



**41<sup>st</sup> International Symposium on Archaeometry (Kalamata 15-21 May)**  
**ISA2016 - Complete Programme - isa2016.uop.gr**

**Sunday, May 15**

18:00 - 20:00 Registration and Welcome Cocktail at the Campus of the University of the Peloponnese

**Monday, May 16**

08:00 - 08:30 Registration at the Modern Dance Megaron

08:30 - 08:55 Welcoming Remarks and Opening Ceremony at the Modern Dance Megaron

**08:55 - 11:00 SESSION: STONE, PLASTER AND PIGMENTS I**

08:55 - 09:00 Chairperson: Robert Tykot – Introduction to the Session

09:00 - 09:20 (O-1) Obsidian access along the Adriatic: Sourcing studies and maritime trade in Croatia  
Robert H. Tykot, Stašo Forenbaher, Damir Kliškić, Zlatko Perhoč, Emil Podrug and Dinko Radić

09:20 - 09:40 (O-2) “Non-invasive” portable laser ablation sampling for Sr-Nd-Pb-isotope provenance of precolonial Caribbean jadeitite artefacts  
Alice Carolin Susanne Knaf, Janne Koornneef, Andreas Hertwig, Juan Cárdenas-Párraga, Antonio García-Casco, Hans-Peter Schertl, Walter Maresch, Chloé Andrieu, Corinne Hofman and Gareth Davies

09:40 - 10:00 (O-3) Roman production and use of white marbles in SE Europe  
Walter Prochaska

10:00 - 10:20 (O-4) Reviewing the Parian marble: New evidence about its grain size distribution and quality  
Dimitris Tambakopoulos and Yannis Maniatis

10:20 - 10:40 (O-5) Mineral identification of Mayan green stone funerary artifacts from Bonampak, Mexico  
Alejandro Mitrani Viggiano, Mayra Dafne Manrique Ortega, Valentina Aguilar Melo, Edgar Casanova González, Griselda Pérez Ireta, José Luis Ruvalcaba Sil, Alejandro Tovalín Ahumada, Alejandro Sheseña Hernández and Josuhé Lozada Toledo

10:40 - 11:00 (O-6) Mineralogical analysis of Aztec stone artifacts from the Great Temple of Mexico-Tenochtitlan and its surrounding buildings  
Mayra Manrique, Pieterjan Claes, Valentina Aguilar Melo, Malinalli Wong Rueda, Jose Luis Ruvalcaba Sil, Edgar Casanova Gonzalez, Emiliano Melgar Tisoc and Reyna Solis Ciriaco

11:00 - 11:30 Coffee Break

11:30 - 13:30 SESSION: STONE, PLASTER AND PIGMENTS II  
 Chairperson: Rachel S. Popelka-Filcoff

11:30 - 11:50 (O-7) Nondestructive in situ XRF provenance study of Mesoamerican turquoise  
Kilian Laclavetine, Jose Luis Ruvalcaba-Sil, Emiliano Melgar, V. Aguilar Melo and M. Manrique Ortega

11:50 - 12:10 (O-8) Upper Palaeolithic pigments from Kapova cave (the Southern Urals, Russia)  
Vladislav Zhitenev

12:10 - 12:30 (O-9) The materials of post-Byzantine Greek icons  
Georgios P. Mastrotheodoros, Konstantinos G. Beltsios and Varvara Papadopoulou

12:30 - 12:50 (O-10) What can the chemistry of crayons tell us about the past? Spatio-temporal correlations at Nawarla Gabarnmang (Australia)  
Géraldine Castets, Emilie Chalmin, Bruno David, Jean-Jacques Delannoy, Jean-Michel Geneste, Pauline Martinetto, Jean-Louis Hodeau and Robert G. Gunn

12:50 - 13:10 (O-11) Elucidation of cultural exchange by elemental characterisation of Australian Aboriginal pigments  
Rachel S. Popelka-Filcoff, Claire E. Lenehan, John W. Bennett, Attila Stopic and Keryn Walshe

13:10 - 13:30 (O-12) Multi analytical approach for characterizing materials and pigments of Byzantine wall paintings in Hierapolis archaeological site (Turkey)  
Emma Cantisani, Susanna Bracci, Silvia Vettori, Barbara Sacchi, Cristiano Riminesi and Piera Caggia

13:30 - 14:55 Lunch Break

**14:55 - 16:40 SESSION: CERAMICS, GLAZES, GLASS AND VITREOUS MATERIALS I**

14:55 - 15:00 Chairperson: Josefina Pérez-Arantegui – Introduction to the Session

15:00 - 15:20 (O-13) The longevity of ceramic production centres: Implications for the analysis of pottery  
Peter M. Day and Vassilis Kilikoglou

15:20 - 15:40	(O-14) Minoan-style Transport Jar production in the LHIIIB Argolid, Greece <u>Marta Tenconi</u> , Peter M. Day, Katie Demakopoulou, Eleftheria Kardamaki, Joseph Maran and Alcestis Papadimitriou
15:40 - 16:00	(O-15) Neolithic pottery production and circulation in Macedonia, northern Greece. An analytical approach <u>Anastasia Dimoula</u> , Niki Saridaki, Antonios Koroneos, Dushka Urem - Kotsou and Kostas Kotsakis
16:00 - 16:20	(O-16) Tracing pottery provenance along the Nile River by trace elements and isotope analysis <u>Elisa Gravagna</u> , Lara Maritan, Giancarlo Cavazzini, Andrea Zerboni, Gregorio Dal Sasso, Claudio Mazzoli, Sandro Salvatori and Abdelrahman Ali Mohamed
16:20 - 16:40	(O-17) The Roman amphorae kilns from the western and southern coast of Lusitania: Chemical patterns for provenancing <u>M. Isabel Dias</u> and M. Isabel Prudêncio
16:40 - 17:10	Coffee Break
<b>17:10 - 18:50</b>	<b>SESSION: CERAMICS, GLAZES, GLASS AND VITREOUS MATERIALS II</b> Chairperson: Ian Freestone
17:10 - 17:30	(O-18) Hellenistic Colour Coated ware pottery from Nea Paphos. An integrated approach to the study of provenance and technology of fine ware pottery <u>Edyta Marzec</u> , Evangelia Kiriati, Noémi Müller and Anno Hein
17:30 - 17:50	(O-19) The Via dei Sepolcri workshop in Pompeii: A snapshot of the ceramic crafting activity before 79 AD eruption <u>Celestino Grifa</u> , Laëtitia Cavassa, Ornella Amore, Diana Barra, Alberto De Bonis, Christian Fischer, Chiara Germinario, Francesco Izzo, Alessio Langella, Ioanna Kakoulli, Mariano Mercurio and Vincenzo Morra
17:50 - 18:10	(O-20) Pottery production in the Buddhist centers of ancient Bactria (Central Asia) during the Kushan period <u>Verónica Martínez Ferreras</u> , Andreas Angourakis, Josep M. Gurt Esparraguera, Anno Hein, Ana Sánchez Del Corral and Enrique Ariño Gil
18:10 - 18:30	(O-21) Complexity in African ceramics? <u>Hannah Page</u> , Patrick Quinn and D.A.M Reid
18:30 - 18:50	(O-22) Defining ceramic production of the Late Islamic Arabia: A view on Bahla/Khunj Ware from al-Ain <u>Jelena Zivkovic</u> , Jose Cristobal Carvajal Lopez, Myrto Georgakopoulou and Timothy Power
19:15 - 20:15	Live Music Event

## **Tuesday, May 17**

<b>09:00 - 10:30</b>	<b>SESSION: CERAMICS, GLAZES, GLASS AND VITREOUS MATERIALS III</b> Chairperson: Julian Henderson
09:00 - 09:20	(O-23) Renaissance majolica and ‘barros rojos’ from Talavera de la Reina investigation by XRF, XRD and SEM techniques <u>Cristina Fernández de Marcos García</u> , Marisol Madrid I Fernández and Jaume Buxeda I Garrigós
09:20 - 09:40	(O-24) Islamic ceramics from the 8 <sup>th</sup> to 13 <sup>th</sup> centuries found at the Silves Castle, South of Portugal: Pastes, pigments and glazes characterization <u>Luis Filipe Vieira Ferreira</u> , Isabel Ferreira Machado and Rosa Varela Gomes
09:40 - 10:00	(O-25) Unveiling the mystery of the black-glazed tea bowls from the Jian Kiln site of Ancient China <u>Weidong Li</u>
10:00 - 10:20	(O-26) The glazed tiles from the Qutb Shahi Tombs complex (Hyderabad, India): Morphological and compositional characterization <u>Patrizia Davit</u> , Ambra Idone, Stefania Barbiero, Poornima Balakrishnan and Monica Gulmini
10:30 - 11:00	<i>INVITED TALK:</i> (O-27) Technological advances for traditional mouth blown glasses: UV protective window glass for cultural heritage <u>Hans Reiner Meindl</u>
<b>11:00 - 11:30</b>	<b>Presentations of the Next ISA Venue</b>
11:30 - 11:55	Coffee Break
<b>11:55 - 13:40</b>	<b>SESSION: STONE, PLASTER AND PIGMENTS III</b> Chairperson: Vassilis Kilikoglou – Introduction to the Session
11:55 - 12:00	
12:00 - 12:20	(O-28) Preliminary results on the hyperspectral imaging technique for the in-situ diagnostics of excavated walls and artistic surfaces in the archaeological site of Pompeii <u>Donata Magrini</u> , <u>Leandro Chiarantini</u> , Bruno De Nigris, Fabio Fratini, Cristiano Riminesi, Barbara Salvadori and Barbara Sereni

12:20 - 12:40	(O-29) Monitoring calcium carbonate crystallizations on mural painting mockups in Roman Catacombs by ultra close-range photogrammetry <u>Rachele Manganelli Del Fà</u> , Emma Cantisani, Barbara Mazzei, <u>Cristiano Riminesi</u> and Deodato Tapete
12:40 - 13:00	(O-30) Building stratification and technological changes in Montecorvino (Foggia, 11 <sup>th</sup> -15 <sup>th</sup> century) <u>Giacomo Eramo</u> , Roberta Giuliani and Angela D'Elia
13:00 - 13:20	(O-31) Cultural and technological influences on the development of building technology in Dodecanese <u>Ioannis Karatasios</u> , Michalis Zerledis, Maria Amenta and Vassilis Kilikoglou
13:20 - 13:40	(O-32) Structural changes of materials related to lime production technology in Maya area <u>Soledad Ortiz</u> , Nora A. Pérez and José Luis Ruvalcaba
13:40 - 14:30	Lunch Break
<b>14:30 - 16:25</b>	<b>POSTER SESSION I</b>
<b>16:25 - 17:40</b>	<b>SESSION: METALS AND METALLURGICAL CERAMICS I</b>
16:25 - 16:30	Chairperson: Maria Filomena-Guerra – Introduction to the Session
16:30 - 16:50	(O-33) Provenance studies of copper-, bronze- and silver artifacts from the Royal Tombs of Ur, mid 3 <sup>rd</sup> millennium BC <u>Eveline Salzmann</u> , Sabine Klein and Andreas Hauptmann
16:50 - 17:10	(O-34) Revisiting the Çatalhöyük metallurgy: New data from old finds <u>Miljana Radivojevic</u> , Thilo Rehren, Shahina Farid and Ernst Pernicka
17:10 - 17:30	(O-35) Kastro Palaia settlement Volos, Greece: A technological approach to bronze metalwork diachronically <u>Eleni Asderaki-Tzoumerkioti</u> , Evangelia Skafida, Markos Vaxevanopoulos and Philip Connolly
<b>17:40 - 18:45</b>	<b>SPECIAL SESSION: THE BEGINNING OF THE BRONZE AGE IN EASTERN MEDITERRANEAN</b>
17:40 - 17:45	Chairperson: Yannis Maniatis – Introduction to the Session
17:45 - 18:00	(O-36) Modeling the Aegean climate: Environmental stress and culture change <u>Linda Scott Cummings</u> and R. A. Varney
18:00 - 18:15	(O-37) Fashioning ceramics and weaving worlds: The Chalcolithic to Early Bronze Age transition at the Heraion, Samos <u>Sergios Menelaou</u> , Ourania Kouka and Peter M. Day
18:15 - 18:30	(O-38) Revisiting the technological revolution at the beginning of the Bronze Age: The Final Neolithic-Early Bronze Age ceramic manufacture at Phaistos, South-Crete Roberta Mentessana, Peter M. Day, <u>Vassilis Kilikoglou</u> and Simona Todaro
18:30 - 18:45	(O-39) Pots within pots: The practice of grog-tempering and social networks in and around the Aegean towards the end of the Neolithic and the beginning of Bronze Age <u>Evangelia Kiriati</u> , Areti Pentedeka, Noémi Müller and John Gait
19:00 - 20:00	3 <sup>rd</sup> COSTA NAVARINO International Archaeometry Award Ceremony

### Wednesday, May 18

<b>08:55 - 11:00</b>	<b>SESSION: REMOTE SENSING, GEOPHYSICAL PROSPECTION AND FIELD ARCHAEOLOGY</b>
08:55 - 09:00	Chairperson: Luis Barba and Rob Sternberg – Introduction to the Session
09:00 - 09:20	(O-40) Integrated Prospection studies in the Maya site of Tulum, Quintana Roo, Mexico <u>Luis Barba</u> , Jorge Blancas, Agustin Ortiz, Patricia Meehan, Roberto Magdaleno and Claudia Trejo
09:20 - 09:40	(O-41) Usefulness of IR thermography surveys in the archeological site of Hierapolis in Phrygia (Turkey) <u>Susanna Bracci</u> , Emma Cantisani, Giacomo Di Giacomo, Cristiano Riminesi, Barbara Sacchi, Giuseppe Scardozzi, Silvia Vettori and Francesco D'Andria
09:40 - 10:00	(O-42) A Persian paradise in the Caucasus: Integrated surface survey and geophysical prospecting of a major Achaemenid palatial structure at Karacamirli, (Azerbaijan) <u>Jörg Fassbinder</u> , Kai Kaniuth, Andrei Asandulesci and Martin Gruber
10:00 - 10:20	(O-43) Integration of geophysical, geological and image-based practices for multi-layer excavation archaeological archiving: Case study at Chiliomodi in Korinth Elena Korka, Markos Ntoukakis, Chris Arvanitidis, Evangelos Roussos, Antonios Vafidis and <u>Panagiotis Partsinevelos</u>
10:30 - 11:00	<b>KEYNOTE:</b> (O-44) The significance of Geophysical Prospecting in saving the integrity of Tumuli <u>Grigorios Tsokas</u>
11:00 - 11:25	Coffee Break

<b>11:25 - 12:30</b>	<b><i>SPECIAL SESSION: ENVIRONMENTAL MONITORING FOR ARCHAEOLOGY AND CULTURAL HERITAGE</i></b>
<b>11:25 - 11:30</b>	Chairperson: Nikolaos Zacharias – Introduction to the Session
11:30 - 11:45	(O-45) Environmental and biopigmentation monitoring. Case study: The refectory from Hurezi monastic complex, Romania <u>Ioana Gomoiu</u> , Dan Mohanu, Ileana Mohanu, Mădălin Enache, Roxana Cojoc, Simona Neagu and Karina Paviliuc
11:45 - 12:00	(O-46) White ground Lekythoi: New insights using nondestructive, spatially highly resolved optical and X-ray analytics <u>Christoph Berthold</u> , Kathrin B. Zimmer, Oliver Scharf, Ulrike Koch-Brinkmann and Klaus Bente
12:00 - 12:15	(O-47) Non-invasive investigation of polychrome surfaces in archaeological areas by using Hyperspectral Remote Sensing: A case study in the Pompeii site Costanza Cucci, Leandro Chiarantini, Bruno De Nigris, <u>Marcello Picollo</u> , Barbara Sereni
12:15 - 12:30	(O-48) Non-destructive endoscopy of cultural heritage objects of various kind and materials <u>Georgios Karagiannis</u>
<b>12:30 - 13:50</b>	<b><i>SESSION: METALS AND METALLURGICAL CERAMICS II</i></b> Chairperson: Yu Liu
12:30 - 12:50	(O-49) New insights into the bronze alloy production in the Luristan Bronzes, Western Iran <u>Omid Oudbashi</u>
12:50 - 13:10	(O-50) Circulation of copper in LBA Northern Italy: Analyses of ingots from Friuli Venezia Giulia hoards (Italy) <u>Caterina Canovaro</u> , Ivana Angelini, Gilberto Artioli and Elisabetta Borgna
13:10 - 13:30	(O-51) Casting technology and craft production of Bronze Wares in the Central Plains of China in Late Shang Dynasty (13 <sup>th</sup> BC-11 <sup>th</sup> BC) <u>Yu Liu</u> and Zhanwei Yue
13:30 - 13:50	(O-52) An Archaic metallurgical workshop: The case of Charitopoulos plot in Thasos, Greece Benjamin Jagou, <u>Nerantzis Nerantzis</u> , Konstantina Panoussi and Giorgos Sanidas
13:50 - 14:30	Lunch Break
<b>14:30 - 16:15</b>	<b><i>POSTER SESSION II</i></b>
16:15 - 19:30	Ancient Messene guided tour (20:00 arrival at Kalamata)

### **Thursday, May 19**

<b>08:55 - 11:00</b>	<b><i>SESSION: HUMAN-ENVIRONMENT INTERACTIONS AND BIOMATERIALS – BIOARCHAEOLOGY I</i></b>
08:55 - 09:00	Chairperson: Henk Kars – Introduction to the Session
09:00 - 09:20	(O-53) Relationship between Ancient Roman and Greek settlements and ancient earthquakes in Aegean Region, Anatolia <u>Musa Tokmak</u> and Vedat Toprak
09:20 - 09:40	(O-54) Establishing best practice for bone collection and storage at the site of Tel Ashkelon, Israel <u>Bridget Alex</u> , Deirdre Fulton, Elisabetta Boaretto and Daniel Master
09:40 - 10:00	(O-55) Using micro-PIXE/PIGE analyses for provenancing, relative dating and establishing diagenetic processes affecting Aurignacian ivory artifacts Claire Heckel, Katharina Müller, Randall White, Harald Floss, Nicholas Conard and <u>Ina Reiche</u>
10:00 - 10:20	(O-56) Greco-Roman medicinal minerals <u>Effie Photos-Jones</u>
10:20 - 10:40	(O-57) Characterization of ancient contents in medieval Islamic objects: The relevance of exploring everyday products <u>Josefina Perez-Arategui</u> , Gemma Cepria and Erika Ribechini
10:40 - 11:00	(O-58) The use of pottery in Middle Neolithic Sardinia (Italy): An integrated morphometric, biomolecular, isotopic and use-wear approach <u>Laura Fantì</u> , Léa Drieu, Arnaud Mazuy, Thierry Blasco, Carlo Lugliè, Alessandro Usai and Martine Regert
11:00 - 11:30	Coffee Break
<b>11:30 - 12:30</b>	<b><i>SESSION: HUMAN-ENVIRONMENT INTERACTIONS AND BIOMATERIALS – BIOARCHAEOLOGY II</i></b> Chairperson: Ioanna Kakoulli
11:30 - 12:50	(O-59) The climate and environment of Ancient Cyprus: Its reflections on peoples' health <u>Athina Malapani</u>

12:50 - 12:10	(O-60) Investigating the possible brotherhood of two Egyptian mummies Nakht-Ankh and Khnum-Nakht via ancient DNA analysis <u>Konstantina Drosou</u> and Terence A. Brown
12:10 - 12:30	(O-61) Monitoring prehistoric painted caves: A scientific and technical challenge for heritage preservation <u>François Bourges</u> , Pierre Genthon, Dominique Genty, Eric Mauduit, Frédéric Perrier, Aude Isambert, Frédéric Girault, Hélène Bouquerel, Dominique D'Hulst and Bruno Lartiges
<b>12:30 - 13:35</b>	<b>SESSION: ARCHAEO-CHRONOMETRY I</b>
12:30 - 12:35	Chairperson: Marco Martini – Introduction to the Session
12:35 - 12:55	(O-62) Dating of archaeological mortars by Optically Stimulated Luminescence: A novel approach for dating the construction of historical buildings <u>Petra Urbanova</u> and Pierre Guibert
12:55 - 13:15	(O-63) Testing archaeomagnetic and thermoluminescence methods in archaeologically dated structures: The study of an Early Byzantine ceramic workshop in Thessaloniki, Greece <u>Elina Aidona</u> , George Polymeris, Pierre Camps, Despina Kondopoulou, Nikos Ioannidis and Konstantinos Raptis
13:15 - 13:35	(O-64) Chronometric studies of charred food residue: Chemical processing versus Rote Reservoir Correction Linda Scott Cummings, R. A. Varney, <u>Thomas W. Stafford Jr</u> , Robert J. Speakman and Donna C. Roper
13:35 - 14:30	Lunch Break
<b>14:30 - 16:30</b>	<b>POSTER SESSION III</b>
<b>16:30 - 17:30</b>	<b>SESSION: ARCHAEO-CHRONOMETRY II</b>
	Chairperson: Yorgos Facorellis
17:00 - 17:20	(O-65) Timing the migration of the "Sea Peoples" in the 2 <sup>nd</sup> millennium BC in the Southern Levant: A radiocarbon based chronology <u>Yotam Asscher</u> and Elisabetta Boaretto
17:20 - 17:40	(O-66) Radiocarbon dating of cocciopesto and lean mortars: Optimization of the Cryo2Sonic method Anna Addis, Michele Secco, Nereo Preto, <u>Fabio Marzaioli</u> , Isabella Passariello, Gian Pietro Brogiolo, Alexandra Chavarria Arnau, Gilberto Artioli and Filippo Terrasi
17:40 - 18:00	(O-67) The spread of Neolithization in the Aegean: Modelling with radiocarbon <u>Yannis Maniatis</u> and Kostas Kotsakis
<b>17:30 - 18:30</b>	<b>PANEL AND FORUM DISCUSSION: MAKING HISTORY MATTER: THE ROLE OF ARCHAEOLOGY IN ANTHROPOCENE STUDIES</b>

## Friday, May 20

<b>09:00 - 11:00</b>	<b>SESSION: METALS AND METALLURGICAL CERAMICS III</b>
	Chairperson: Marcos Martinon-Torres
09:00 - 09:30	<b>KEYNOTE:</b> (O-68) Beyond gold: Open-ended questions and analytical challenges <u>Maria-Filomena Guerra</u>
09:30 - 09:50	(O-69) Long-term developments in the technology of iron craft production: a case study in the territory of Sagalassos, SW-Turkey <u>Kim Eekelers</u> , Patrick Degryse and Philippe Muechez
09:50 - 10:10	(O-70) Iron oxide reduction process (IORP) for lead and silver smelting: A modern innovation or a long-lasting tradition <u>Siran Liu</u> , Thilo Rehren, Changqing Xu and Jianli Chen
10:10 - 10:30	(O-71) Analysis of niello inlay in Roman silver- and copper-based alloy metalwork found in the Pannonian provinces <u>Viktória Mozgai</u> , István Fórizs and Bernadett Bajnóczi
10:30 - 10:50	(O-72) A thousand years of iron production: Reconstructing smelting practices at Meroe through slag heaps <u>Thomas Birch</u> and Jane Humphris
11:00 - 11:30	Coffee Break
<b>11:30 - 13:30</b>	<b>SESSION: METALS AND METALLURGICAL CERAMICS IV</b>
	Chairperson: Thilo Rehren
11:30 - 11:50	(O-73) West Mexican copper metallurgy: A case study from Teuchitlán, Jalisco <u>Blanca Maldonado</u> and Peter Tropper
11:50 - 12:10	(O-74) New but not good: Technological innovation, rejection and adoption in Pre-Columbian goldwork <u>Marcos Martinon-Torres</u> and Juanita Saenz Samper

12:10 - 12:30	(O-75) Metals of the Desert -Analytical evidence from Saruq al-Hadid/Dubai <u>Kristina A. Franke</u> , Thomas Eley, Ivan Stepanov, Charlotte M. Cable, Lloyd Weeks, Claire Newton, James Roberts, Naomi Sykes, Steven Karacic, Mansour Boraik, Shaikha Obaid Alabbar and Rashad M. Bukhash
12:30 - 12:50	(O-76) An analytical approach to the study of Historical Wipe-Tinning method in Iran <u>Mohammad Mortazavi</u>
12:50 - 13:10	(O-77) For whom the Vendôme Column tolls: Investigation of one of the world’s largest bronze monument <u>Aurélia Azéma</u> , Annick Texier, Benoît Mille, David Bourgarit, Jessica Legendre, Nathalie Gandolfo, Elisabeth Lebon and Christophe Bottineau
13:10 - 13:30	(O-78) To the problem of the sources of silver supply in VI-VII centuries in the European part of Russia: Results of the study of isotopic composition of silver by the Pb-Pb method <u>Irina Saprykina</u> , Andrey Chugaev and Lubov Pelgunova
13:40 - 14:40	Lunch Break
<b>14:40 - 15:30</b>	<b>TECHNICAL SESSION (ISA GOLD LEVEL SPONSORS)</b>
<b>15:30 - 17:50</b>	<b>SESSION: CERAMICS, GLAZES, GLASS AND VITREOUS MATERIALS IV</b> Chairperson: Doris Möncke
15:30 - 15:50	(O-79) Practice less than perfect: How workshop activities modified the composition of ancient glass <u>Ian Freestone</u>
15:50 - 16:10	(O-80) Addressing the invisible: Experiment, ‘data mining’ and the archaeometry of glass recycling in the first millennium AD <u>Chloe Duckworth</u>
16:10 - 16:30	(O-81) Faience and vitreous materials in Mycenaean Greece: Interactions amongst allied production technologies in the Late Bronze Age Mediterranean <u>Kalliopi Nikita</u> and Simon Chenery
16:30 - 16:50	(O-82) Compositions of a cage-cup from late Roman Serdica and the colouring of diatreta glass <u>Anastasia Cholakova</u> and Thilo Rehren
16:50 - 17:10	(O-83) A hoard of enamelled objects from the Bryansk region, Central Russia: Chemical composition and production technology <u>Olga Rumyantseva</u> and Alexander Trifonov
17:10 - 17:30	(O-84) Non-invasive analyses of the only known Kan'ei-period-dated polychrome mukozuke dish provides a new hypothesis over the introduction of overglaze enameling in Japan <u>Riccardo Montanari</u> , Maria Francesca Alberghina, Monica Galeotti, Emanuela Massa, Anna Pelagotti and Salvatore Schiavone
17:30 - 17:50	(O-85) Elemental composition and craft practice in a Medieval window glass workshop <u>Laura Ware Adlington</u> , Ian Freestone and Nick Teed
<b>17:50 - 18:30</b>	<b>Closing Remarks – Awards</b>
20:00	Gala Diner

## Saturday, May 21

9:00 - 17:00	Post Symposium Excursions
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# POSTER SESSION I

Tuesday 17 May 2016

## *STONE, PLASTER AND PIGMENTS*

**P-1. The characterization and provenance of ophiolites used as raw materials in the Minoan palatial architecture. The case study of the column base located at the “Court of the Stone Spout” in the Palace of Knossos**  
Ioannis Grammatikakis, Konstantinos Demadis, Evangelos Kyriakidis, Aurelio Cabeza and Laura Leon-Reina

**P-2. Investigating the use of wood in the Minoan palace of Knossos following the subsequent traces from the analysis of the restoration materials used throughout time**  
Ioannis Grammatikakis, Konstantinos Demadis, Eliza Kavoulaki, Aurelio Cabeza and Laura Leon-Reina

**P-3. Mineralogical and isotopic analysis of the building materials in a Late Bronze settlement of Kastro-Palaia in Volos, Greece**  
Markos Vaxevanopoulos, George Economou, Vasilios Melfos and Evangelia Skafida

**P-4. Geo-materials selection and procurement strategies in Copper Age menhirs production at Allai (central-western Sardinia, Italy)**  
Marco Serra, Valentina Mameli and Carla Cannas

**P-5. Identification of stones composition used in Pasargadae World Heritage Site, Achaemenid Period, South of Iran**  
Atefeh Shekofteh, Giuseppe Cultrone, Anna Arizzi, Hossein Ahmadi, Mehdi Yazdi and Eduardo Molina Piernas

**P-6. Stone provenance studies in the Anahita Temple, Kangavar, Western Iran: From quarries to building**  
Omid Oudbashi, Atefeh Shekofteh and Farhad Nazari

**P-7. The project ‘Enhancement of the ancient theatre of Melos’. The works of conservation – consolidation and restoration of the monument. Aims, problems and findings**  
Ioannis Staikopoulos

**P-8. Mineralogical and C-O isotopic characteristics of the oolitic limestone of Perachora, Tyrnavos, Thessaly, Greece. The ancient quarries and some particular uses during antiquity**  
Vasilios Melfos, Markos Vaxevanopoulos, Maria Tsivilika and Marianthi Vavaliou

**P-9. Diversity of calcarenites in the Hellenistic-Roman architecture**  
Michalina Dzwoniarek-Konieczna and Małgorzata Mrozek-Wysocka

**P-10. Marbles from the Villa of Theseus (Nea Paphos) in the archaeometric studies - preliminary results**  
Michalina Dzwoniarek-Konieczna

**P-11. Technical examination and restoration of some architectural stuccoes of the minaret of Shams El Din El Wasty, Bulaq, Egypt**  
Abdullah Kamel, Hassan Marie, Mona Ali and Hala Mahmoud

**P-12. A study on the structure of the stones of Jolfa historical public bathroom by instrumental analysis and determining a consolidation**  
Parvin Soleimani

**P-13. Geological materials of exotic origin in the urban pavements of the old quarters of the city of Cádiz, Spain: Analytical characterization and history**  
Salvador Domínguez-Bella and Lara Criach Fernandez

**P-14. Spectroscopic and TL characterization of Moroccan marbles**  
Salam Khriissi, Mustapha Haddad, Lahcen Bejjit, Saadia Ait Lyazidi, Mohamed El Amraoui, Christophe Falguères, Niyazi Meriç, Şahiner Eren, Georgios S. Polymeris and Valeria Giannoulatou

**P-15. Contribution to the petroarchaeological study of radiolarites in the Carpathian Basin**  
Katalin T. Biró, Zsolt Kasztovszky, Sándor Józsa and András Markó

**P-16. Influence of hydraulic materials on properties of traditional sticky rice-lime mortar**  
Guofeng Wei, Hu Zhou and Bingjian Zhang

**P-17. Chemical and enzymatic detection methods for organic matters in ancient Chinese mortars**

Kun Zhang

**P-18. Analytical studies of historical earthen plasters: A case study on the earthen plasters on the inner-wall of the Longhu Hall in Yuzhen Palace of Ancient Building Complex in the Wudang Mountains**

Xiao Ma, Guofeng Wei, Celestino Grifa, Yuku Kang, Herant Khanjian and Ioanna Kakoulli

**P-19. Mortars and plasters in Ancient Egyptian wall painting and architecture - in situ analysis of a vast material variety with a mobile field laboratory**

Alexandra Winkels

**P-20. Technological study of archaeological mortars from the site of the Sanctuary of Poseidon on Kalaureia**

Maria Tziotziou, Maria Amenta, Arto Penttinen, Ioannis Karatasios and Vassilis Kilikoglou

**P-21. On the provenance of coarse calcite crystals used as aggregate of Roman plasters**

Roberto Bugini and Luisa Folli

**P-22. Lime mortars and plasters in the Forum area of Egnazia: Technological changes in Roman Age**

Giacomo Eramo, Gianluca Mastrocinque, Annarosa Mangone, Lorena Giannossa, Fabrizio Mastrorocco, Angela D'Elia and Raffaella Cassano

**P-23. Saint Demetrius Monastery of Stomion: Comparative analysis of pigments and plasters of the Catholicon wall paintings**

Lamprini Malletzidou, Triantafyllia Zormpa, Paylos Beinas, Theodore Ganetsos, Thomas Katsaros, Vasiliki Touli, Eleni Pavlidou, Konstantinos Chrysafis and Konstantinos Paraskevopoulos

**P-24. Characterization of materials and production technologies of gypsum plaster decoration from twelfth—thirteenth century Iran**

Federico Caro, Elena Basso, Martina Rugiadi, Jean-François de Lapérouse, Vicki Parry, Victor Borges, Paula Artal-Isbrand, Philip Klausmeyer and Melissa Meighan

**P-25. Petrography and characterization of mortars of Ottoman buildings in Algiers 1515 - 1830**

Naima Mahindad Abderrahim and Messaoud Hamiane

**P-26. Identifying a technological style in the making of lime plasters at Teopanaczo (Teotihuacan, México)**

Alessandra Pecci, Domenico Miriello, Donatella Barca, Gino Mirocle Crisci, Raffaella De Luca, Agustin Ortiz, Linda R. Manzanilla, Jorge Blancas and Luis Barba

**P-27. Stone under fire: Lime production seen through chemical residues and Infrared Spectroscopy from a Golden Age Henequen Hacienda**

Hector Hernandez and Soledad Ortiz

**P-28. The microscopic study of the mortar's binders**

Emma Cantisani, Elena Pecchioni and Fabio Fratini

**P-29. Detection and chemical characterization of organic surface finishes on mortars by Reflectance FTIR Microspectroscopy**

Vasiliki Kontogianni and Panagiota Manti

**P-30. <sup>13</sup>C and <sup>18</sup>O applied to detect the technology and degradation of historic mortars**

Dafni Kyropoulou, Dimitra Andrikou, Vasilios Christaras, Vasilios Melfos and Elissavet Dotsika

**P-31. Mortars for conservation an atypical case - fresco painting in the wooden churches**

Ileana Mohanu, Dan Mohanu, Ioana Gomoiu, Adriana Moanță, Ionela Petre and Liliana Radu

**P-32. Raw materials and pigments of rock art paintings in Colombia**

Judith Trujillo-Tellez, Guillermo Muñoz-Castiblanco and Carlos Augusto Rodríguez-Martínez

**P-33. Characterization, sourcing and processing of Palaeolithic ochre from Fumane Cave (Italy)**

Giovanni Cavallo, Marco Peresani, Federica Gonzato, Damiano Monticelli, Maria Pia Riccardi, Roberto Zorzin and Francesca Sanvito

**P-34. The Great Ceiling of Rouffignac cave (Dordogne, France) under portable X-ray fluorescence spectrometry: New insight into the reading of the composition of its drawings**

Marine Gay, Katharina Müller, Frédéric Plassard and Ina Reiche



**P-35. Understanding red pigments in Late Neolithic funerary contexts from Alentejo, Portugal**

Lucija Soberl White, Cristina Dias and Jose Mirão

**P-36. The on-site analytical study, photographic documentation, and conservation treatment of an Egyptian New Kingdom child coffin**

Nicole Peters, Lucy Skinner, Juan Juan Chen, Corina Rogge, Alexandra Winkels and Rainer Gerisch

**P-37. Colour of Latène and Hallstatt period fibulae beads**

Klaus Bente, Christoph Berthold, Richard Wirth and Melanie Keuper

**P-38. Reproducing three fresco fragments from Iklaina, Pylos, using non-destructive analysis**

Georgios Tsairis, Eleni Palamara and Nikos Zacharias

**P-39. Identification and manufacturing technology of a Late Bronze Age IA shellfish purple pigment from Ialysos, Rhodes**

Yorgos Facorellis, Stamatis Boyatzis, Toula Marketou, Ariadne Kostomitsopoulou-Marketou and Euphoria Tsatsaroni

**P-40. Identification of pigments used in objects and architectural decoration in a pre-Historic site in Iran by analytical methods**

Roya Bahadori and Seyed Hamid Ahmadi

**P-41. Archaeometrical investigation of polished decorative fields in Thracian Fresco Tombs from the Hellenistic period**

Dorotea Guirdzhiiska, Boika Zlateva and Zornitza Glavcheva

**P-42. Non-invasive materials analysis using Portable X-ray Fluorescence (XRF) in the examination of three frescoes depicting Greek myths (Oedipus, Electra, Troy) from the second century A.D.**

Moamen Othman, Eman Zidan, Mohamed Abdel-Rahman, Eid Mertah and Ahmed Tarek

**P-43. Fayum mummy portraits collection of Egyptian museum database:**

**Archaeometry technical study, condition assessment**

Moamen Othman, Eltokhy Kamal, Basem Gehad, Eman Zidan, Mohamed Abdel-Rahman, Eid Mertah, Ahmed Tarek and Eslam Shaeen

**P-44. Characterization and identification of colours and pigments materials used on wall paintings in Roman Times in Libya: A comparative scientific study**

Safaa Abd El Salam and Yannis Maniatis

**P-45. The lightfastness of Maya Blue**

Carlos Morales-Merino, Stefan Roehrs, Ina Reiche and Maria Gaida

**P-46. FTIR and Raman Spectroscopic investigation of mural Medieval paintings from Serdika Antique Cultural and Communications Complex, Sofia, Bulgaria**

Zornitza Glavcheva, Dieter Fischer, Albena Lederer, Denitsa Yancheva, Bistra Stamboliyska and Valentin Todorov

**P-47. Multi-analytical study on the frescoes of Kurilo Monastery “St. Ivan Rilski”, Bulgaria**

Evelina Velcheva, Zornitza Glavcheva, Nikifor Haralampiev, Denitsa Yancheva, Bistra Stamboliyska and Stefan Tapanov

**P-48. Characterization of wall painting materials from Rila Monastery (Bulgaria) by Raman and ATR-FTIR Spectroscopy**

Denitsa Yancheva, Dieter Fischer, Albena Lederer, Zornitza Glavcheva, Evelina Velcheva, Nikifor Haralampiev and Stefan Tapanov

**P-49. Examination of 14<sup>th</sup> - 15<sup>th</sup> century Buddhist wall paintings from a cave complex in Saspol, Ladakh**

Mariana Pinto, Myrto Georgakopoulou, Maninder Singh Gill, Sreekumar Menon and Tsering Anchok

**P-50. Two post-Byzantine, wall painted monuments from Epirus: Materials and techniques**

Georgios P. Mastrotheodoros, Eleni Filippaki, Varvara Papadopoulou, Konstantinos G. Beltsios, John Christodoulakis, Maria Kazantzaki and Evangelos Tsakalos

**P-51. A study on pigments and dyes used in some illuminated Quran manuscripts by analytical techniques**

Roya Bahadori and Faranak Bahrololoomi

**P-52. In situ Confocal Micro X-Ray Fluorescence (CXRF) analysis of XVI century paintings**

Kilian Laclavetine, Francisco J. Ager, Muñoz M.V., Vega M. and Miguel Ángel Respaldiza

**P-53. <sup>57</sup>Fe Mössbauer, SEM/EDX, p-XRF and  $\mu$ -XRF studies on a Dutch painting**

Hans-Jörg Schmidt, Robert Lehmann and Dagmar Wengerowsky

**P-54. Archaeometrical analysis of early 20<sup>th</sup> century oil painting colour tubes**

Lucilla Pronti, Margherita Vendittelli, Domenico Poggi, Anna Candida Felici and Mario Piacentini

**P-55. Goya's pigments. Non-invasive methods applied to 5 paintings in the Museum of Zaragoza (Spain)**

Floréal Daniel, Aurélie Mounier, Josefina Perez-Arantegui, Carlos Pardos, Nagore Prieto-Taboada, Silvia Fdez-Ortiz de Vallejuelo and Kepa Castro

**P-56. Klimt artwork: Material investigation by backscattering Fe-57 Mössbauer- and Raman- spectroscopy, SEM and p-XRF**

Dagmar Wengerowsky, Hans-Jörg Schmidt and Robert Lehmann

**P-57. Effects of illuminants on the colour perception of paintings. Application of hyperspectral imagery**

Floréal Daniel, Aurélie Mounier, Faten Ammari, Samuel Brockbank-Chasey and Sandrine Delord

**P-58. Analytic capabilities and detection limits of X-ray emission spectrometry on paint pigments**

Boglárka Maróti, Imre Kovács and András Kocsonya

**P-59. First geo-chemical results of pyrenean chert analyses by ED-XRF and LA-ICP-MS.**

**Implications for Magdalenian human mobility in the Pyrenees (SW Europe)**

Marta Sanchez de La Torre, François-Xavier Le Bourdonnec, Stephan Dubernet, Bernard Gratuze, Xavier Mangado and Josep Maria Fullola

**P-60. Occurrences and provenances of Prehistoric hornfels polished stone tools in Hungary**

György Szakmány, Zsolt Bendő, Sándor Józsa, Zsolt Kasztovszky, Elisabetta Starnini and Ferenc Horváth

**P-61. Grinding- and millstone exploitation and production center in Domoszló (Hungary)**

Bálint Péterdi, Katalin T. Biró and Zoltán Tóth

**P-62. Application of non destructive multiparametric protocol for flint characterisation:**

**Preliminary data from Apulian Neolithic sites**

Giacomo Eramo, Italo M. Muntoni, Sandra Sivilli, Alessandro Monno, Ignazio Allegretta and Emanuela Delluniversità

**P-63. Walking around the rocks; Prehistoric use of stone materials in Inner Western Anatolia**

Ali Umut Türkcan, Aydın Doğan, Ferhat Erikan, Mert GÜl and Ayşe GÜl

**P-64. Lithic heat treatment in the Middle Stone Age: The transformation of material properties in silcrete**

Gerald Buck, Isabel Zutterkirch, Patrick Schmidt, Christoph Lauer, Christoph Berthold and Klaus G. Nickel

**P-65. Fracture property of lithic raw materials and material utilization in Paleolithic Japan**

Kaoru Yonekura

**P-66. An experimental study of lithic use-wear multi-stage formation**

Hong Chen, Chen Shen and Xiaoling Zhang

**P-67. Provenance of lithic arrowheads from Central Alentejo (Portugal) – a multi-analytical approach**

Mafalda Costa, Pedro Barrulas, Luís Dias, Jorge Oliveira, Leonor Rocha and José Mirão

**P-68. Characteristic features of lapis lazuli from different provenances revised by  $\mu$ XRF and ESEM**

Renate Noeller and Ines Feldmann

**P-69. Non-destructive characterization of ancient Egyptian and Medieval-period Persian turquoise artifacts in The Metropolitan Museum of Art**

Brunella Santarelli, Deborah Schorsch and Federico Caro

**P-70. Nephrite artefacts in Hungary – the present state of knowledge**

Bálint Péterdi, Zsolt Bendő, György Szakmány, Zsolt Kasztovszky, Katalin T. Biró and Grzegorz Gil

**P-71. Serpentinite from the Möll Valley (Austria) as the raw material of an artefact found in NW-Hungary**

Bálint Péterdi, Zsolt Bendő, György Szakmány, Zsolt Kasztovszky and Katalin T. Biró

**P-72. Chalcedony and agate in archaeometry and geology.**

Elisabetta Gliozzo

**P-73. Archaeometric studies of archaeological and modern corals and molluscs to reconstruct Iron Age trade routes: Preliminary results**  
Sebastian Fürst, Katharina Müller, Céline Paris, Ludovic Bellot-Gurlet and Ina Reiche

**P-74. A contribution to Pacific archaeology using museum collections and pXRF**  
Michelle Richards

**P-75. Investigation of materials deposited on cremated bones in Royal and High-Status Macedonian burials: Revealing ancient unknown funerary customs?**  
Theodora Arvaniti, Yannis Maniatis, Laura Wynn-Antikas and Theodore Antikas

**P-76. Study of gypsum detected on ancient cremated bones in Greece: An unknown funerary custom or natural mineralization?**  
Theodora Arvaniti, Yannis Maniatis, Laura Wynn - Antikas and Theodore Antikas

**P-77. The study of two Marble Pyxides from the Archaeological Museum of Ancient Corinth using hyperspectral imaging**  
Athina Alexopoulou, Agathi-Anthoula Kaminari, Angeliki Kandri and Dimitra Balafa

**P-78. From the depths of the earth to the depths of the sea. A journey story of marble anchors**  
Orhan Serdar, Asuman G. Turkmenoglu, Dimitris Tambakopoulos and Yannis Maniatis

**P-79. Ground Penetrating Radar for non - destructive structural imaging of ancient sculpture**  
Kleisthenis Dimitriadis, Georgianna Moraitou, Ioannis Konstantakis, Spyridoula Avlonitou and Ioannis Panagakos

**P-80. Making new from old: Geochemical (PXRF) and typo-technological analysis of Near Eastern obsidian**  
Bastien Varoutsikos

**P-81. Obsidian source selection in the Early Bronze Age Cyclades**  
Jessica Morgan, Tristan Carter and Robert H. Tykot

**P-82. Provenance characterization of obsidian artefacts from Clenia cave, Corinthia, Greece**  
Artemios Oikonomou and Dimitrios Chadjiangellou

**P-83. Detecting obsidian exploitation in household vs socially invested activities from Middle Neolithic Sardinia (Italy)**  
Carlo Lugliè, François-Xavier Le Bourdonnec, Laura Fanti, Barbara Melosu, Stéphan Dubernet, Salvatore Sebis and Alessandro Usai

**P-84. Reconstructing obsidian consumption patterns in Neolithic Corsica: Insights from the Listrella e Stabielle site**  
Marie Orange, Pascal Tramoni, François-Xavier Le Bourdonnec, Sabine Negroni, Ana Ferraz, Maxime Remicourt, Anja Scheffers and Renaud Joannes-Boyau

**P-85. Magnetic sourcing of obsidians from a Neolithic site in Northern Italy**  
Enzo Ferrara, Elena Zanella, Evdokia Tema, Elena Olivetti and Francesca Miola

#### *CERAMICS, GLAZES, GLASS AND VITREOUS MATERIALS*

**P-86. A comparative study of Early Chinese lead-barium-silica and potash-silica vitreous materials industries**  
Yi-Xian Lin, Ian Freestone, Paul Fullagar and Thilo Rehren

**P-87. The scientific analysis of the glass beads excavated from the Shi-ren-zi-gou Series Sites in Xinjiang China**  
Rui Wen, Zhiqiang Zhao and Jian Ma

**P-88. Chemical composition of glass bead in Kueishan site, southern Taiwan (the late 1<sup>st</sup> millennium AD)**  
Kuan-Wen Wang, Kuang-Ti Li, Yoshiyuki Iizuka and Caroline Jackson

**P-89. An archaeometric study of the Iron Age glass beads from the necropolis of Vinha das Calças (Beringel, Portugal)**  
Mafalda Costa, Ana Margarida Arruda, Pedro Barrulas, Rui Barbosa, Peter Vandenabeele and José Mirão

**P-90. Portable XRF in the study of Egyptian plantash glasses from the Late Bronze Age: A pilot study**  
Anna Hodgkinson and Frank Kutz

**P-91. Materials and technology of glass core-vessel at Tell Amarna, New Kingdom, Egypt**

Neveen Salim and [Hamdallah Bearat](#)

**P-92. Egyptian glass inlays from Tebtynis workshop: First steps of the research**

[Cinzia Bettineschi](#), Ivana Angelini, Gianmario Molin, Paola Zanovello, Alessia Fassone and Christian Greco

**P-93. Recycled vessel glass as a raw material in the production of Mesopotamian alkali ceramic glazes**

[Jonathan R. Wood](#), Ian C. Freestone and Roberta Tomber

**P-94. Glass, gold and borax: Borosilicate layers on Late Bronze Age Mycenaean vitreous relief fragments**

[Doris Möncke](#), Ferdinand Drünert, Felix Lind, Anders Kästner, Peter Vontobel, Dimitrios Palles, Efstratios I. Kamitsos, Lothar Wondraczek and Nikos Zacharias

**P-95. Typological and analytical examination of glass finds from the Mycenaean Cemetery of Voudeni, Achaia, Greece**

[Maria Kaparou](#), Nikos Zacharias and Artemios Oikonomou

**P-96. Technology and provenance of Hellenistic glass from Thesprotia, North Western Greece**

[Artemios Oikonomou](#), Julian Henderson, Simon Chenery and Nikolaos Zacharias

**P-97. Archaeometric study of late Hellenistic to Early Roman cast glass bowls from Beirut**

[Dieter Brems](#) and Ian Freestone

**P-98. Nanoscale chemistry and structure of Roman opaque red glass**

[Monica Ganio](#), Sung Il Baik, Dieter Isheim, Emeline Pouyet and Marc Walton

**P-99. Colouring and decolouring glass: An experimental model of the production of purple and decoloured glass in Roman times**

[Anne Isabelle Bidegaray](#), Andrea Ceglia, Peter Cosyns, Stéphane Godet, Hugo Thienpont, Karin Nys and Herman Terryn

**P-100. Glass compositions of the early Roman period – some examples from Bulgaria**

[Kristina Koseva](#)

**P-101. Roman mosaic glass from the Domus of Tito Macro in Aquileia (Italy): An archaeological and archaeometric characterisation**

Jairo Boschiero, [Sarah Maltoni](#), Alessandra Marcante, Gianmario Molin and Alberta Silvestri

**P-102. Archaeometric investigation of the glass tesserae from the 'Villa degli Antonini' at the Ager Lanuvinus**

[Deborah Chatr Aryamontri](#), Greg Pope, Matthew Goring, Laying Wu and Nicolas Zarro

**P-103. Roman and Early Byzantine glass from Athienou Malloura, Central Cyprus: Production technology and origins**

[Yuan Lin](#), Tianchi Liu, Michael Toumazou, Derek B. Counts and Ioanna Kakoulli

**P-104. Mosaic tesserae: Analyses of Levantine, late Roman and Byzantine glass and gold**

[Maria Filomena Guerra](#), Isabel Tissot, Elisabetta Neri and Philippe Colomban

**P-105. Classification analyses of Byzantine glass tesserae**

Vasilis Nikolaidis, Nikolaos Zacharias, Stavros Stavroyiannis and [Artemios Oikonomou](#)

**P-106. Developments in natron glass production and supply in early Islamic Palestine**

[Matt Phelps](#), Ian Freestone, Yael Gorin-Rosen and Bernard Gratuze

**P-107. Colourants and opacifiers of glass tesserae from the Great Mosque of Damascus**

Mariangela Vandini, [Sara Fiorentino](#) and Tania Chinni

**P-108. Late Antique and Medieval glass in northern Apulia: San Giusto, Montecorvino and San Lorenzo in Carmignano**

[Elisabetta Gliozzo](#), Francesca Giannetti, Roberta Giuliani, Anna Ignelzi and Maria Turchiano

**P-109. Glass Golden Horde: Morphology, technology, chemical composition**

[Svetlana Valiulina](#)

**P-110. Analytical studies of post Medieval glass bottle marks from excavations at Kazan Kremlin (Russia)**

[Rezida Khramchenkova](#), Patrick Degryse, Airat Sitdikov and Alexei Kaisin

**P-111. Multi-Technique Imaging of Medieval decorated glass**

David Dungworth

**P-112. History, archaeology and archaeometry: Tools for characterising and protecting the remains of the English glass industry**

Sarah Paynter, Paul Linford and Chris Welch

**P-113. HARLESTONE: Evidence from a lost 17<sup>th</sup> century glasshouse cone**

Vanessa Castagnino

**P-114. Analysis and technology of glass finds from an Ottoman Bathhouse (hamam) in Kyparissia, Greece**

Eleni Palamara, Nikolaos Zacharias, Sophia Germanidou and Konstantina Gerolymou

**P-115. Small objects, big potential: Investigating European Trade Glass beads between Canada and Europe**

Adelphine Bonneau, Réginald Auger, Bernard Gratuze and Jean-François Moreau

**P-116. Glass finds from the territory of the Kazan glassworks (18<sup>th</sup> - 19<sup>th</sup> century, Russia)**

Rezida Khranchenkova, Patrick Degryse, Airat Sitdikov, Polina Kaplan and Alexei Kaisin

**P-117. Developing in situ pXRF analysis of medieval stained glass**

Laura Ware Adlington, Ian Freestone and Léonie Seliger

**P-118. High tech for old shards: Synchrotron radiation based techniques for the investigation of stained glass**

Josef Hormes, Markus Kleine, Gudrun-Lisa Bovenkamp-Langlois, Wantana Klysubun and Ralf Schmitz

**P-119. Biodeterioration of archaeological glass**

William Shelley, Nikos Zacharias and Ioanna Kakoulli

**P-120. Glass characterization through spectroscopic investigations of the Co(II) complex**

Cristina Fornacelli, Susanna Bracci, Isabella Memmi and Andrea Ceglia

**P-121. What causes the color in Cu-red artifacts? Analysis of Mie scattering from particulate constituents**

Ferdinand Drünert, Doris Möncke, Magdalena Blanz, Zhiwen Pan and Lothar Wondraczek

**P-122. Why Volturno sands were never used for glass production**

Dieter Brems, Rebecca Scott, Daniela Ruberti and Patrick Degryse

**P-123. The mapping and characterisation of sand raw materials for the production of natron glass in SE Italy**

Dieter Brems, Maarten Diels and Patrick Degryse

*METALS AND METALLURGICAL CERAMICS*

**P-124. Analysis of corrosion products on the bronzes unearthed at Lijiaba Site, Yunyang County, Chongqing, China**

Xiaopan Fan, Xiongwei Zhao and Quan Yuan

**P-125. Mycenaean warrior - Linear B versus metal artifacts**

Beata Kaczmarek

## POSTER SESSION II

Wednesday 18 May 2016

### *THE BEGINNING OF THE BRONZE AGE IN EASTERN MEDITERRANEAN*

**P-126. Creating interactive 3D visualizations of archaeological data:**

**A case study on the Early Bronze Age Helike Corridor House**

Styliani Katsarou, Dora Katsonopoulou, Mariza Kormann and Gary Lock

**P-127. Lambayanna: An Early Bronze Age coastal settlement in the Southern Argolid**

Julien Beck, Patrizia Birchler Emery, Despina Koutsoumba and Ioanna Kraounaki

### *METALS AND METALLURGICAL CERAMICS*

**P-128. Provenancing antimony in metal and vitreous materials**

Sarah Dillis, Elisa Maupas and Patrick Degryse

**P-129. Tin isotope fractionation during cassiterite smelting and its implication for tracing the tin sources of the Bronze Age**

Daniel Berger, Gerhard Brüggemann, Elin Figueiredo and Ernst Pernicka

**P-130. Reflections on the properties of high tin copper alloys:**

**An experimental study of casting Chinese high tin bronze mirrors**

Peisen Ding, Ntaniela Georgiou, Marcella Giobbe, Matthew Lester, Michael Mlyniec, William Moody, Jeska Pepermans, Ulrike Thuring, Shushan Xi, Paloma Zarzuela Gutierrez and Roger Doonan

**P-131. Evidence of arsenical copper smelting in Bronze Age China:**

**Recent results of copper slag from the Laoniupo Site, Shaanxi**

Kunlong Chen and Yanxiang Li

**P-132. Recent archaeology and archaeometallurgical discoveries on early metallurgy in China**

Lu Wang, Kunlong Chen and Jianjun Mei

**P-133. A case study of Triangle Zigzag Pattern based on new archaeological findings in Gansu Province, China, concerning with Sino-West technical and cultural exchange**

Yali Yun

**P-134. Metallurgical traditions and metal exchange networks in late prehistoric central Myanmar, c. 1000 BC to c. 500 AD**

Kalayar Myat Myat Htwe, Myrto Georgakopoulou, Thomas Oliver Pryce and Rehren Thilo

**P-135. Material and technological constraints on the generation of black patinated copper alloys**

Agnese Benzonelli, Ian Freestone and Marcos Martín-Torres

**P-136. The earliest of alloys: Arsenical copper production remains and replication experiments**

Loïc Boscher and Thilo Rehren

**P-137. Early Bronze Age Copper alloy artefacts from Selenkahiye, Syria**

David Dungworth and Graham Philip

**P-138. Diachronic changes of the Ancient Egyptian and Nubian metallurgy:**

**Case study of the material from Egyptian Museum of Leipzig University**

Jiri Kmosek and Martin Odler

**P-139. Experimental analysis of Ayn Soukhna copper smelting**

Frederik Rademakers, Georges Verly and Patrick Degryse

**P-140. A first look into the ancient Egyptian bronze collection at the RMAH, Brussels**

Frederik Rademakers, Georges Verly, Luc Delveaux and Patrick Degryse

**P-141. Enkomi: A new perspective in old material**

Demetrios Ioannides and Vasiliki Kassianidou

**P-142. Cycladic metallurgy at the transition to the Bronze Age: Kephala and Paouras on Kea Island**  
Myrto Georgakopoulou, Joanne Murphy, Margarita Nazou and Natalie Abell

**P-143. Polychrome alloys in Mycenaean goldwork**  
Maria Filomena Guerra

**P-144. Silver remains from the Eneolithic individual burial of Su Forru de is Sinzurreddus cave (central-west Sardinia, Italy)**  
Marco Serra, Carla Cannas and Carlo Lugliè

**P-145. Early copper-based metallurgy at the site of Monte d'Accoddi (Sardinia, Italy)**  
Kyle Freund, Luisanna Usai and Robert Tykot

**P-146. Non destructive compositional and microstructural characterization of Sardinian bronze swords through Neutron Diffraction**  
Francesco Grazzi, Antonio Brunetti, Anna Depalmas and Antonella Scherillo

**P-147. A strange lead isotopic signature: The Funtana Coberta-Ballao hoard (Sardinia)**  
Ignacio Montero-Ruiz, Paolo Valera, Maria Rosaria Manunza, Nuria Rafel, Fulvia Lo Schiavo and Marco Betelli

**P-148. Contributions to Central European Early Bronze Age metallurgy**  
Gabriella Kulcsár, Anna Endródi, Zsolt Kasztovszky, György Káli, Zoltán Kis, Boglárka Maróti, Róbert Patay, Géza Szabó and Viktória Kiss

**P-149. Lead and copper isotope ratios of Neolithic copper axes and Bronze Age gold coils – hint at raw material origin**  
Robert Lehmann

**P-150. The colour of bronze - Possible use of deliberate alloying in order to produce different colors in the Bronze Age**  
Arne Jouttijärvi

**P-151. Use of the Monte Carlo simulation as a tool for non-destructive EDXRF analysis of archaeological coppers from early metallurgy in Southern Portugal**  
Carlo Bottaini, Antonio Brunetti, Rui Bordalo, António Valera and Nick Schiavon

**P-152. A new corpus of analytical data on Atlantic Late Bronze Age metal hoards: The ALBIMEH project**  
Xose-Lois Armada, Marcos Martín-Torres and Raquel Vilaça

**P-153. Naipes, standardized Middle Sicán (ca. CE 1000) sheetmetal objects: New insights from SEM-EDXS and metallographic analyses**  
Branden Rizzuto

**P-154. Reconstructing copper production technology at the Iron Age workshop of Almyras (Ayia Varvara, Cyprus)**  
Martina Renzi, Myrto Georgakopoulou, Thilo Rehren, Christina Peege and Walter Fasnacht

**P-155. New insights on Early Iron Age Metallurgy in Southwest Iberia. The monumental sites of Extremadura**  
Charles Bashore

**P-156. Early Iron Age Iapodean Headdress: The social and technological context**  
Ana Franjic

**P-157. Bronze alloys of monetary signs emitted by Greek colony Histria – VII-VI Centuries B.C.**  
Bogdan Constantinescu

**P-158. An archeometrical research on copper alloy made metal objects from Razgrad museum fund, Bulgaria**  
Velislav Boney and Boika Zlateva

**P-159. About tin presence in Geto-Dacian silver coins as revealed by XRF and micro-PIXE**  
Daniela Cristea-Stan and Bogdan Constantinescu

**P-160. The Sanctuary of Hercules in Sesklo region, Volos, Greece: An archaeometric approach of the Archaic bronze objects**  
Evagelia Stamelou, Argyroula Doulgeri-Intzesiloglou, Eleni Asderaki-Tzoumerkioti and Markos Vaxevanopoulos

**P-161. Compositional study of bronze artefacts from archaeological sites of ancient Macedonia**

Christos Katsifas, Annareta Touloumzidou and George Zachariadis

**P-162. Early bronze coins and bars from Italy and Greece (aes grave) and their metal origin**

Robert Lehmann

**P-163. Micro X-ray fluorescence analysis of Roman Imperial Coins from Nero**

Astrik Gorghinian, Adolfo Esposito, Marco Ferretti and Fiorenzo Catalli

**P-164. Neutron based archaeometallurgical investigation of Roman-Picenan metal objects from the Academia Georgica Treiensis collection (Italy)**

Massimo Rogante, László Rosta, György Káli, Zsolt Kasztovszky, Zoltán Kis, Imre Kovács, Boglarka Maroti and Zoltán Szőkefalvi-Nagy

**P-165. Look for the silver lining evidence for silver recovery in Roman metallurgy: A case study**

Elisa Grassi and Lorna Anguilano

**P-166. Any old pot will do? Metalworking crucibles on the Roman Frontier**

Carlotta Gardner and Ian Freestone

**P-167. Metalworking crucibles in Roman London**

Carlotta Gardner, Ian Freestone and Michael Marshall

**P-168. Foreign weapons and local copies - The metallurgy of swords, lances and knives from the votive deposits in Vimose, Illerup and Ejsbøl**

Arne Jouttijärvi

**P-169. Analysis of a gilded silver bridle from Hungary**

Réka Ágnes Piros

**P-170. Technology secrets of precious metal artifacts from Nidajno bog site in Poland**

Aneta Gójska, Aleksandra Rzeszotarska-Nowakiewicz, Tomasz Nowakiewicz, Ewelina A. Mišta, Paweł Kalbarczyk and Jakub Dudek

**P-171. Slags and the Forum – Preliminary results from analyses of copper alloy slags from the Forum of Grumentum**

Giulia Bison, Lorna Anguilano and Lara Pozzan

**P-172. Complex non-destructive metallographic study on Gepid bronze and precious metal artefacts from the Carpathian Basin (5<sup>th</sup>-6<sup>th</sup> cent.)**

Béla Török, Márton Benke, Valéria Mertinger, Péter Barkóczy, Árpád Kovács, Krisztina Hoppál and Péter Kovács

**P-173. Tradecraft of the Avars' metalworking - a special early medieval multi-metallic method**

Béla Török and Árpád Kovács

**P-174. Manufacturing technology of Ali bin Mamun dirhams (997-1007) discovered in the territory of Volga Bulgaria**

Eugenia Shaykhutdinova, Rezida Khramchenkova and Ayrat Sitdikov

**P-175. Origins of silver and production of jewelry in early Medieval Poland**

Ewelina Mišta, Władysław Duczko, Andrzej Turos, Stanisław Mikulski, Paweł Kalbarczyk, Jakub Dudek, Adam Kędzierski, Dariusz Wyczółkowski, Renata Czech, Maciej Widawski and Jarosław Gaca

**P-176. All roads lead to Pisa? Sardinian copper and silver in medieval central Italy**

Mainardo Gaudenzi Asinelli, Marcos Martínón-Torres and Francesco Marco Paolo Carrera

**P-177. Silvering in Middle Ages.**

**The dress buttons of Leopoli-Cencelle (Italy) between forgery and deliberate choice**

Mainardo Gaudenzi Asinelli and Marcos Martínón-Torres

**P-178. Investigations of scientific studies on Byzantine Jewellery**

Esat Sinan Altun, Selen Ezgi Celik, Oğuzhan Ergül, Mert Akın İnel and Hanifi Saraç

**P-179. Factors influencing silver leaves corrosion in European gilt-leather wall coverings (16<sup>th</sup>-18<sup>th</sup> c.)**

Marie Radepon, Laurianne Robinet, Claire Pacheco, Laurent Pichon, Brice Moignard, Quentin Lemasson and Céline Bonnot-Diconne



**P-180. Pewter from the wreck of HMS Stirling Castle**

David Dungworth

**P-181. Telling the difference: Comparison of iron smelting slags from different methods. The case of Isallo**

Elisa Grassi, Lorna Anguilano, Stefano Roascio, Francesca Bulgarelli and Elena Dellù

**P-182. 19<sup>th</sup> Century ornamented metal trays from Greece and Turkey: Metallurgy and provenance**

Despoina Kotzamani, Vassiliki Kantarelou, Ioannis Karatasios, Maria Zacharia and George Chrissykos

**P-183. The jewellery of René Lalique: Technology vs atmospheric corrosion**

Maria Filomena Guerra and Isabel Tissot

**P-184. A methodology for the archaeometallurgical study of corroded iron artefacts.**

**An example from the Iron Age site of Saruq al-Hadid, U.A.E.**

Ivan Stepanov, Lloyd Weeks, Kristina A. Franke and Peter Grave

**P-185. Combining isotopes to retrace Copper trade in Iron Age Luristan, Iran**

Elisa Maupas

**P-186. A thousand years of iron production:**

**A study of the technology and craft organisation of technical ceramics from Meroe and Hamadab, Sudan**

Carmen Ting and Jane Humphris

**P-187. Mineralogical and chemical characterization of ancient lead slags from Volubilis, Morocco**

Fatiha Hourri, Abdelilah Dekayir, Lorenza Manfredi and Mustapha Atki

**P-188. Archaeometric Investigation on some Metal Objects from Ghaleh Guri Palace, Sasanian Period, Western Iran**

Omid Oudbashi, Ata Hasanpour, Azam Jahanpoor and Zahra Rahjoo

**P-189. Islamic metalwork from medieval Iran (10<sup>th</sup>-14<sup>th</sup> c. AD)**

Vana Orfanou, David Bourgarit and Annabelle Collinet

**P-190. A weapon between science and mystery: An archaeometric review on Damascus swords**

Oğuzhan Ergül, Selen Ezgi Celik, Esat Sinan Altun, Mert Akın İnsel and Hanifi Sarac

**P-191. Investigation of properties of coins in Ottoman Empire between 1828-1922**

Mert Akın İnsel, Selen Ezgi Celik, Esat Sinan Altun, Oğuzhan Ergül and Hanifi Saraç

**P-192. Beaten tracks in technological traditions: Bloomery smelting after 2500 years of cast iron production in Central China**

David Larreina-Garcia, Marcos Martinon-Torres and Yanxiang Li

**P-193. Aesthetics and technology: Gold and silver ornaments in the Qin First Emperor's bronze chariots**

Xiuzhen Li, Marcos Martín-Torres and Thilo Rehren

**P-194. Analysis of golden sheet fragments belonging to the funerary bundle of the Lady of Cao**

Sandra Del Pilar Zambrano Alva, Ángel Bustamante D., Gabriel M. Ingo, Cristina Riccucci, Arabel Fernández, Régulo Franco, Roberto Cesareo and Giovanni Gigante

**P-195. A view of the evolution of pre-Columbian Metallurgy:**

**The analysis of W.C. Root at the American Museum of Nation History**

Edith Ortiz-Diaz

**P-196. Ceramic identification methodology for the pre-Hispanic metallurgy in Colombia**

Natalia Rueda and Jairo Escobar

**P-197. Goldwork in the Peruvian Andes: The Frías (Piura) style**

Maria Filomena Guerra and Luisa Vetter Parodí

**P-198. A biography of copper: Material investigations of culture contact in the Pacific Northwest during the Colonial Era**

Lenore Thompson and Roger Doonan

**P-199. Non-invasive analysis of arms and armour**

Alan Williams, David Edge and Francesco Grazzi

**P-200. Non-destructive investigations of set of silver coins of unknown origin**

Grigory Shuvalov, Ekaterina Nistratova and Dmitriy Galkin

**P-201. Application of image analysis in archaeology:**

**The case of the copper coins recovered on Rocca Montis Dragonis**

Brunella Gargiulo, Francesca Sogliani and Pasquale Acquafredda and Laura Scrano

**P-202. Ancient metals tracing by iron isotopes analysis**

Jean Milot, Franck Poitrasson, Sandrine Baron, Marie-Pierre Coustures and Caroline Robion-Brunner

**P-203. A space for metalworking - Spatial analysis of workshops and working areas on the basis of systematic soil sampling**

Arne Jouttijärvi

**P-204. Beyond archaeometry:**

**Archaeological evidences for modes of air supply into ore smelting furnaces in the African Great Lakes Region**

Edwinus Lyaya

**P-205. Space craft: An experimental study of the formation, form and spatial distribution of Hammerscale**

Louis-Olivier Lortie, Benoit Proulx, Lenore Thompson and Roger Doonan and Roger C.P. Doonan

**P-206. A study of slag type variation from a controlled series of experimental iron bloomery smelts**

Patrick Cropper, Wouter De Roeck, Viktoria Halldorsdottir, Emma Harrison, Anneleen Stienaers, Roger Doonan and Yvette Marks

**P-207. Conservation of archaeological iron objects using plasma surface cleaning and chemical methods: A multi analytical evaluation**

Eleni Filippaki, Michel Roggebucke, Dionysios Mourelatos, Evangelos Tsakalos, Maria Kazantzaki, Georgios Mastrotheodoros, Constantine Xaplanteris, Georgia Kokkorou-Alevras, Sophia Kalopissi-Verti and Maria Panayotidi-Kesisoglou

**P-208. The MoCaCu Project for on-site and laboratory characterization and analytical studies of ecclesiastical artefacts from remote areas in Greece: Case studies from Allagonia and Tzoumerka**

Nikolaos Zacharias, Aphrodite Kamara, Kouloumpi Eleni and Christos Karydis

**P-209. A small bronze statue from the Archaeological Museum of Thessaloniki; exploring its authenticity**

Vasiliki Michalopoulou

*REMOTE SENSING, GEOPHYSICAL PROSPECTION AND FIELD ARCHAEOLOGY*

**P-210. Advanced analytical photographic documentation techniques applied on-site to an Egyptian Amarna-Period child coffin**

Nicole Peters and Jiuan Jiuan Chen

**P-211. A comparison of archaeological results and detailed “in situ” measurements of magnetic susceptibility during archaeological excavations – case studies from Bohemia**

Roman Krivánek

**P-212. Geophysical Prospecting in Chalcolithic Sites from North-Eastern Romania.**

**A number of significant considerations about Planimetry**

Andrei Asăndulesei, Cristi Nicu, Radu Balaur, Stefan Caliniuc, Alin Miha-Pintilie, Mihai Mereuță, Mihaela Asandulesei and Vasile Cotiugă

**P-213. Magnetometer prospecting of Early Iron Age kurgans and their periphery:**

**New findings and interpretations from sites in the North-Caucasus, (Russia) and Kazakhstan**

Jörg Fassbinder, Anton Gass, Hermann Parzinger, Andrei Belinski and Andrei Asandulesei

**P-214. New prospects: Geophysical and geochemical survey at the 10<sup>th</sup> century city of Madinat al-Zahra, Spain**

Chloe Duckworth, Kate Welham, Derek Pitman and David Govantes Edwards

**P-215. Image processing and analysis of radar and lidar data: New discoveries in Verona southern lowland (Italy)**

Laura Burigana and Luigi Magnini

**P-216. Automatic delineation of obscured agricultural terraces from Remote Sensing Imagery**

Jennifer Glaubius

**P-217. Possibilities and limitations of application of satellite imagery in ge archaeological research in Iraqi Kurdistan**

Michalina Dzwoniarek-Konieczna and Joanna Mardas

**P-218. Spatial organization of a proto-historic settlement in northern Italy:**

**Combining 8 bands satellite images, 'Structure from Motion'-derived Digital Elevation Models and fieldwork data**

Luigi Magnini, Cinzia Bettineschi, Armando De Guio, Alessio Aboudan, Carlo Bettanini, Giacomo Colombatti, Giulia Deotto, Luca Toninello, Piero Benvenuti, Stefano Debei, Alessandra Menegazzi, Paola Zanovello and Horus Team

**P-219. Detecting archaeological structures from space: A case study from South Messenia, Peloponnese**

George Malaperdas and Nikos Zacharias

**P-220. Urban dynamics of Greek cities through Geoinformatics: The cases of Mantinea and Heraia, Arcadia**

Nikos Papadopoulos, Anna Karapanagiotou, Eleni Psathi and Evi Argyropoulou

**P-221. Deciphering the urban topography of the harbour-city of ancient Corfu.**

**Archaeological and Ge archaeological investigations**

Kalliopi Baika, Andreas Voett, Claudia Finkler, Garoufalia Metallinou and Diamanto Rigakou

**P-222. Geodetic technology and archaeological research:**

**An added value to archaeological investigations at the Laconian sanctuary of Apollon Amyklaios in Sparta**

Andreas Tsatsaris, Vasilis Pagounis and Stavros Vlivos

*ENVIRONMENTAL REMOTE MONITORING FOR ARCHAEOLOGY AND CULTURAL HERITAGE*

**P-223. Integrated Prospection methods for documenting and monitoring threatened Prehistoric archaeological sites from North-Eastern Romania**

Andrei Asăndulesei, Alin Mişu-Pintilie, Ionut Cristi Nicu, Stefan Caliniuc, Andrei Enea, Radu Pîrnău, Radu Balaur, Mihai Mereuţă and Vasile Cotiuga

**P-224. A study case of a digital and physical representation of the dwarf elephant from Tilos Island, Greece**

Vassiliki Mitsopoulou, Socrates Roussiakis, Dimitrios Michailidis, Evangelos Theodorou, Elizabeth Stathopoulou, Myrto Mallouchou, Sotiris Manolis, Stamatios Polydoros, Theodoros Vasilopoulos, Stylianos Isidorou, Georgios Kaisarlis, Stefanos Diplaris, Dimitrios Fotiou, Theodore Costopoulos, Petros Maniatis, Ioannis Papailiou, Panagiotis Megas, Anastasios Legakis, Stauros Koussoulakos, Minos Tyllianakis, Vasileios Spitas, Georgios Theodorou and Christophoros Provatidis

**P-225. The application of SfM  $\mu$ -photogrammetry to the understanding of material decay and morphology**

Silvia Salvini, Stefano Castelli, Matteo Massironi and Claudio Mazzoli

*OTHER*

**P-226. Archaeometry in Egypt: state-of-the-art and future perspectives**

Anita Quiles, Johanna Sigl, Giuseppina Capriotti, Marleen De Meyer, Wolfgang Müller, Christopher Naunton, Lisa Peloschek, Valérie Pichot, Jane Smythe, Joanna Then-Obluska and Christophe Thiers

**P-227. Prehistoric settlements size-grade pattern and its evolution: A case study of Songshan Mountain Region in China**

Dong Jianguo, He Yang, Lu Peng and Chen Panpan

*HUMAN-ENVIRONMENT INTERACTIONS AND BIOMATERIALS - BIOARCHAEOLOGY*

**P228. Environmental and social interactions during the Neolithic expansion in South-Eastern Europe**

Florica Matau, Ioana Persoiu, Viorica Nagavciuc and Aurel Persoiu

**P-229. The Medieval settlement of Torre Satriano: A multidisciplinary approach**

Laura Scrano, Brunella Gargiulo, Lorenzo Montinaro, Sergio Sasso and Francesca Sogliani

**P-230. Banbhore, a trading harbor on the Indus delta: Archaeometric evidence**

Anna Candida Felici, Agnese Fusaro, Asma Ibrahim, Morena Iorio, Kaleemullah Lashari, Niccolò Manassero, Mario Piacentini, Valeria Piacentini Fiorani, Maria Laura Santarelli and Alessandro Tilia

**P-231. Investigating population mobility in Post-Mycenaean Thessaly, central Greece: Evidence from strontium isotopic analysis**

Eleni Panagiotopoulou, Janet Montgomery, Geoff Nowell, Joanne Peterkin, Polixeni Arachoviti, Stiliani Katakouta, Argyro Doulgieri-Intzesiloglou and Fotini Tsiouka

**P-232. Multi-analytical investigation of the diet and mobility of Late Antiquity populations from southern Portugal**

Cristina Barrocas Dias, Anne-France Maurer, Lucija Šoberl, Patricia Saragoça, Maria Da Conceição Lopes, Rafael Alfenim, Inês Leandro, Cláudia Umbelino, Teresa Fernandes, Maria João Valente, José Francisco Santos and Ana Isabel Janeiro

**P-233. Palaeodietary research in Zvejnieki Stone Age Cemetery, Latvia: Trace elements and stable isotope analysis**

Dardega Legzdina, Gunita Zariņa, Vita Rudoviča and Arturs Vīksna

**P-234. Using stable isotope and elemental analysis for the study of dietary habits of a Greek community in Archaic Siracusa (Sicily)**

Davide Tanasi, Stephan Hassam, Rosa Lanteri, Robert H. Tykot and Andrea Vianello

**P-235. Palaeodiet reconstruction through stable isotope analysis of bone collagen: New data from Late Prehistoric Cyprus**

Caterina Scirè Calabrisotto, Paola Ricci, Maria Elena Fedi and Carmine Lubritto

**P-236. Reconstructing diet in Argos (Greece) from Middle Helladic to the Ottoman Period: A diachronic stable isotope analysis**

Laurence Hapiot and Christine Hastorf

**P-237. Diet and dynamics of Muslims and Christians in Montiel (11<sup>th</sup>-15<sup>th</sup>, Spain)**

Anne-France Maurer, Pedro Barrulas, Lucija Soberl-White, Cecilia Laurita, Jose Mirao, Antonio Candeias, Cristina Dias, David Gallego Valle and Jesus Manuel Molero Garcia

**P-238. The human adaptation, rise and collapse of Xiaohu Culture in Taklimakan desert, Northwestern China**

Yimin Yang

**P-239. Exploring the archaeobotanical visibility of surplus production and use of intra-settlement space: Storage and disposal strategies at Thessaloniki Toumba, Northern Greece, during the Late Bronze and Iron Ages**

Angeliki Karathanou, Evgenia Gkatzogia and Soultana Maria Valamoti

**P-240. The faunal remains from Saruq al-Hadid: An insight into human animal interactions in Prehistoric Arabia**

James Roberts and Naomi Sykes

**P-241. Chemical fingerprinting of archaeological speleothems and fish otoliths by LA-ICP-MS for reconstruction of the paleoenvironment**

Pedro Barrulas, Anne-France Maurer, Rita Dias, Carlos Ribeiro and José Mirão

## POSTER SESSION III

Thursday 19 May 2016

### ARCHAEO-CHRONOMETRY

**P-242. Archeointensity studies: State-of-the-art, successes and future challenges**

Miriam Gomez Paccard

**P-243. Archeomagnetic investigation of Eneolithic furnaces under the Ancient Bronze age village of Croce di Papa, Nola, (Italy)**

Claudia Principe, Avto Gogichaishvili, Simone Arrighi, Marina Devidze, Maxime Le Goff, Sonia La Felice, Daniele Giordano and Juan Morales

**P-244. Developing Archaeomagnetic Dating in the Scottish Neolithic: Interpreting geomagnetic variation at the Ness of Brodgar, Scotland**

Samuel Harris, Catherine Batt, Zoe Outram and Nick Card

**P-245. Telling the time in the Neolithic: Developing archaeomagnetic dating in Britain**

Catherine Batt, Zoe Outram, Sam Harris and Nick Card

**P-246. Intensity of the geomagnetic field as a relative and absolute dating tool: Archaeomagnetic study of Bavarian potteries from 1300 to 400 BC**

Gwenaël Hervé, Jörg Fassbinder, Stuart Gilder, Carola Metzner-Nebelsick and Imke Westhausen

**P-247. Archaeomagnetic study of pre-Hispanic sites in Michoacán Mexico**

Annick Chauvin, Grégory Pereira and Miriam Gómez-Paccard

**P-248. Archaeomagnetic investigations in Bolgar (Tatarstan)**

L.R. Kosareva, D.M. Kuzina, Simo Spassov, D.K. Nourgaliev, A.G. Sitdikov, D.I. Khasanov

**P-249. Archaeomagnetic dating approach to date an element of Les Ferreres Aqueduct (Tarragona, Spain)**

Lluís Casas, Salvador López, José Luís Prada, Núria Guasch-Ferré, Àfrica Pitarch, Marta Badia, Jorge Sanjurjo, Moisés Díaz and Joan Menchon

**P-250. Archaeomagnetic dating in Iberia for pre-roman structures. A case study from Portugal**

María Luisa Osete, Saioa A. Campuzano, Alicia Palencia, Gregg McIntosh, José Sastre and Javier Larrazabal

**P-251. Inclination shallowing in Iberian kilns and hearths. Effects on archaeomagnetic dating**

Alberto Molina-Cardin, Alicia Palencia, José Rodríguez-Aranda, Fátima Martín-Hernández and María Luisa Osete

**P-252. Determining mean archaeomagnetic directions from demagnetization data:**

**Optimal demagnetization step vs. principal component analysis**

Rob Sternberg, Grace Ni, Patricia E. Gibble and Egon H. E. Lass

**P-253. Archaeomagnetic research through the eyes of palaeomagnetists:**

**Possible impact on the study of baked clays in various geological environments in Greece**

Despina Kondopoulou, Irene Zananiri, Elina Aidona and Christina Rathossi

**P-254. Post-fire displacement of ancient bricks and its effect on the geomagnetic field vector determination:**

**A case study from a Roman kiln excavated at Dispilio, Greece**

Evdokia Tema

**P-255. New full geomagnetic field vector data from Italy: Evidence of low intensity values during Neolithic times**

Evdokia Tema, Enzo Ferrara, Pierre Camps, Cecilia Conati Barbaro, Simone Spatafora, Claire Carvallo and Thierry Poidras

**P-256. Archaeomagnetic dating of ancient kilns: a promising dating tool for archaeological research.**

**How precise can it be?**

Evdokia Tema and Lluís Casas

**P-257. On the use of different databases for global geomagnetic modelling and its effect on archaeomagnetic dating**

Saioa A. Campuzano, Miriam Gómez-Paccard, Francisco Javier Pavón-Carrasco and María Luisa Osete

**P-258. Comparison of luminescence (TL, IRSL and OSL) dating results from selected archeological various ceramic materials obtained from fault trench from Aegean Anatolia region**  
Eren Şahiner, Niyazi Meriç, Georgios Polymeris and Tamer Duman

**P-259. Dating mortars and brick surfaces: a new approach in building chronology**  
Anna Galli, Marco Martini, Francesco Maspero, Laura Panzeri and Emanuela Sibia

**P-260. Testing Optically Stimulated Luminescence dating of sand-sized quartz and feldspar sediments from an archaeological site in Petroto – Trikala, Greece**

Maria Kazantzaki, Eleni Filippaki, Maria Vaiopoulou, Evangelos Tsakalos, Georgios P. Mastrotheodoros and John Christodoulakis

**P-261. Luminescence dating of deltaic deposits from Sperchios delta plain, Greece**

Evangelos Tsakalos, Maria Kazantzaki, Elias Dimitriou and Christos Anagnostou

**P-262. Defining the time frame of a prehistoric site near Sparta, using OSL dating method**

Konstantinos Stamoulis, Alcestis Papadimitriou, L. Souchleris, Aristeides Papayiannis, Artemios Oikonomou and Konstantinos Ioannides

**P-263. OSL dating of Final Neolithic / Early Bronze Age wall remains at Vathy, Astypalea**

Andreas Vlachopoulos, Konstantinos Stamoulis, Artemios Oikonomou, Ioannis Tsodoulos, Christina Papachristodoulou and Konstantinos Ioannides

**P-264. Towards dating portable paintings using colour pigments; preliminary luminescence measurements and study of the influence of heat to their optical properties**

Georgios S. Polymeris, Valeria Giannoulatou, Labrini Malletzidou, Sarantis Dimitriadis, Vasiliki Angeli, Triantafylia Zorba, Niyazi Meriç, Eren Şahiner, Konstantinos Chrissafis, George Kitis and Konstantinos Paraskevopoulos

**P-265. The San artist palette: New insights coupling characterization and dating on Lesotho and South African rock paintings**

Adelphine Bonneau, David Pearce, Peter Mitchell, Daniel Arsenault, Thomas Higham and Michel Lamothe

**P-266. Dyes as dating markers: the case of the “Coptic” textiles collection of the “Museo Egizio di Torino”**

Monica Gulmini, Ambra Idone, Patrizia Davit, Manuela Moi, Manuela Carrillo, Chiara Ricci, Federica Dal Bello, Maurizio Aceto, Matilde Borla, Cinzia Oliva and Christian Greco

**P-267. U-Th dating and paleoenvironmental reconstructions for the late Pleistocene sedimentary sequence in Kalamakia Cave (Greece)**

Elisabeth Barbetsea, Hubert B. Vonhof and Andreas Darlas

**P-268. The life history of a Tomb: AMS Dating of the multiple levels in the Mycenaean Tholos Tomb of Petroto**

Olivia A. Jones, Hans van der Plicht, Lena Papazoglou-Manioudaki and Michalis Petropoulos

**P-269. Charcoal from different environmental conditions in methodological aspect of dating**

Danuta Michalska, Michalina Dzwoniarek-Konieczna and Małgorzata Szczepaniak

**P-270. Selection of samples suitable for radiocarbon dating by in situ non-destructive analysis in the prehistoric cave of Villars (Dordogne, France)**

Lucile Beck, Dominique Genty, Florian Tereygeol and Hélène Valladas

**P-271. Archaeometric analysis of masonry techniques: The castle of Pedres in Olbia (13<sup>th</sup> century)**

Caterina Giannattasio, Silvana Maria Grillo and Maria Serena Pirisino

#### *HUMAN-ENVIRONMENT INTERACTIONS AND BIOMATERIALS - BIOARCHAEOLOGY*

**P-272. Accelerated aging studies on cultural heritage**

Selen Ezgi Celik and Hanifi Sarac

**P-273. Accelerated ageing of acrylic, cyclohexanone-based and Urea-Aldehyde polymers used in paintings conservation**

Helen Veronika Farnakalidis, Antonios Douvas, Ioannis Karatasios, Sofia Sotiropoulou, Stamatis Boyatzis, Panagiotis Argitis, Yannis Chrysoulakis and Vassilis Kilikoglou

**P-274. Investigation on the development of the use of Natron salt in the ancient Egyptian embalming practices**  
Maria Grazia Bridelli, Chiaramaria Stani, Elena Ginevra Foresti, Giancarlo Salviati, Antonio Cacchioli, Rosa Boano, Stephen A. Buckley, Matthew Collins and Joann Fletcher

**P-275. Conservation and rewrapping of ibis mummy from late period**  
Ahmed Mohamed Abdellatif, Ahmed Tarek, Akram Taha and Sayed Gomaa

**P-276. Interdisciplinary assessment of an unknown substance, found inside the wood cells of the waterlogged piles from the foundation substructure of the Byzantine sea fortification of Thessaloniki**  
Dimitris Tsipotas

**P-277. Technology and pathology of first wallpapers imported into Iran during Qajar Period**  
Narges Pedram and Roxana Minouepour

**P-278. Characterization of 17<sup>th</sup>-Century glues: Further studies of mended ceramics from George Washington's Boyhood Home**  
Daniel Fraser, Mara Kaktins and Ruth Ann Armitage

**P-279. The binding agents used to inlay turquoise on bronze objects in different periods of Ancient China**  
Shuya Wei, Yuling He, Benxin Cui and Guoding Song

**P-280. Experience in determining the origin of refossil amber from the excavations in Russian towns**  
Inna Kuzina, Olga Zelentsova and Katarzyna Kwiatkowska

**P-281. Awls, needles, pins in graves: Early Bronze Age bone objects of personal use under the microscope**  
Kinga Winnicka

**P-282. Characterisation and analysis of a set of artefacts from the Pylos Archaeological Museum**  
M. Kylafi, T. Katakos, S. Boyatzis, E. Palamara and N. Zacharias

**P-283. Fire in the lake? Differentiating between burned and stained bones within a lake environment: The case of the Neolithic lake settlement of Dispilio, Greece**  
Elizabeth Stathopoulou, Nellie Phoca Cosmetatou, Tatiana Theodoropoulou, Myrto Mallouchou, Georgios Chryssikos, Vassilis Gionis and Vassilis Psycharis

**P-284. Recrystallization pathways of fossil bones in Sudan: An FTIR study using the Grinding Curve Method**  
Gregorio Dal Sasso, Yotam Asscher, Ivana Angelini and Gilberto Artioli

**P-285. Combining pXRF and Stable Isotope Analysis in assessing Ancient coastal Peruvian diets**  
Theresa J. Gilbertson and Robert H. Tykot

**P-286. Decoding stable C and N isotopes in domestic and wild animals recovered from Late Antiquity sites of southern Portugal**  
Cristina Dias, Anne-France Maurer, Lucija Soberl White, Patricia Saragoça, Maria João Valente, Andre Carneiro, Susana Gomez Martinez and Maria De Conceição Lopes

**P-287. Collagen fingerprint analysis for species identification in conjunction with other bioanalytical methods in archaeometry**  
Mike Buckley

**P-288. The last European elephant: The histological approach**  
Myrto Mallouchou, Elizabeth Stathopoulou, Vassiliki Mitsopoulou and George Theodorou

**P-289. Observations of the inner morphology of petroselinum of island endemics with the use of micro CT**  
Dionysia Liakopoulou, Anneke H. van Heteren and George Theodorou

**P-290. Peptide Mass Fingerprinting for identification of wild silks in archaeological contexts**  
Ruth Ann Armitage

**P-291. SEM-EDS and chemical archaeological soil analysis: Analytic collaboration for an accurate data interpretation**  
Laura Scrano, Graziella Bernardo, Pasquale Acquafredda, Giacomo Eramo and Rocco Laviano

**P-292. Evaluating the potential of NPP advanced statistical analysis for the detection of human palaeoecological imprint detection: The record of Lake Orestias and Dispilio Lake settlement (NW Greece)**  
Panagiotis Adam and Katerina Kouli

**P-293. Unusual plant molecules preserved in Neolithic and Protohistoric ceramic vessels**

Léa Drieu, Sigrid Mirabeau, Pierre Pétrequin, Anne-Marie Pétrequin, Didier Binder, Kewin Peche-Quilichini, Thibault Lachenal and Martine Regert

**P-294. A new approach for functional study of Argaric pottery (c.2250-1950 BC) through organic residues analysis (GC/MS; GC-C-IRMS) and volumetric capacity estimation**

Elena Molina-Muñoz and Carlos Velasco-Felipe

**P-295. Liangchengzhen consumption patterns: A Lipid Residue Analysis**

Rheta Lanehart

**P-296. Organic residue results from Ayia Triada Cave, Euboea: Further evidence for feasting?**

Rachel Vykukal

**P-297. Analysis of organic residues on Sicilian prehistoric pottery via SEM-EDX and 1H NMR spectroscopy**

Davide Tanasi, Enrico Ciliberto, Donatella Capitani, Enrico Greco, Valeria Di Tullio, Domenica Gullì and Paolo Trapani

*CERAMICS, GLAZES, GLASS AND VITREOUS MATERIALS*

**P-298. Pottery traditions and innovation at Ulucak Höyük, Western Anatolia:**

**Investigating the Neolithic/Chalcolithic transition through ceramic analysis (c.6000-5400 calBC)**

Noémi Suzanne Müller, Evangelia Kiriati and Özlem Çevik

**P-299. Once upon a time in the East: Ceramics and the Ziros Survey**

Laure Van Grootel, Keith Branigan, Martina Dalinghaus, Peter Tomkins and Peter M. Day

**P-300. Studying ceramic technology from inside. Micro-CT scanning of a pottery assemblage from Middle Neolithic Sesklo (Thessaly, Greece)**

Jannis Kozatsas, Kostas Kotsakis, Dimitrios Sagris and Constantine David

**P-301. Raw materials and technological choices in the Early Neolithic pottery production of the Marche region (Italy)**

Chiara La Marca, Giacomo Eramo, Italo M. Muntoni and Cecilia Conati Barbaro

**P-302. Pots and people of the Neolithic Tavoliere: Insights into ceramic production and exchange from pXRF analysis**

Keri Brown, Craig Alexander, Kyle Freund, Italo Muntoni and Robert H. Tykot

**P-303. Technological signatures of the transition from linear to stroked ornamented ware from Eythra (Central Germany)**

Klaus Bente, Christoph Berthold, H.-J. Höbner and Gordon Sobott

**P-304. Results from multi technique investigation of pottery from different Early Neolithic sites in Albania**

Erinda Ndrecka, Nikolla Civici and Ilir Gjipali

**P-305. Testing models, challenging trajectories: Archaeometric analysis of Early Neolithic pottery from Central North Bulgaria**

Tanya Dzhanfezova and Chris Doherty

**P-306. Technological characterization of the Cucuteni C pottery from eastern Romania**

Florica Matau, Valentin Nica, Iuliana Breaban, Mitica Pintilei and Alexandru Stancu

**P-307. Potting traditions and consumption practices in Third Millennium Southwestern Peloponnese: The case of Romanos Pylias**

Georgia Kordatzaki, Joerg Rambach and Evaggelia Kiriati

**P-308. Grog in the Well: A technological reconstruction of the pottery assemblage from the EMI Well at Knossos**

Che-Hsien Tsai, David E. Wilson, Vassilis Kilikoglou and Peter M. Day

**P-309. The persistence of pottery traditions in the Bronze Age Ionian Island: The use of grog temper in Kephallonia**

Marcella Giobbe, Christina Souyouzoglou-Haywood, Andreas Sotiriou and Peter M. Day



**P-310. Urbanism, networks, and the dynamics of pottery production and use in the Konya Plain of south central Anatolia, Turkey**

John Gait, Noémi Müller, Evangelia Kiriati and Douglas Baird

**P-311. Technological aspects of Mesopotamian Uruk pottery: Estimating firing temperatures using mineralogical methods, thermal analysis and luminescence**

Georgios S. Polymeris, Jorge Sanjurjo Sanchez and Juan Luis Montero Fenollós

**P-312. Experimental Archaeology: A way of exploring prehistoric ceramics raw material provenance, fabric composition, and firing conditions**

Maria Giuseppina Gradoli

**P-313. Characterising Bronze and Early Iron Age ceramics of Sovjan (SE Albania) with the use of pXRF-scanning**

Ole Christian Aslaksen, Maja Gori and Tobias Krapf

**P-314. Local and non local potsherds from the Middle Iron Age mound grave in Regöly, SW Hungary**

Dóra Kürthy, György Szakmány, Sándor Józsa, Mária Fekete and Géza Szabó

**P-315. A petrographic analysis of Turdetan amphorae from the Guadalquivir Valley.**

**Pots and agricultural surplus exchange in SW Spain during the Late Iron Age**

Violeta Moreno Megías

**P-316. Pottery production in the Lower Guadalquivir region in the Early Iron Age: A technological study**

Michal Krueger and Marta Bartkowiak

**P-317. Unique painted sherds from Panticapaeum**

Natalia Astashova

**P-318. Archaeometric characterization of Sicilian Pre- and Protohistoric pottery:**

**The case study of Monte San Paolillo (Catania, Sicily)**

Davide Tanasi, Robert H. Tykot and Andrea Vianello

**P-319. An archaeometric study of pottery from Kanistro and Pefkohori (Chalcidice)**

Svetlana Vivdenko, Ioannis Karapanagiotis, Spyros Vasileiou and Charalambos Tsangalidis

**P-320. Comparative study of the Cyprus and the Sicily ceramics**

Elena Minina, Anna Mazina, Stanislav Sokolov

**P-321. Provenience studies of the type B amphorae from Greek colony Pharos on the island of Hvar, Croatia**

Maja Mise, Vincent Serneels and Branko Kirigin

**P-322. Thermo-physical characteristics of Hellenistic ceramics from Laodike temple**

Maria Daghmehchi and Mehdi Rahbar

**P-323. Petrography of the Levantine jars from western Lower Galilee as a marker for their chronology and origin**

Jacek Michniewicz and Jolanta Młynarczyk

**P-324. Reverse cargo risk assessment - Function and performance of transport amphorae**

Anno Hein and Vassilis Kilikoglou

**P-325. Archaeometric analyses to define provenance and production of archaeological artefacts in Southern Italy: Two cases of study from Satriano di Lucania (Potenza, Basilicata) and Montescaglioso (Matera, Basilicata)**

Tonia Giammatteo

**P-326. Roman pottery production in the Pontine region, central Italy**

Barbara Borgers, Gijs Tol and Tymon de Haas

**P-327. A combined multi-analytical approach to investigate the production and distribution of imitations of “Campaniense” ceramics in SW Iberia**

Massimo Beltrame, Nick Schiavon, Ana Margarida Arruda, Vincenzo Soria, Pedro Barrulas and José Mirão

**P-328. Application of a non-destructive testing mobile lab for in situ analysis of archaeological objects from the “Late Antique House” in Dion, Greece: Results and data interpretations**

Georgios Karagiannis, Georgios Apostolidis, Sophia Sotiropoulou, Kyriakos Fragoulis, Dimitrios Minasidis and Aristotelis Mentzos

**P-329. Spectroscopic characterization and TL dating of ancient ceramics from Morocco**

Lahcen Bejjit, Mohamed El Amraoui, Mustapha Haddad, Raja Belaabed, Georgios S. Polymeris, Şahiner Eren, Niyazi Meriç, Valeria Giannoulatou, Abdelilah Dekayir, Lorenza Ilia-Manfredi and Mohamed Rouai

**P-330. Pyrotechnological production of artificial millstones in Iran:**

**New approach to heating-cooling regime estimation of melted calcareous clay structures**

Moslem Mishmastnehi and Ralf Milke

**P-331. Exchange network of the early medieval village of Rocchicella (Sicily): A petrographic study**

Veronica Testolini, Giuseppe Montana, Lucia Arcifa and Peter M. Day

**P-332. Early Medieval globular amphorae from Torcello:**

**Microscopy, porosity and chemical analyses for the study of production techniques**

Giulia Ricci, Jan-Michael Lange, Martin Kaden, Gerhard Heide, Diego Calaon and Elisabetta Zendri

**P-333. First example of coated bricks from the XIV century in Siena and their relation with sienese archaic-majolica**

Francesca Grassi, Cristina Fornacelli and Isabella Memmi Turbanti

**P-334. Aboriginal pottery from Gran Canaria (Canary Islands, Spain) (6<sup>th</sup>-15<sup>th</sup> centuries AD).**

**New insights from archaeological and textual evidence**

Miguel Del Pino Curbelo, Amelia Rodríguez Rodríguez, Jaume Buxeda I Garrigós, José Mangas Viñuela and Peter M. Day

**P-335. Pottery production of the Village of Orduña (Basque Country) from 17<sup>th</sup> to 19<sup>th</sup> centuries:**

**An archaeometrical approach**

Javier Iñáñez, Estefania Calparsoro Forcada, Gorka Arana Momoitio, Jose Luis Solaun Bustinza, Sergio Escribano Ruiz, Alvaro Rodriguez Miranda and Jose Manuel Valle Melon

**P-336. Spectroscopic characterization of the ceramics from Santa Maria do Castelo Church**

**(Torres Novas, Portugal)**

Isabel Ferreira Machado, Luís Filipe Vieira Ferreira and Mário Varela Gomes

**P-337. Material characterization of monumental terracota sculptures of the Monastery of Alcobaça**

M. Isabel Prudêncio, M. Isabel Dias, João Coroado, Rosa Marques, Guilherme Cardoso and Fernando Rocha

**P-338. Characterisation and restoration of an archaeological finding from the Rudolfine Prague**

Alexandra Klouzkova, Doubravka Hajmanova, Maria Kavanova, Martina Kohoutkova and Ljuba Svobodova

**P-339. Clay diversity, processing and long distance trade at Grossalmerode, 1200 to present**

Detlef Wilke, Patrick Rauch, Kornelia Stenzel and Hans-Georg Stephan

**P-340. Colonial ceramics recovered at Santa Fe La Vieja (Argentina). An archaeometric overview**

Jaume Buxeda I Garrigós, Marisol Madrid I Fernández, Gabriel Cocco and Leticia Campagnolo

**P-341. Neural Networks (SOM) applied to INAA data of chemical elements in archaeological ceramics from Central Amazon**

Roberto Hazenfratz, Casimiro S. Munita and Eduardo G. Neves

**P-342. Dilmun and Kassite pottery from Bronze Age sites in Kuwait (tell F3) and Bahrain (NE Temple) using non-destructive XRF analysis**

Hasan Ashkanani and Robert H. Tykot

**P-343. Determination of the composition and the manufacturing conditions of archaeological ceramic artifacts by combination of physical-chemical techniques**

Theodora Kazakou, T. Zorba, G. Vourlias, E. Pavlidou and K. Chrissafis

**P-344. Sr-Nd isotopes as a tool for ceramic provenance: Application on ceramic replicas and raw materials from the Bay of Naples**

Ilenia Arienzo, Massimo D'Antonio, Alberto De Bonis, Vincenza Guarino and Vincenzo Morra

**P-345. Incorporating experimental error in the analysis of portable X-Ray Fluorescence (pXRF) data**

Craig Alexander and Kyle Freund

**P-346. Establishment of a new reference group of Keay 25.2 amphorae from Sidi Zahruni archaeological site (Nabeul, Tunisia)**

Siwar Baklouti, Lara Maritan, Lluís Casas, Néjia Laridhi Ouazaa, Ramon Jàrrega, Marta Prevosti, Boutheina Fouzai, Claudio Mazzoli, Samia Larabi Kassaa and Mounir Fantar

**P-347. Identification of clay minerals in archaeological ceramics**

Alexandra Klouzkova, Petra Zemenova, Martina Kohoutkova and Maria Kavanova

**P-348. The Ancient Demetrias figurines: New insights on pigments and decoration techniques used on Hellenistic clay figurines**

Konstantina Tsatsouli and Elisavet Nikolaou

**P-349. Graphite or Carbon Black - Differentiation of Carbon based pigments in artifacts using  $\mu$ -Raman and  $\mu$ -XRD2**

Christoph Berthold, Silvia Amicone, Melanie Keuper and Klaus Bente

**P-350. Babylonian Blues: Final identification of the blue and turquoise pigments of the glazed-brick reliefs of the Ishtar Gate and Processional Way**

Cecilie Brøns and Signe Skriver Hedegaard

**P-351. Study of shades and tints of the blue color in export blue-and-white porcelain from late Ming to early Qing dynasty**

Roxanne Radpour, Ellen Hsieh and Christian Fischer

**P-352. Colour and materials of the new monumental gate excavated in the area of Persepolis (Fars, Iran)**

Maria Letizia Amadori, Gianluca Poldi, Alireza Askari Chaverdi, Pierfrancesco Callieri and Mohammadamin Emami

**P-353. How to identify hexagonal neo-formed hematite inclusions, unnoticeable to the SEM, in lead glazes**

Roberta Di Febo, Judit Molera, Trinitat Pradell, Oriol Vallcorba and Claudio Capelli

**P-354. The origin and evolution of greenish white wares in Jingdezhen Area**

Changsui Wang, Chaofang Ming and Jian Zhu

**P-355 New development of Sr isotopic analysis applied to Chinese glazes**

Hongjiao Ma, Julian Henderson and Jane Evans

**P-356. Replication of application - Glazed Ptolemaic and Roman faience from Egypt**

Chris Wilkins, Panagiota Manti and Paul T. Nicholson

**P-357. Characterization of 11<sup>th</sup> century glazed floor tiles from Prague**

Maria Kavanova, Alexandra Klouzkova, Petra Zemenova, Martina Kohoutkova and Jarmila Cihakova

**P-358. Provenance assignments on a large assemblage of Byzantine glazed pottery from Corinth, Greece**

Eleni Palamara, Nikolaos Zacharias and Maria Xanthopoulou

**P-359. Understanding glazed pottery production in the Tavoliere area (Foggia, 11<sup>th</sup>-14<sup>th</sup> century)**

Giacomo Eramo, Pasquale Favia, Vincenzo Valenzano, Alessandro Monno and Rocco Laviano

**P-360. Technological features of Iranian glazed ceramics from the Golden Horde Bilyar**

Svetlana Valiulina

**P-361. Chemical and mineralogical “fingerprints” of the ceramic body of Anabaptist-Hutterite and Haban faience**

Bernadett Bajnóczy, Zoltán May, Anna Ridovics, István Ringer, Jrir Pajer, Máté Szabó and Mária Tóth

**P-362. Basque glazed pottery through 16<sup>th</sup>-18<sup>th</sup> centuries: a revisited archaeometrical approach**

Estefania Calparsoro Forcada, Gorka Arana Momoitio, Kepa Castro de Pinedo, Sergio Escribano Ruiz and Javier Iñáñez

**P-363. Early faience tableware (late 16<sup>th</sup> to early 18<sup>th</sup> century AD) in Switzerland**

Gisela Thierrin-Michael

**P-364. An archeometrical investigation of blue glass tesserae from mosaics of Early Christian basilicas in Albania**

Esmeralda Vataj, Stefan Röhrs, Nikolla Civici and Elio Hobdari