INTERNATIONAL CONFERENCE

INTERDISCIPLINARY STUDIES OF ANCIENT MATERIALS FROM THE MEDITERRANEAN

Nicosia, 17-19 September 2014
University of Cyprus

http://narnia-iten.eu

This project has received funding from the European Union’s Seventh Framework Programme for research, technological development and demonstration under grant agreement No. 265010.

ABSTRACTS
The international conference *Interdisciplinary Studies of Ancient Materials from the Mediterranean* is the concluding act of the multi-partner, interdisciplinary research network entitled *New Archaeological Research Network of Integrating Approaches to ancient material studies (NARNIA)*. NARNIA is a Marie Curie Initial Training Network which falls under the People programme of FP7 (Grant agreement no.: 265010). The project provided the ground for the collaboration of six academic institutions, one research centre and two enterprises. These are the University of Cyprus, which is the coordinating institution, Vrije Universiteit Brussel, Université Paris-Ouest, Hashemite University, University College London, University of Sheffield, the National Centre for Scientific Research “Demokritos”, G. M. EuroCy Innovations Ltd and Thetis Authentics Ltd. The NARNIA network is a collaboration of researchers who are engaged in the holistic study of ancient materials to facilitate a better understanding of the strategies associated with the production and the consumption of material culture and its impact on the historic and ancient environment. The *raison d’être* of this well-structured research network was to improve the career prospects for employment of our twenty fellows by enabling them to develop lab-based skills needed for the study of ancient materials. At the same time the NARNIA network has been contributing to the history and archaeology of the eastern Mediterranean basin, a region of great historical, cultural and geopolitical significance.

In order to achieve this aim, the partner institutions have organised an impressive series of research and training activities. During its four-year lifespan, NARNIA offered 26 training courses in six different countries (Belgium, Cyprus, France, Greece, Jordan and the UK), on the interdisciplinary study of ancient pottery, glass, metals, architectural decoration and building materials, as well as dating and the palaeo-environment, and the application of portable X-ray fluorescence spectroscopy in the field of archaeology. All NARNIA training courses were open to researchers outside the network, and the 16 Early Stage Researchers and four Experienced Researchers recruited by the NARNIA partnership had the opportunity to communicate and interact with scholars and researchers from different disciplines and research backgrounds.
This has been an adventurous and memorable journey for us, and we cannot think of a better way to complete it than the organisation of this international conference, where we can present our work outside our network and meet old and new friends for the establishment of future contacts. We hope that this will be an important occasion for new and established researchers to share their research in an international forum and to exchange ideas on the latest interdisciplinary approaches, analytical techniques and methodologies for the integrated study of ancient materials, technologies and the environment.

Professor Vasiliki Kassianidou,
NARNIA Project Coordinator

&

Dr Maria Dikomitou-Eliadou
NARNIA Project Manager

Archaeological Research Unit, University of Cyprus
Nicosia, September 2014
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Prof. Karin Nys, Vrije Universiteit Brussel, Belgium
Dr George Papasavvas, University of Cyprus, Cyprus
Prof. Thilo Rehren, University College London Qatar, Qatar
**Wednesday, 17th September 2014**

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<td>· Prof. Constantinos Christofides, Rector, University of Cyprus</td>
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<td>· Dr Despina Pilides, Acting Director, Department of Antiquities, Cyprus</td>
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<td>· Prof. Vasiliki Kassianidou, NARNIA project coordinator,</td>
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<tr>
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<td>Department of History and Archaeology, University of Cyprus</td>
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**Session 1: The interdisciplinary study of ancient ceramics**  
Chair: Dr Vassilis Kilikoglou, National Centre for Scientific Research “Demokritos”, Greece

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| 9:30 - 9:50| *Ceramic analysis and critical mass: New evidence for longevity of major pottery production centres in the Aegean*  
Peter M. Day |
| 9:50 - 10:10| *Sustainable data management in the study of ancient materials*  
Anno Hein and Vassilis Kilikoglou |
| 10:10 - 10:30| *Un-dusting the foundations of compositional analysis approaches of ceramic archaeological data*  
Elisavet Charalambous* |
| 10:30 - 10:50| *Impact resistance of archaeological ceramics: The influence of firing and temper*  
Noémi S. Müller*, George Vekinis and Vassilis Kilikoglou |
| 10:50 - 11:10| *The story of a soil that became a glaze: Chemical and macroscopic fingerprints*  
Artemi Chaviara* and Eleni Aloupi-Siotis |
| 11:10 - 11:40| **Coffee Break**                                                    |

**Session 2: The interdisciplinary study of ancient ceramics**  
Chair: Dr Eleni Aloupi-Siotis, THETIS Authentics Ltd, Greece

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| 11:40 - 12:00| *Cooking pot fabric recipes: An interdisciplinary study of Cypriot cooking pots of the Late Bronze Age*  
Maria Dikomitou-Eliadou, Artemis Georgiou and Athanasios K. Vionis |
| 12:00 - 12:20| *Regional variation in Late Cypriot pithos production: Preliminary results from the petrographic analysis*  
Eleni Nodarou and Priscilla Keswani |
| 12:20 - 12:40| *Leave no mudstone unturned: Geochemical provenancing reveals potters’ choices and interactions in Late Bronze Age Cyprus*  
Christina Makarona*, Priscilla Keswani, Eleni Nodarou, Ariane Jacobs, Nadine Mattielli, Karin Nys and Philippe Claeys |

*NARNIA Research Fellow*
12:40 - 13:00  Mapping Early Iron Age Cypro-Phoenician networks: An optical mineralogy study of Phoenician Bichrome Ware in Cyprus
Ayelet Gilboa and Yuval Goren

13:00 - 13:20  Late Roman amphorae from Cyprus: Investigating production and distribution in the eastern Mediterranean
Anthi Kaldeli, Vassilis Kilikoglou, Anno Hein, Demetrios Michaelides and David Williams

13:20 - 14:20  Lunch Break

14:20 - 15.00  Poster session I (poster nos. 1-10)

Session 3: Ancient and historical glass production and trade
Chair: Prof. Thilo Rehren, University College London Qatar

15:00 - 15:20  A spatial analysis of the socio-economics of the production of luxury goods at Amarna
Anna Kathrin Hodgkinson

15:20 - 15:40  Glass production in the Neo-Assyrian Empire
Katharina Schmidt

15:40 - 16:00  Miniature glass portrait sculpture in the ancient Mediterranean: Egyptian origins and Graeco-Roman developments
Sara E. Cole

16:00 - 16:20  “Fruits seem more beautiful than they actually are if they are floating in a glass bowl” (Plinius) - Egyptian glass of the first millennium AD: An archaeological and scientific approach
Daniela Rosenow and Thilo Rehren

16:20 - 16:50  Coffee Break

Session 4: Ancient and historical glass production and trade
Chair: Prof. Karin Nys, Vrije Universiteit Brussel, Belgium

16:50 - 17:10  Shedding light onto Cypriot glass industry: Consumption and distribution patterns
Andrea Ceglia*, Peter Cosyns, Wendy Meulebroeck, Karin Nys, Herman Terryn and Hugo Thienpont

17:10 - 17:30  Composition, distribution, and use of glass in the 6th century AD in the Lower Danube region: Recognising changes – understanding the change
Anastasia Cholakova*

*NARNIA Research Fellow
17:30 - 17:50  From the Mediterranean to the Libyan Sahara. Chemical analyses of Garamantian glass  
Chloë N. Duckworth and David J. Mattingly

20:30  Conference dinner

18th September 2014

8:50 - 9:00  Opening comments

Session 5: Copper metallurgy across the Mediterranean
Chair: Dr George Papasavvas, University of Cyprus, Cyprus

9:00 - 9:20  Copper production on the South coast of Late Bronze Age Cyprus  
Lente Van Brempt*

9:20 - 9:40  Examining the metallurgical ceramics from Late Bronze Age Kition  
Demetrios Ioannides*

9:40 - 10:00  A diachronic study of Cypriot copper alloy artefacts  
Andreas Charalambous*

10:00 - 10:20  Seeing the forest for the trees: Assessing technological variability in ancient metallurgical crucible assemblages  
Frederik Rademakers* and Thilo Rehren

10:20 - 10:40  An archaeomagnetic study of major slag deposits in the central Timna valley  
Ilana Peters, Erez Ben-Yosef and Lisa Tauxe

10:40 -11:10  Coffee break

Session 6: Dating techniques and the palaeo-environment
Chair: Dr Yannis Bassiakos, National Centre for Scientific Research “Demokritos”, Greece

11:10 - 11:30  Optically stimulated luminescence of Timna mines: A method for dating ancient mining activity  
Craig Smitheram, Erez Ben-Yosef, Naomi Porat and Galina Faershtein

11:30 - 11:50  Geoarchaeology or how to set the archaeological story straight  
Annita Antoniadou

11:50 - 12:10  Luminescence dating and the palaeo-environment in SE Cyprus  
Evangelos Tsakalos*

12:10 - 12:30  Luminescence dating and the palaeo-environment in SW Peloponnesus  
John Christodoulakis*

*NARNIA Research Fellow
12:30 - 12:50  Luminescence chronology of Quaternary coastal deposits of North Evoikos Gulf (central Greece)
Maria Kazantzaki, Yannis Bassiakos, Theodora Rondoyanni, Evangelos Tsakalos* and Ioannis Christodoulakis*

12:50 - 13:50  Lunch break

13:50 - 14:30  Poster session II (poster nos. 11-22)

Session 7: The interdisciplinary study of ancient ceramics
Chair: Dr Maria Dikomitou-Eliadou, University of Cyprus, Cyprus

14:30 - 14:50  Exploring pottery technological variability and its significance during the Final Neolithic - Early Bronze Age transition at Phaistos, Crete
Roberta Mentessana*, Peter M. Day, Vassilis Kilikoglou and Simona Todaro

14:50 - 15:10  Production, exchange and consumption of pottery from LH IIIB to LH IIIC early periods in the Saronic Gulf
William Gilstrap* and Peter M. Day

15:10 - 15:30  An interdisciplinary and integrative study of ancient ceramics: Aegean transport stirrup jars
Halford Haskell

15:30 - 15:50  Ceramic workshops in BA mainland Greece: A preliminary study of the archaeological record
Anastasia Portari

15:50 -16:20  Coffee break

Session 8: The interdisciplinary study of ancient ceramics
Chair: Dr Peter M. Day, University of Sheffield, UK

16:20 - 16:40  Chemical and petrographic interactions: A micro-scale investigation into local production on Bronze Age Kythera
Evangelia Kiriatzi and Myrto Georgakopoulou

16:40 -17:00  Re-examining the late Neolithic - Early Bronze Age transition in Lower Nubia (Egypt) through integrated ceramic petrography and technology studies
John Gait

17:00 - 17:20  An interdisciplinary study of 8th – 7th c. BC transport amphorae: New light on early Greek commerce
Maria Roumbou, Evangelia Kiriatzi, Xenia Charalambidou, Noémi S. Müller*, Antonis Kotsonas and Manthos Bessios

*NARNIA Research Fellow
19th September 2014

8:50 - 9:00  Opening comments

Session 9: pXRF application in Archaeology
Chair: Dr Roger Doonan, University of Sheffield, UK

9:00 - 9:20  Scientific studies and the archaeological process: The implications of science in the field
            Louis Olivier Lottie, Derek Pitman and Roger Doonan

9:20 - 9:40  Writing artefact biographies: The contribution of high frequency non-destructive HHpXRF analyses
            Lenore Thompson and Roger Doonan

9:40 - 10:00  New methods and technology for space exploration: The use of HHpXRF geochemical data in technological studies
              Benoit Proulx and Roger Doonan

10:00 - 10:20  pXRF analysis of flint tools changing through time in a single Neolithic neighbourhood
               Kathleen Bennallack

10:20 - 10:40  XRF Analysis of Silver Alloys from the EM I - MM IIA Cemetery of Petras, Crete
               Alessandra Giumlia-Mair, Susan C. Ferrence, Philip P. Betancourt and James D. Muhly

10:40 - 11:00  Iron Age silver hoards from southern Phoenicia: Surface analysis using pXRF
               Tzilla Eshel, Ayelet Gilboa, Sariel Shalev and Naama Yahalom-Mack

11:00 - 11:30  Coffee break

Session 10: Interdisciplinary assessments of architectural decoration
Chair: Prof. Demetrios Michaelides, University of Cyprus, Cyprus

11:30 - 11:50  Coloured materials used in Elephantine: Evolution and permanence from the Old Kingdom until the Roman Period
               Sandrine Pagès-Camagna and Dietrich Raue

11:50 - 12:10  Pigments and colourants: An inside look at the painted decoration of the Macedonian funerary monuments
               Lydia Avlonitou*

12:10 - 12:30  The combined application of Raman and portable X-ray fluorescence spectroscopy for the study of mosaic glass tesserae from Delos, Greece
               Francesca Licenziati* and Thomas Calligaro

12:30 - 12:50  Technology of the Early Christian wall mosaics of Cyprus
               Olivier Bonnerot*

* NARNIA Research Fellow
12:50 - 13:10  State of conservation of the architectonical structures and mortars characterisation of the castle of Azraq, Jordan
Marta Tenconi* and Fadi Balawi

13:10 - 13:30  The technology of structures in Cyprus during LBA and possible historical implications
Konstantinos Giannakos

13:30 - 14:30  Lunch break

Session 11: Copper metallurgy across the Mediterranean
Chair: Prof. Marcos Martinón-Torres, University College London, UK

14:30 - 14:50  Copper metallurgy of the Early Bronze Age in Thassos, North Aegean
Nerantzis Nerantzis, Yannis Bassiakos and Stratis Papadopoulos

14:50 - 15:10  A new approach for investigating the role of metals in Late Bronze Age societies on Crete
Lena Hakulin

15:10 - 15:30  Some aspects of copper production in antiquity considering the furnace types and production techniques
Damir Rumenjak

15:30 - 15:50  Egyptian bronzeworking practices in Late Bronze Age Canaan
Naama Yahalom-Mack

15:50 - 16:10  The transition from bronze to iron: A view from a smith’s hoard from Early Iron Age Megiddo
Adi Eliyahu-Bechar

16:10 - 16:40  Coffee break

Session 12: Copper metallurgy across the Mediterranean
Chair: Prof. Vasiliki Kassianidou, University of Cyprus, Cyprus

16:40 - 17:00  Votive bronzes in Late Period Egypt: Where did the raw metals come from?
Aurelia Masson-Berghoff

17:00 - 17:20  Copper in the pre-Islamic Sahara – a Mediterranean provenance?
Aurélie Cuénod and David J. Mattingly

17:20 - 17:40  Copper alloy consumption in a Tyrrhenian medieval town: The case of Leopoli-Cencelle (Italy)
Mainardo Gaudenzi Asinelli* and Marcos Martinón-Torres

17:40 - 18:00  Closing Remarks

* NARNIA Research Fellow
Conference excursion: Visits to Mitsero mining area and the UNESCO World Heritage Byzantine Churches of Panayia tou Araka at Lagoudera village and Timios Stavros tou Agiasmati at Plataniastasa village

List of poster presentations

The interdisciplinary study of ancient ceramics
1. Eretrian ceramic products through time: Investigating the early history of a Greek metropolis Xenia Charalambidou, Evangelia Kiriatzi, Noémi S. Müller*, Myrto Georgakopoulou, Sylvie Müller Çelka, Tobias Krapf

2. Moulding expressions of culture: A technological and compositional study of the Hellenistic and Roman terracotta figurines from the House of Orpheus in Nea Paphos, Cyprus Maria Dikomitiou-Eliadou, Giorgos Papantoniou, Vassilis Kilikoglou, Eleni Aloupis, and Demetrios Michaelides

3. A diachronic study of pottery production and supply at the Bronze Age town of Palaikastro, East Crete John Gait, Evangelia Kiriatzi, Noémi S. Müller* and Carl Knappett

4. Organic residue analysis of pottery from the dye workshop at Alatsomouri-Pefka, Crete Andrew J. Koh, Philip P. Betancourt, Marie Nicole Pareja, Thomas M. Brogan and Vili Apostolakou

5. A diachronic investigation of 'local' pottery production and supply at the sanctuary of Zeus, Mount Lykaion, Arcadia-Peloponnesse Georgia Kordatzaki, Evangelia Kiriatzi, Noémi S. Müller*, Mary E. Voyatzis, David G. Romano, Susan Petrakis, Jeannette Forsén, Gullog Nordquist, Emilio Rodriguez-Alvarez, Sarah Linn

6. Amphorae production in Early Hellenistic Mesambria Pontica Totko Stoyanov

7. Archaeological and archaeometric data about the Moschos’ production of roof-tiles and architectural terracotta on the West Pontic coast Daniela Stoyanova

8. Organic residue analysis of Roman amphorae excavated in Beirut, Lebanon Marshall Woodworth

*NARNIA Research Fellow
9. Pottery production and exchange at the Heraion, Samos, during the late third millennium BC: First steps in the study of technology and provenance
Sergios Menelaou, Ourania Kouka and Peter M. Day

10. Integrating chemical data of archaeological ceramics into existing databases: the new WD-XRF facility at the Fitch Laboratory of the British School at Athens
Noémi S. Müller*, Anno Hein, Myrto Georgakopoulou, Evangelia Kiriatzi, Vassilis Kilikoglou

Ancient and historical glass production and trade

11. Analysis of faience beads from Early Bronze Age contexts at Tell es-Safi/Gath, southern Levant
Adi Eliyahu-Behar

12. Reusing, repairing, remelting: Reconsidering ancient glass recycling and what that means for material analyses
Victoria A. Sainsbury

Copper metallurgy across the Mediterranean

13. Metal workshops at the settlement of Kastro-Palaia, Volos, Greece: Tin bronze versus arsenical copper
Eleni Asderaki-Tzoumerkioti and Evangelia Skafida

14. The Early - Middle Bronze Age basalt anvils of Pyrgos Mavraki: Their use, context and related tools
Maria Rosaria Belgiono

15. Greek coinage in context: The characterisation and provenance of silver from Greek colonies in the western Mediterranean 5th - 3rd centuries BC
Thomas Edward Birch, Fleur Kemmers, Sabine Klein and Michael Seitz, Heidi Höfer

16. Precious metals in the eastern Mediterranean as a measure of changing economic and political realities
Amir Golani

17. Deteriorating effects of the metal threads on embroideries. Technical and analytical study on archaeological textiles
Mohamed Marouf

18. Metallographic characterisation of two ancient Roman copper-based metal fragments
Olga Papadopoulou and Panayiota Vassiliou

*NARNIA Research Fellow
Interdisciplinary assessments of architectural decoration

19. *Towards an ancient technological heritage in theatre: Exploring links between the Abydos Mysteries (Egypt) and the Great Dionysia (Greece)*
   Santos Gláucio Machado

20. *Rusafa-Sergiopolis / Rusafat-Hisham, Syria. The decoration systems of churches and palaces in the Late Antique and Early Islamic periods, 5th to 9th century AD: Material, technology and design*
   Ines Oberhollenzer

Dating techniques and the palaeo-environment

21. *Site formation processes and use of space at the PPNA village of Ayios Tychonas - Klimonas in Cyprus. The micromorphology of mudbrick materials construction, a geoarchaeological approach*
   Pantelitsa Mylona

pXRF application in Archaeology

22. *AR.CHI.MIN.: A multidisciplinary project for the study of the ancient mining heritage*
   Luisa Dallai and Alessandro Donati

*NARNIA Research Fellow*