



37th International Symposium on Archaeometry

Siena, May 12th -16th, 2008

SUNDAY, 11 MAY 2007

- 16.00 18.00 Registration at San Niccolò Complex
19.00 Welcome Party at Santa Maria della Scala

MONDAY, 12th MAY 2008

- 8.30 9.40 Opening Ceremony

SESSION

Ceramics, glazes, glass and vitreous materials (technology and provenance)

Convenor: Josefina Perez-Arantegui

Chairperson: Josefina Perez-Arantegui

- 9.40 9.45 Perez-Arantegui, J. - *Introduction to the session*
9.45 10.05 1. Tite, M.S., Maniatis, Y., Kavoussanaki, D., Panagiotaki, M., Shortland, A.J., Kirk, S.F. - *Colour in Minoan faience*
10.05 10.25 2. Müller, N.S., Kilikoglou, V., Day, P., Hein, A. - *Thermal properties of ceramics and cooking methods in Antiquity: half-baked or all souped-up?*
10.25 10.45 3. Day, P.M., Hein, A., Kilikoglou, V., Wilson, D.E. - *Technological styles and cultural transmission: analysing Kampos group ceramics of the Early Bronze Age Aegean*
10.45 11.05 4. Badre, L., Boileau, M.-C., Capet, E., Jung, R., Mommsen, H. - *Provenance of Aegeanising pottery from Late Bronze Age Syria*
11.05 11.35 Coffee break

Chairperson: Michael Tite

- 11.35 11.55 5. Montana, G., Corretti, A., Polito, A.M., Spatafora, F. - *Ceramic production in the indigenous settlement of Entella (western Sicily) during Archaic Age*
11.55 12.15 6. Gulmini, M., Pace, M., Aceto, M., Mirti, P., Paccolat, O., Cusanelli, L., Framarin, P., Joris, C. - *Across the Alps: Roman pottery (late terra sigillata) from the Aosta Valley (Italy) and the Valais Canton (Switzerland)*
12.15 12.35 7. Waksman, Y. - *Seven centuries of production of "Byzantine White Wares"*
12.35 12.55 8. Holmqvist, V.E., Martínón-Torres, M., Rehren, Th. - *Many potters, one style: pottery production and circulation in transitional late Byzantine-early Islamic Palaestina Tertia*

12.55 14.15 Lunch

Chairperson: Corina Ionescu

14.15 14.35 9. Pradell, T., Molera, J., Smith, A.D., Tite, M.S. - *Islamic lustre from the Middle East (9th to 13th centuries AD): invention and evolution of the lustre technique*

14.35 14.55 10. Reillon, V., Berthier, S., Andraud, C. - *The optical properties of lustres : a complete study*

14.55 15.15 11. Perez-Arantegui, J., Resano, M., Montull, B., Vanhaecke, F. - *Materials and technology evolution of blue-decorated ceramics: pigments and patterns in tin-glazed objects from Aragon (Spain) from the 15th to the 18th centuries*

15.15 15.35 12. Maggetti, M., Rosen, J., Serneels, V., Picon, M. - *The faience factories from Lorraine (France) (18th/19th c.): chemical differentiation and recipe tradition*

15.35 15.55 13. Reiche, I., Röhrs, S., Voigt, F. - *Analytical challenges of a combined non invasive study of Iranian 19th century polychrome underglaze painted tiles and new potential markers of production centres*

15.55 16.25 Coffee break

Chairperson: Gianmario Molin

16.25 16.45 14. Smirniou, M., Rehren, Th. - *Amarna revisited: Investigation of primary glass production in New Kingdom Egypt*

16.45 17.05 15. Angelini, I. - *Archaeometry of the Bronze Age and Early Iron Age Italian vitreous materials: a review*

17.05 17.25 16. Mirti, P., Gulmini, M., Pace, M., Malandrino, M., Negro Ponzi, M.M. - *Change and continuity in glass composition from Early Sasanian to Islamic times in central Iraq*

17.25 17.45 17. Henderson, J., Evans, J.A., Barkoudah, Y., Bertier, S. - *The roots of provenance: radiogenic isotopes and glass production in the Islamic Middle East*

17.45 18.05 18. Lahlil, S., Biron, I., Galois, L. - *How to produce ancient antimonate opacified glass?*

18.05 18.25 19. Paynter, S., Dungworth, D. - *The production of post-medieval plant ash glass - recognising frit*

19.00 Cocktail at "Cortile del Podestà" offered by Wiley-Blackwell

TUESDAY, 13th MAY 2008

SESSION

Stone, plaster and pigments (technology and provenance)

Convenor: Yannis Maniatis

Chairperson: Yannis Maniatis

8.30 8.35 Maniatis, Y. - *Introduction to the session*

8.35 8.55 20. Tykot, R.H. - *Obsidian sourcing using non-destructive portable XRF: analyses of Prehistoric Italian artifacts from collections in the Museo Preistorico-Etnografico "Luigi Pigorini"*

8.55 9.15 21. Lugliè, C., Le Bourdonnec, F.C., Poupeau, G. - *Neolithic Obsidian Economy around the Monte Arci source (Sardinia, Italy) : the Importance of Integrated provenance/Technology Analyses*

- 9.15 9.35 22. Duttine, M., Scorzelli, R.B., de Britto Pereira, C.E., Miekeley, N., Poupeau, G., Guillaume-Gentil, N. – *Prehistoric obsidians provenances in Ecuador: from elemental composition to magnetic properties*
- 9.35 9.55 23. Lazzarini, L., Luppino, S., Malacrino, C. - *The white and coloured marbles of the Roman theatre of Copia-Thurii (Cosenza, Italy)*
- 9.55 10.15 24. Attanasio, D., Brilli, M., Bruno, M., Mennenga, I., Vitti, M. - *Tracking marbles from the newly discovered quarries of Göktepe (Mugla, Turkey): three Roman portrait heads at the National Archaeological Museum of Athens*
- 10.15 10.35 25. Caner-Saltik, E.N., Topal, T., Turkmenoglu, A.G., Akoglu, K.G., Yaşar, T. - *Investigation of marble quarries of Ankara region in relation to its roman monuments*
- 10.35 10.55 26. Wisseman, S.U., Emerson, T.E., Hughes, R.E., Farnworth, K.B. - *Provenance studies of midwestern pipestones using a portable spectrometer*

10.55 11.25 *Coffee break*

Chairperson: Lorenzo Lazzarini

- 11.25 11.45 27. Wang, C., Yimin, Y., Min, Y., Yaoting, X. - *Application of Micro-CT: 3D reconstruction of tool marks on an ancient stone bead and its implication for jade drilling techniques*
- 11.45 12.05 28. Garcia Moreno, R., Mathis, F., Van Elslande, E., Vandenabeele, P., Leterme, K., Hocquet, F.-P., Rakkaa, S., Laboury, D., Moens, L., Strivay, D., Hartwig, M.K. - *Archaeometry at the tomb of Menna, Theban necropolis, Egypt: a multi-method analytical approach*
- 12.05 12.25 29. Brysbaert, A., Perdikatsis, V., Apostolaki, C., Sotiropoulou, S. - *The identification of colouring substances and their potential uses in the Aegean and east Mediterranean*
- 12.25 12.45 30. Mounier, A., Floréal, D. - *Gilding techniques in mural paintings: three exemples in the romanesque period in France*

12.45 12.55 *Presentation of the 2010 venue*

12.55 14.15 *Lunch*

14.15 16.45 **I POSTER SESSION**

Ceramics, glazes, glass and vitreous materials (technology and provenance)

Stone, plaster and pigments (technology and provenance)

Micro / nano diagnostics and ancient technology special theme session for Siena

SESSION

Stone, plaster and pigments (technology and provenance)

Chairperson: Elisabetta Gliozzo

- 16.45 17.05 31. Kouloumpi, E., Lawson, G., Pavlidis, V. - *Integrated research of 16th to early 19th century Greek panel paintings: chromatographic and spectroscopic characterisation of paint layers*
- 17.05 17.25 32. Abd El Salam, S. - *Analysis and characterization of ancient wall paintings from the hunting baths in Leptis Magna, Libya: using different analytical techniques*
- 17.25 17.45 33. Piovesan, R., Mazzoli, C. Maritan, L. Nodari, L., Salemi, G. - *Archaeometrical investigations on plasters, paintings and floors at Pompeii: functional characterisation and*

implications for a new building chronology

SPECIAL THEME SESSION

Micro / nano diagnostics and ancient technology

Convenor: Isabella Turbanti Memmi

Chairperson: Isabella Turbanti Memmi

- 17.45 17.50 Turbanti Memmi, I. – *Introduction to the session*
- 17.50 18.10 34. Arletti, R., Vezzalini, G., Quartieri, S., Ferrari, D. - *Polychrome glass from Etruscan contexts in Northern Italy: chemical and mineralogical data*
- 18.10 18.30 35. Lluveras Tenorio, A., Vendrell-Saz, M., Boularand, S. - *Inorganic and organic painting materials distribution : SR FTIR and SR XRD imaging of cross sections*
- 18.30 18.50 36. Gorini, G. - *Ancient Charm: a research project for neutron studies of cultural heritage objects*
- 18.50 19.10 37. Berna, F., Goldberg, P., Artioli, G. – *Application of FT-IR microspectroscopy to the study of prehistoric pyrotechnologies*

21.00 *Cathedral organ concert by Cesare Mancini*

WEDNESDAY, 14th MAY 2008

SESSION

Bioarchaeology

Convenor: Henk Kars

Chairperson: Henk Kars

- 8.30 8.35 Kars, H. – *Introduction to the session*
- 8.35 8.55 38. Bramanti, B., Hänsch, S., Bogus, M., Bianucci, R., Ottoni, C., Donath, A. - *Plague and beyond*
- 8.55 9.15 39. Chenery, C.A., Leach, S., Echard, H., Müldner, G., Evans, J. - *Diaspora and population diversity in Roman Britain – A multi-disciplinary approach*
- 9.15 9.35 40. Tuross, N.C. - *Migration, seasonality and the vertebrate fossil record*
- 9.35 9.55 41. Cappellini, E., Gilbert, M.T.P., Geuna, F., Fiorentino, G., Hall, A., Thomas-Oates, J., Ashton, P., Arthur, P., Campos, P., Willerslev, E., Collins, M. - *Shotgun proteomics and DNA analysis of waterlogged medieval grape seeds*
- 9.55 10.15 42. Hedges, R.E.M. - *Isotopy and carnivory*
- 10.15 10.45 *Coffee break*

Chairperson: Maria Perla Colombini

- 10.45 11.05 43. Müller, W., Bondioli, L. - *Achievable time resolution of compositional/ isotopic LA-ICPMS profiles in tooth enamel*
- 11.05 11.25 44. McCreech, N.C., Gize, A., David, R. - *Hair: an untapped forensic resource*
- 11.25 11.45 45. Mark, L. - *Evolutionary paleoproteomics: mass spectrometric protein sequencing of ancient human pathogens*

SPECIAL SUB-SESSION

Food preparation and consumption in antiquity

Convenor: Martine Regert

Chairperson: Martine Regert

- 11.45 11.50 Regert, M. - *Introduction to the session*
- 11.50 12.10 46. Craig, O.E. Heron, C.P. - *The use of pottery at the transition to agriculture: new prospects from the analysis of organic residues*
- 12.10 12.30 47. Mirabaud, S., Pétrequin, P., Pétrequin, A.-M., Rolando, C., Regert, M. - *Food residues and pottery function on the neolithic site of Clairvaux XIV (Jura, France): new results from developments in mass spectrometry*
- 12.30 12.50 48. Valamoti, S.-M., Delwen, S. Bayram, M. - *An investigation of prehistoric cereal food: starch microstructure in experimental and archaeological charred remains*
- 12.50 13.10 *Alessandro Falassi (Cultural Anthropologist of the State University for Foreigners, Siena) – Siena: a City, a History, a Festival (lecture and film)*
- 16.00 *Guided tour of the town - Meeting point at Courtyard of Rettorato, Banchi di Sotto,55*

THURSDAY, 15th MAY 2008

SESSION

Archaeo-chronometry

Convenor: Günther Wagner

Chairperson: Marco Martini

- 8.30 8.35 Martini, M. – *Introduction to the session*
- 8.35 8.55 49. Demarchi, B., Penkman, K. - *Early Humans on the Rock: new developments in amino acid racemisation dating*
- 8.55 9.15 50. Maniatis, Y., Doulas, C. - *New radiocarbon dates from Akrotiri, Thera*
- 9.15 9.35 51. Principe, C., Le Goff, M., Gallet, Y., Genevey, A., Malfatti, J., Arrighi, S. - *New archeomagnetic data from Etruscan firing structures: improvement and dating potential of the directional variation curve of the geomagnetic field in Western Europe during the first millennium BC*

SPECIAL SUB-SESSION

Recent developments in radiocarbon dating

Convenor: Mark Pollard

Chairperson: Mark Pollard

- 9.35 9.40 Pollard, M. - *Introduction to the session*
- 9.40 10.00 52. Shortland, A., Bronk Ramsey, C., Higham, T., Rowland, J., Brock, F., Harris, S., Dee, M.W. - *Improving the Radiocarbon Chronology for Ancient Egypt*
- 10.00 10.20 53. Soares, A.M.M., Martins, J. - *Radiocarbon dating of marine shell samples. The marine reservoir effect during late Neolithic and Chalcolithic periods*

10.20 10.40 54. McCullagh, J.S.O., Hedges, R.E.M. - *Single amino acid radiocarbon dating: Application to palaeodietary studies*

10.40 11.10 *Coffee break*

SESSION

Field archaeology (in memory of Riccardo Francovich)

Convenor: Luis Barba Pingarron

Chairperson: Luis Barba Pingarron

11.10 11.15 Barba Pingarron, L. - *Introduction to the session*

11.15 11.35 55. Merrony, C.J.N., Hanks, B., Zdanovich, D., Epimakhov, A. - *Beyond the enclosure: geophysics and the investigation of metal production and community organisation in the Middle Bronze Age of the Southern Ural Steppe*

11.35 11.55 56. Rejas, J.G., Burillo, F., López, R., Cano, M.A., Sáiz, M.E., Farjas, M., Mostaza, T., Zancajo, J.J. - *Comparative archaeometric analysis through 3D laser, short range photogrammetry, and hyperspectral remote sensing applied to the Celtiberian city-state of Segeda*

11.55 12.15 57. Piro, S., Goodman, D. - *GPR data processing for archaeological surveys in urban area. The case of Forum (Roma, Italy)*

SESSION

Human – environment interactions

Convenor: Simon Blockley

Chairperson: Simon Blockley

12.15 12.20 Blockley, S. - *Introduction to the session*

12.20 12.40 58. Donahue, R.E., Pellegrini, M., Evans, J., Mussi, M., Chenery, C., Lee-Thorp, J., Montgomery, J. - *Late glacial hunter-gatherer subsistence strategies in central Italy: evaluating seasonal mobility of ungulates*

12.40 13.00 59. Andrič, M., Mason, P. - *Neolithic/Eneolithic settlement patterns and Holocene environmental changes in Bela krajina (south-eastern Slovenia)*

13.00 14.20 *Lunch*

14.20 16.50 II POSTER SESSION

Bioarchaeology

Food preparation and consumption in antiquity

Field archaeology

Archaeo-chronometry

Recent developments in radiocarbon dating

Human – environment interactions

Metals and metallurgical ceramics (technology and provenance)

Integrated site studies

SESSION

Human – environment interactions

Chairperson: Simon Blockley

- 16.50 17.10 60. Fiorentino, G., Caracuta, V. - *Palaeo-climate variations during the Bronze Age in the Near East using Carbon stable isotope analysis in archaeological sites*
- 17.10 17.30 61. Afonso, M.C., Tenório, M.C. - *Shell Mounds in Brazilian coast: integrating archaeological and environmental studies*
- 17.30 17.50 62. Niknami, K.A., Jayez, M. - *The use of spatial analysis and survey data in the interpretation of archaeological site structure and spatial patterning of upper Palaeolithic sites of Izeh Plain, southwestern Iran*
- 17.50 18.10 63. Cremaschi, M. Pizzi, C. - *Hydraulic systems in the Bronze Age of the Po plain (Northern Italy): a multidisciplinary approach*
- 20.00 *Social Dinner at the Antico Granaio di Montaperti*

FRIDAY, 16th MAY 2008

SESSION

Metals and metallurgical ceramics (Technology and Provenance)

Convenor: Thilo Rehren

Chairperson: Thilo Rehren

- 9.00 9.05 Rehren, Th. – *Introduction to the session*
- 9.05 9.25 64. Müller, R., Mataloto, R., Calado, M., Pernicka, E. - *The beginnings of metal production in southwest Iberia*
- 9.25 9.45 65. Georgakopoulou, M., Kakavogianni, O., Douni, K., Bassiakos, Y. - *Bowls and plates: Final Neolithic and Early Bronze Age silver production in south-eastern Attica through a study of litharge fragments*
- 9.45 10.05 66. Pryce, T.O., Pigott, V., Martín-Torres, M., Rehren, Th. - *Copper production in the Khao Wong Prachan Valley of prehistoric central Thailand: Defining technological style in the laboratory and in the field*
- 10.05 10.25 67. Bray, P.J. - *Teasing apart the interplay of recycling, alloying, smithing and trade in Early Bronze Age British and Irish metallurgy: what can patterns in copper alloy composition reveal beyond provenance?*
- 10.25 10.45 68. Siano, S., Miccio, M., Ferretti, M., Pacini, A., Mugnaini, S., Garagnani, G. - *Lorenzo Ghiberti's Porta del Paradiso: understanding the crafting processes*
- 10.45 11.15 *Coffee break*

Chairperson: Gilberto Artioli

- 11.15 11.35 69. Hein, A., Kilikoglou, V. - *Function precedes matter: The adaptation of technical ceramics to their functionality*
- 11.35 11.55 70. Serneels, V., Katona, I., Robion-Brunner, C., Perret, S. - *The regional variability of the chemical composition of iron smelting slags in the Dogon Country (Mali, Africa, 15th – 19th AD)*
- 11.55 12.15 71. Veldhuijzen, H.A., Blakelock, E. - *Slag inclusion, smelting site exclusion? The*

provenancing to different production site origins of early first millennium BC iron artefacts from the Near East through the analysis of slag inclusions

12.15 12.35 72. L'Heritier, M., Dillmann, P., Desaulty, A.-M., Leroy, S., Gratuze, B. - *New insights on the diffusion of smelting processes and the supply of construction iron through the study of slag inclusions*

12.35 12.55 73. Chirikure, S., Heimann, R., Killick, D. - *Tin smelting in southern Africa: a preliminary reconstruction of the process*

12.55 14.15 *Lunch*

Chairperson: Yannis Bassiakos

14.15 14.35 74. Guerra, M.F., Stutz, F. - *Coin or jewel? Gold supplies of Late Antiquity in Gaul*

14.35 14.55 75. Eniosova, N.V., Mitoyan, R. - *Arabic coins as a silver source for Slavonic and Scandinavian jewellers in the 10th century AD*

14.55 15.15 76. Sarah, G., Bompaire, M. - *ICP-MS with a laser ablation for a better understanding of the trading role of early Venice in Carolingian time*

15.15 15.35 77. Mongiatti, A., Rehren, Th., Martín-Torres, M. - *Laboratory and industry: a comparison between small- and large-scale productions of noble metals in sixteenth-century Europe*

15.35 15.55 78. Martín-Torres, M., Mongiatti, A., Rehren, Th., Friedl, K., Von Osten, S. - *Secretly seeking silver: the strange case of the Kapfenberg laboratory (Austria)*

15.55 16.25 *Coffee break*

SESSION

Integrated Site Studies

Convenor: Patrick Degryse

Chairperson: Patrick Degryse

16.25 16.30 Degryse, P. – *Introduction to the session*

16.30 16.50 79. Kiriatzis, E., Georgakopoulou, M., Broodbank, C. - *From sherds and slags to landscapes: integrating scientific practice to the study of field survey finds from Kythera, Greece*

16.50 17.10 80. Doonan, R.C.P., Hanks, B., Zdanovich, D., Sotiropoulos, A. - *The organisation of taskscapes in the Southern Ural Steppe during the Middle Bronze Age: Evidence from field survey and laboratory analysis*

17.10 17.30 81. Nakai, I., Maeo, S., Taniguchi, K. - *Development of Portable X-Ray Powder Diffractometer and X-ray fluorescence spectrometer with SDD and polymer window and application to on site analysis of archaeological objects from Egypt*

17.30 18.30 *Prizes and closing ceremony*