... |
| | Contact:..... |
| <input type="checkbox"/> | oral presentation |
| <input type="checkbox"/> | poster |

If you are interested in more information about LACONA VI in Vienna, please click www.lacona6.at or send an E- mail to office@lacona6.at.

Congress Secretariat, LACONA VI
Bundesdenkmalamt

Tel.: +43 (0) 1 7982146 37
Fax.:+43 (0) 1 7982146 49

Amtswerkstätten für Kunstdenkmale,
Arsenal Objekt 15, Tor 4
A-1030 Vienna, Austria

e.mail: office@lacona6.at
homepage: www.lacona6.at

We are looking forward to seeing you at the LACONA VI Congress in Vienna!

Sincerely yours,

Johann Nimmrichter/Manfred Schreiner



EGU SESSION ON NATURAL STONE IN MONUMENTS AND THEIR DECAY

Dear colleagues,

We would like to draw your attention to the session:

VGP25 - Natural stone in monuments - from diagnosis to conservation (convenors R. Prikryl and B. Smith) currently being planned for the 2005 European Geosciences Union (EGU) General Assembly in Vienna, Austria, April 24-29.

Session objectives

Stone buildings and monuments form the cultural centres of many of the world's urban areas. Frequently these areas are also prone to high levels of atmospheric pollution that promote a variety of aggressive stone decay processes. Because of this, stone decay is now widely recognised as a severe threat to much of our cultural heritage. If this threat is to be successfully addressed it is essential that the symptoms of decay are clearly identified, that appropriate stone properties are accurately characterised and that decay processes are precisely identified. For, it is undoubtedly the case that successful conservation has to be underpinned by a comprehensive understanding of the causes of decay and the factors that control them. To accomplish these demanding goals requires an interdisciplinary approach based on co-operation between geologists, environmental scientists, chemists, materials scientists, civil engineers, restorers, and architects. In pursuit of this collaboration, this paper and poster session aims to strengthen the knowledge base dealing with the causes, consequences, prevention, and solution of stone decay problems.

Contributions are especially welcomed in the following areas:

- (I) performance in use (case studies, traditional natural stone, development of decay with time);
- (II) inventorying built heritage (natural stone inventories, stone resources for monument repair, stone provenance studies);
- (III) diagnosing decay (mechanisms of decay, identification of decay forms, mapping and quantification of decay patterns).

However, the session also remains open to inputs from other areas of stone decay, particularly those that promote improved understanding amongst the various individual disciplines concerned with the conservation of stone heritage.

We hope to invite a keynote speaker or two - details will follow later. Proceedings are planned to be published in either one of international journals or as a hard bound volume by prestige publishing house.

If you need further information on the planned session do not hesitate to contact one of us. We look forward to hearing from you. If you are intending to submit an abstract by the formal route, it would be helpful for planning purposes if you could email to one of us a provisional statement of intent and likely title as soon as possible.

General information on the 2005 EGU Meeting in Vienna can be found at:
<http://www.copernicus.org/EGU/ga/egu05/index.htm>

The on-line abstract submission deadline is January 21, 2005. Information on the submission process is available at:

http://www.copernicus.org/EGU/ga/egu05/abstract_submission.htm

Travel support can be found at:

http://www.copernicus.org/EGU/ga/egu05/support_prog.htm

Deadlines to be kept in mind:

- for Financial Support Applications **January 07, 2005**
- for Receipt of Abstracts **January 21, 2005**
- for Pre-Registration **April 8, 2005**

We apologize for any multiple receptions of this message.
We are looking forward to meet you in Vienna.

With best wishes

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PROPOSED MARINE RADIOCARBON RESERVOIR CORRECTION SESSION AT AMS-10

Dear Colleagues:

We would like to propose a Special Session on the “Reservoir Ages of the World Ocean: Progress and Prospect” at the AMS-10 Conference in Berkeley, California on September 5-10, 2005 (<http://cams.llnl.gov/ams10.html>). The proposed session would include presentations of the recent advances in the study of the reservoir age corrections worldwide, both from pre-bomb known age samples and reconstructions of past reservoir ages from a variety of methods (paired marine/terrestrial samples from middens or sediment cores, tree-ring vs. varve comparisons, U/Th dated corals, sclerochronologically dated marine corals and mollusc, etc.), Statistical considerations for DR values and uncertainties in radiocarbon calibration would also be of interest.

We have already received positive responses from a number of individuals working in this field. If you are interested in participating please contact us with your possible topic of presentation as soon as possible (presumably before January 1, 2005), so we can put together an outline for the AMS conference organizers.

Sincerely,

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ΘΕΣΕΙΣ ΕΡΓΑΣΙΑΣ/ΥΠΟΤΡΟΦΙΕΣ –
JOB VACANCIES/FELLOWSHIPS

MARIE CURIE TRAINING NETWORK
RESEARCH TRAINING FELLOWSHIPS

A new Marie Curie Training Network is inviting applications for research training fellowships.

Chiron (CULTURAL HERITAGE INFORMATICS RESEARCH ORIENTED NETWORK) <http://www.chiron-training.net/>

The relevant UK archaeology department is in York but UK students obviously have to go to any of the other European Departments since it is an exchange programme.

ΑΝΑΚΟΙΝΩΣΕΙΣ - ANNOUNCEMENTS

PROLONGATION OF COST ACTION G7

Dear colleagues,

It is a pleasure to inform you that the prolongation of the G7 activity has been approved by the CSO, Committee of Senior Officials for Scientific and Technical Research (COST), held on 1 - 2 December 2004 in Brussels. Consequently we will have time to complete our program up to the spring of 2006!

In the hope to have more good news to share with you in the forthcoming times, by then have my best wishes for a Merry Christmas and a peaceful new year !

Renzo

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INTERNET SITES

PROVENANCE OF PERGAMON MUSEUM MARBLES

Dear Colleagues,

I'm happy to inform you that my PhD thesis on "Multivariate provenance analysis of marble based on petrographic and geochemical properties - The example of Archaic, Hellenistic and Roman marble objects from Asia Minor in the Berlin Collection of Classical Antiquities and their attribution to Mediterranean and Anatolian marble quarries" now is available for free download on internet (http://edocs.tu-berlin.de/diss/2004/cramer_thomas.htm). The PDF-file with 340 pages and many figures reaches nearly 20 MB; therefore, I put the abstract below. As I am now living and trying to get work in Bogotá/Colombia, I 'am not sure if I will find time for a translation from German to English.

Dr. Thomas Cramer

ABSTRACT IN ENGLISH

Using marble objects in the Berlin Collection of Classical Antiquities, the methods of provenance analysis, i.e. their correlation to marble quarries, were applied and improved. For this purpose, the actual state of the art as well as the conditions and limits of provenance determination are systematically considered, selecting the most suitable among the various marble patterns and analysing techniques. Marbles of 38 museum objects mainly from the two investigation areas, Pergamon and Meander Valley, could be sampled in the context of restoration works and analysed. Two field trips with archaeologists allowed the sampling of various West Anatolian marble quarries and confirmed that an interdisciplinary approach is indispensable for a better understanding of the properties and use of dimension stones in antiquity. 232 single samples of ancient material as well as 262 quarry samples were analysed using geoscientific techniques. A multivariate approach proved to be necessary, because as a result of overlapping of properties of marble quarries, only one or two geogenic characteristics are not sufficient for provenance determination. Apart from sophisticated analytical techniques, petrographic patterns proved to be of uppermost importance. A catalogue of "outer patterns" will allow the application of systematic marble determination criteria also by non-geologists. More than 400 analogue and digitalized microphotographs of whole thin sections allow a qualitative and semi-quantitative overview and distinction of essential fabric patterns. Dolomite contents determined by means of XRD proved to have a good correlation with Mg-contents. In spite of frequently overlapping of stable isotopic-fields, $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ proved to be very helpful in some cases. The mainly carbonate-lattice-bound elements Mg, Fe, Sr and Mn were determined by means

of ICPOES, the REE by means of ICPMS. Methods of multivariate statistics, i.e. factor-, cluster- and discrimination analysis, confirmed the geoscientific relevance as well as the improved significance of some element correlations (e.g. sum of REE/Y, negative cerium-anomaly, Fe/Sr) compared to absolute values. On few samples, the potential discriminatory potential of volatile inclusions responsible for a sometimes typical odour, was investigated by means of gas chromatography. Additionally, cathodoluminescence- and electro paramagnetic resonance analysis confirmed particularly the Proconnesian origin of some ancient artefacts. The petrographic, isotopic and geochemical properties of several quarries (including those with ancient traces, such as Kozak, Stratonikeia, Euromos, Priene, NW shore of the Bafa Gölü and Myus) are reported for the first time. The published data of other quarries (e.g. Marmara/Proconnesos, Ephesos, Aphrodisias, Thassos Aliko) are confirmed and extended. In Pergamon, lacking local marble quarries, marble import took place mainly from Proconnesos, Ephesos and Lesbos and, to a much smaller extent, from Hymettos and Thassos Aliko. The use of Proconnesian marble could be determined also in Troy, Athens and Ephesos. For the ancient sites in the Meander Valley (Milet, Didyma and Myus), mainly marbles from the nearby quarries of the Bafa lake area (Herakleia, "Milet" and smaller deposits near Myus) were used, in Milet in smaller amounts also from Thassos. In Magnesia, local marbles as well as marbles from the Bafa lake were used. In Priene, mainly local marbles were used, however, also those from Phourni island, which were used also in the Heraion on Samos. Marbles from Carrara and Wunsiedel can be found in modern restoration supplements of the Pergamon altar, which was erected completely in Proconnesian marble. No marble from Penteli, Paros, Naxos or Thessaly was found on the investigated objects. The whole set of sample material will be stored in the Pergamon Museum for further investigations. The multivariate material and knowledge data base acquired in the context of this dissertation served as a base for the development of an easy-to-use and extensible diagnostic system for marble determination (MarbExpert) implemented into an expert system shell able to work also with "fuzzy" knowledge using "fuzzy logic". Apart from geoscientific relevant questions, also logistic and archaeological aspects are considered. This knowledge-based tool allows also non-geoscientists to find hints for provenance determination with a high degree of reliability.

ΝΕΕΣ ΕΚΔΟΣΕΙΣ – NEW PUBLICATIONS

24TH ISSUE (8, 2004/3) OF ARCHAEOLOGIA BULGARICA

24th issue (8, 2004/3) of Archaeologia Bulgarica has been printed.

Have nice holidays!

Lyudmil Vagalinski
editor

<http://www.techno-link.com/clients/lvagalini/index.html> (ArchBulg)

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Doncheva-Petkova, L./ Ninov, L./ Parushev, V.: Odartsi – a Settlement from the First Bulgarian Kingdom. I. Sofia 1999. (Shtereva, I.) 86-89

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All articles in *Archaeologia Bulgarica* are submitted to peer review.

On the cover: adornment, gold, 1600-1500 BC (see the article of M. Vasileva in this issue).

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ΕΙΔΗΣΕΙΣ - NEWS RELEASE

ELEUTHERNA EXCAVATIONS

Dear colleagues,

News about the Eleutherna excavations here:

http://www.ekathimerini.com/4dcgi/news/civ_&xml/&aspKath/civ.asp?fdate=07/12/2004

Best wishes,

Bjarte Kaldhol

NEWS RELEASE: **RECENT DISCOVERIES IN HELIKE**

The Helike Project

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URL: www.helike.org

Contact: Dr Dora Katsonopoulou, Director

Tel./Fax: 210 3808850

Helike, the principal ancient city on the southwest shore of the Gulf of Corinth, was founded in the Bronze Age and destroyed and submerged by an earthquake in 373 B.C. The Helike Project under the direction of archaeologist Dora Katsonopoulou and co-direction of physicist Steven Soter began to search for the city in 1988, with a systematic sonar survey of the seafloor southeast of Aigion. The survey determined that the site is not under water. Since 1991, we have carried out campaigns on the adjacent coastal plain using surface surveys, geophysical exploration, extensive bore hole drilling, and trial excavations. During 2000 we found the first important indications of Helike's location in the plain, when our trial excavations brought to light Early Bronze Age, Classical and Roman habitation horizons.

The Classical Site

In the recent years, our work in Helike produced unambiguous evidence for the location of the lost Classical site. Excavation of trenches in the mid-plain between Eliki and Rizomylos brought to light significant architectural remains of Classical buildings at 3 m depth, buried under thick lagoonal deposits and destroyed by an earthquake, dated on the basis of the recovered finds to the early 4th century BC.

Associated finds show that the buildings were rich and contained important objects. The assemblage includes an array of Classical pottery both in fineware and coarseware (cooking pots, storage and transport jars, smaller vases for eating or drinking, etc.). From the destruction layer of the building comes a pair of coins, one bronze *χελώνη* from Aigina and an extraordinary silver coin from Sikyon, bearing on the obverse a fine representation of the head of Apollo wearing a laurel wreath and on the reverse a flying dove. The black glazed pottery is in chronological alignment with the coins and there are sherds decorated with impressed anthemia, which copy Athenian prototypes and date to the first quarter of the 4th century BC. A terracotta head, found at a greater depth, belongs to a small female figurine dated to the Late Archaic period.

The stratigraphy shows that after the seismic subsidence of Helike, the ruins of the city were covered by a lagoon. This appears to solve the problem of Helike's location under water, as reported by ancient sources (Strabo, 8.7.5). The city did not sink into the depths of the Corinthian Gulf, as suggested in the past based on erroneous interpretations of literary evidence. Rather, it was covered by the waters of an inland lagoon.

The Early Bronze Age Settlement (ca. 2500-2300 BC)

The most significant and unexpected discovery was, however, that of an extensive and well-preserved coastal EBA settlement, in a horizon about 4 m below the surface (deeper than the Classical remains) in the area of Rizomylos. Excavations until today have brought to light foundations of large rectilinear buildings flanking the sides of cobbled streets. The largest building appears to be of the prominent type known as a corridor house. The walls of the buildings, some of which are preserved to 60 cm height, were built with cobblestones of varied colors bound together with clay, with one of the buildings constructed in the herringbone style.

The number of complete vases found in the few rooms excavated to date is unusual. The assemblage includes open and closed shapes, such as two-handled bowls, pedestal-footed cups, wide-mouthed jars, cooking pots, tankards, pyxides, flat-based cups, narrow-necked jars and pithos jars. Of outstanding significance is the discovery among the vases of a *Depas amphikypellon* with a preserved height of 19 cm and bearing an incised drawing above its base. Although the shape is well known from the eastern Aegean and the Troad, and it is found in several sites of continental Greece, the Helike *Depas* is the first known from western Greece. In addition to the complete pots, abundant potsherds of both unpainted and decorated pottery were found. Pottery decorations include pattern-painted Dark-on-Light, finger-impressed, rope and overlapping disk bands. On the lower wall of one of the recovered vessels we distinguished incised “potter’s marks”.

Other finds include pointed bone tools, spherical stone tools (polishers or rubbers), obsidian and chert objects for cutting and scraping, and terracotta objects such as spindle whorls and spools. We also collected a great number of shells and animal bones. Remains of seeds as well as stone tools were found inside some of the recovered vases. In addition to the pottery, the significance of the newly discovered EH settlement in Helike is also apparent from the discovery of luxury finds, such as gold and silver ornaments.

The sediments covering the EH ruins contain numerous marine microfauna, showing that the remains were submerged in the sea for some time. The walls of one of the buildings are abruptly offset by what appears to be a seismic discontinuity. This evidence suggests that the EH settlement may have been destroyed and submerged by an earthquake, as happened to its Classical successor some two thousand years later. Then, the site was rapidly buried under the sediments of a lagoon, which protected it from any subsequent human intervention. The site remains intact, so that one can clearly observe outlines of buildings, streets, courtyards, and interior rooms. Excavation of the site offers an opportunity, rare for prehistoric Greece, to reconstruct an EBA settlement and study its everyday life and also the economy of the era. The extremely good preservation of the settlement in Helike is perhaps unique for the whole of Greece because the site was never disturbed by later interventions. Other settlements of the same period continued to be used for many centuries (Mycenaean, Classical, Roman, Byzantine) with consequent repairing and reshaping of the earlier buildings.

The Roman Road

Equally significant was the discovery of the principal Roman road through the region of Helike, directed SE-NW and following a straight course. The road, of average width 5 m,

revealed so far over a length of 860 m between Eliki and Rizomylos at an average depth of 1.7 m, is in an excellent state of preservation. It is dated to the first century BC and involves a major technical work of the Roman administration in Achaia. The road connected the area of Helike with Patras to the west and Corinth to the east, and was followed and mentioned by Pausanias, who traveled through the region in the second century BC.

The Hellenistic Basins

Another significant discovery made in the area of Helike in the last two excavation seasons was of a Hellenistic basin complex, excellently preserved. This unusual site, found at a depth of about 2 m below the surface, contains four basins with pebble mosaic floors constructed against thick walls made of cobblestones and semi-worked stones of gray limestone. Two broad shallow basins separated by a plaster partition are interconnected to two deep (1.7 m) rectangular tanks by a system of channels, to all the controlled flow of a liquid from the shallow basins into the deeper ones. The well-preserved remains of the complex were found covered by a thick destruction layer of large fallen clay roof tiles and fragments of plaster.

On one side of the basin complex was a workshop area containing semi-circular, circular and square stone structures, as well as a small clay kiln. On the other side, two more rooms of another building with rich contents were excavated. Recovered finds from these buildings include a large array of Early-Middle Hellenistic pottery, red glazed, black glazed, West-Slope, and relief decorated, a number of intact clay loom weights, clay lamps, a large collection of bronze coins, and minor metal objects.

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