

ARCHAEOMETALLURGY IN EUROPE (1ST-3RD JUNE) 2015) MADRID

1st JUNE

Timetable	ROOM Salon de Actos	ROOM Menendez Pidal	ROOM Maria Zambrano
9.15-10.30	REGISTRATION		
10.30-10.50	WELLCOME		
10.50-11.25	OPENING LECTURE by William O'Brien		
11.25-11.45	COFFEE BREAK		COFFEE BREAK
	SESSION 1: Early Metallurgy: Iberian Peninsula	SESSION 2: Gold 1	
12.00-12.15	ROLAND GAUSS & MIGUEL KUNST: Copper and Bronze-Age metallurgy at Zambujal and in South-Western Iberia and how it compares to metallurgical traditions in the Mediterranean and the Near east	YANNIS BASSIAKOS, MYRTO GEORGAKOPOULOU,, AKIS GOUMAS, ELENI KONSTANTINIDI-SYVRIDI, GEORGIOS MASTROTODOROS, NIKOLAOS PAPANIMITRIOU, ANNA PHILIPPA-TOUCHAIS & ROMAIN PREVALET: Analysis of gold artefacts from The Mycenaean Cemetery of Argos with XRF, SEM and PIXE	
12.15-12.30	MERCEDES MURILLO-BARROSO: Society, Metallurgy and Innovation: The Iberian Hypothesis (SMITH Project)	SUSAN LA NIECE: Bronze age gold wire ornaments from Northern Europe and their joining technology	
12.30-12.45		ALESSANDRA GIUMLIA-MAIR & MARIA BERNABÒ BREA: Composition and production technology of the gold cup from Montecchio	
12.45-13.00	AUXILIO MORENO ONORATO, SALVADOR ROVIRA LLORENS, FRANCISCO CONTRERAS CORTES, MARTINA RENZI, LUIS ARBOLEDAS MARTINEZ, EVA ALARCÓN GARCIA, ADRIAN MORA GONZALEZ : New data on scale production of copper in the culture of the Argar. The dumping ground for Peñalosa (Baños de la Encina, Jaen)	ISABEL TISSOT & MARIA FILOMENA GUERRA: Composition and technology of Bronze Age and Early Iron age gold bracelets from the Portuguese area	
	Debate	Debate	
13.00-13.30			
13.30	LUNCH	LUNCH	LUNCH

SESSION 3: Ores and Mines 1**SESSION 4: Gold 2****SESSION 5: Experimental archaeometallurgy**

15.00-15.15	SIMON TIMBERLAKE: New ideas on the exploitation of copper, tin, gold and lead ores during the British Bronze Age: the mining, smelting and movement of metal	BARBARA ARMBRUSTER, BIRGIT SCHORER, VERENA LEUSCH, ROLAND SCHWAB, ERNST PERNICKA, BERNARD GRATUZE & MARYSE BLET-LEMARQUAND: Metallurgical and technological aspects of Early Iron Age Gold	GEORGES VERLY & MARCO ROMEO PITONE: Experimental archaeology and archaeometallurgy on smelting furnaces from Ayn Soukhna (Middle Kingdom, Egypt): Establishment of a comparative methodology for Pyrgos-Mavroraki (Limassol, Cy)
15.15-15.30	R. ALAN WILLIAMS: The Great Orme Bronze Age copper mine: linking ores to metals by developing a geochemically and isotopically defined mine-based metal group.	MARYSE BLET-LEMARQUAND, SYLVIA NIETO-PELLETIER, FLORIAN TEREYGEOL & ARNAUD SUSPENE: Are Platinum and Palladium relevant tracers for ancient gold coins? Archaeometallurgical and archaeometric data to study an Antique numismatic problem	AARON LACKINGER, ELIN FIGUEREDO, BEATRIZ COMENDADOR, RUI J.C. SILVA & JOSÉ MIRÃO: An experimental approach for smelting tin ores from Northwestern Iberia
15.30-15.45	NICOLAU ESCANILLA-ARTIGAS, BENOIT MILLE & DAVID BOURGARIT: Copper ore supply at the beginnings of metallurgy in Southeast Iberian Peninsula	PIETA GREAVES: Rediscovering the art of the Anglo-Saxon goldsmith: conservation and the Staffordshire Hoard	AGNESE BENZONELLI, IAN FREESTONE & MARCOS MARTINÓN-TORRES: An archaeological and archaeometric approach to black bronzes
15.45-16.00	LUIS ARBOLEDAS MARTÍNEZ, EVA ALARCÓN GARCÍA, AUXILIO MORENO ONORATO, FRANCISCO CONTRERAS CORTÉS, CHARLES BASHORE & JUAN JESÚS PADILLA: New contributions to mining the Bronze Age in the South of the Iberian Peninsula. Copper mines of prehistoric valley Jándula (Andújar-Marmolejo, Jaén)	ELEANOR BLAKELOCK: The Staffordshire Hoard: choices of metal composition and the underlying secrets of the Anglo-Saxon goldsmith	SANTIAGO CANO GONZÁLEZ, NOHORA BUSTAMANTE & JAIRO ARTURO ESCOBAR: Esthetic and functional replica of a Nariño copper and silver alloy disk with properties comparable to the ones of a fragment made by Pre-Columbian goldsmiths

16.00-16.30 Debate Debate Debate

16.30-17.00 COFFEE BREAK COFFEE BREAK COFFEE BREAK

SESSION 6: Ores and Mines 2**SESSION 7: Chalcolithic**

17.15-17.30	VASILIKI KASSIANIDOU: The copper mine of Skouriotissa, Cyprus. New information about its history	MILJANA RADIVOJEVIĆ & JELENA GRUJIĆ: A Rocky Relationship: Ores, Metals And Networks In the 5th Millennium BC Balkans
17.30-17.45	EREZ BEN-YOSEF: New insights on Iron Age copper production from the first phase of the central Timna Valley Project	EVELINE SALZMANN, SABINE KLEIN, ANDREAS HAUPTMANN & RICHARD ZETTLER: Material analysis of Early Dynastic copper-, bronze- and silver artefacts from the Royal Tombs of Ur, Mid 3rd Millennium BC
17.45-18.00	GUNTRAM GASSMANN, KATRIN J. WESTNER, SABINE KLEIN & GABRIELE KÖRLIN: Technological changes in mining and metallurgy from Roman to Medieval times: evidence from a Pb-Ag (-cu) ore district in Central Kosovo	NAAMA YAHALOM MACK & URI DAVIDOVICH: Analyses of Chalcolithic and Bronze Age metal objects and a unique Chalcolithic lead macehead from caves in Israel
18.00-18,15	JOSEPH GAUTHIER: New evidence of washing ores in the Altenberg (Alsace, France): a major technical breakthrough at the Berg Armuth Site (14th-15th c. AD)	ELISA BARZAGLI, FRANCESCO GRAZZI, ANTONELLA SCHERILLO, PASQUINO PALLECCHI, ALDA VIGLIARDI & MARCO ZOPPI: Non invasive characterization of eneolithic arsenic rich metal artefacts through Neutron techniques

18.15-18.45 Debate Debate

2nd JUNE

Timetable	ROOM Salon de Actos	ROOM Menendez Pidal	ROOM Maria Zambrano
	SESSION 8: Smelting technology	SESSION 9: Provenance	SESSION 10: workshops
9.15-9.30		MATTHIEU LABAUNE, FLORENCE CATTIN, OLIVIER LEMERCIER, IGNACIO SORIANO & IGOR VILLA: Trace the origin of the Bell Beaker copper artefacts in Western Europe.	CARLOTTA GARDNER & IAN FREESTONE: Innovative or resourceful: metal-working crucibles in Roman Britain
9.30-9.45	ROLAND HAUBNER, SUSANNE STROBL & SUSANNE KLEMM: Investigations of a slag from copper smelting discovered at the Bronze Age site Prein VII/Cu in Lower Austria	JOHAN LING, ZOFIA STOS-GALE & ANNE-LENE MELHEIM: Iberian Copper in Scandinavian Forms?	FREDERIK RADEMAKERS, THILO REHREN & ANASTASYA CHOLAKOVA: Fragmented remains of Roman crucible metallurgy in Thracia
9.45-10.00	MARTINA RENZI, MYRTO GEORGAKOPOULOU, THILO REHREN, CHRISTINA PEEGE & WALTER FASNACHT: Copper production at Almyras (Ayia Varvara, Cyprus) in the Cypro-Archaic II period	PAOLO VALERA, CAROLINA GUTIERREZ, PAU SUREDA, M ^a ROSARIA MANUNZA, FULVIA LO SCHIAVO, NURIA RAFEL, RAQUEL VILAÇA & IGNACIO MONTERO: New insights into central Mediterranean copper trade during the Late Bronze Age	NY BJÖRN GUSTAFSSON: Multiplying identities – mastermodels and reduplication in Early Medieval Gotland
10.00-10.15	BENOIT MILLE, VALENTINA FIGUEROA & DIEGO SALAZAR: Technology and organisation of prehispanic copper production at Collahuasi (Southern Altiplano, Chile)	CATERINA CANOVARO, IVANA ANGELINI, GILBERTO ARTIOLI, ELISABETTA BORGNA, PAOLO NIMIS & IGOR M. VILLA: Late bronze age ingots from Friuli Venezia Giulia (Italy): composition and origin of the metal	DANIEL SAHLÉN: Technological specialisation and material choices: Viking Age metal crafts in the Mälär Valley
10.15-10.30	COLIN TODD THOMAS: Smelting and the sacred at Dos Cruces: investigating a Pre-Incan smelting site on the North coast of Peru	MORITZ KIDERLEN, HANS MOMMSEN & ANNO HEIN: Use Of Neutron Activation Analysis (Naa) for provenancing artefacts cast in the lost-wax technique. A pilot-study with EIA Tripod-Cauldrons found at Olympia and Kalapodi/Abai	JULIEN FLAMENT, SARAH GUILLAUME & TEREYGEOL FLORIAN: Litharge cakes from Castel-Minier (Ariège, France): Understanding strategies of the cupellation in a multi metals workshop from the 15th century.
10.30-10.50	Debate	Debate	Debate
11.00-11.30	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK
	SESSION 11: Provenance and trade	SESSION 12: Out of Europe	SESSION 13: Iron 1
11.30-11.45	GERHARD BRÜGMANN, DANIEL BERGER, ERNST PERNICKA & BIANKA NESSEL: Tin isotopes and the problem of the provenance of Prehistoric Tin	MOHAMMADAMIN EMAMI: <i>Cuprum, quo vadis</i> : archaeometallurgical approach based on the study of ancient copper slags along ‘Halil’ River Basin in Kerman, Iran (new insight for considering the migration of metallurgy)	ADI ELIYAHU BEHAR, NAAMA YAHALOM MACK, STEVE WEINER & ISRAEL FINKELSTEIN: Early Iron objects from Israel; the rusty evidence
11.45-12.00	YASSER ABD EL-RAHMAN: The Provenance of iron ore in Naukratis: local Egyptian or imported European?	THOMAS R. FENN, JEFFREY FLEISCHER, STEPHANIE WYNNE-JONES, EDWARD POLLARD, TOM FITTON & ADRIA LAVIOLETTE: Economic Changes through Time along the Tanzanian Swahili Coast, as Seen through the Examination of Non-Ferrous Metals and Metallurgical Technologies	SALVADOR ROVIRA & MARTINA RENZI: On the “invisibility” of Early iron smelting technology in the Iberian Peninsula. A preliminary approach
12.00-12.15	MARCO BENVENUTI, LAURA CHIARANTINI, FRANCO CAMBI, ALESSANDRO CORRETTI, LUCIANA DRAGO, PILARIO COSTAGLIOLA, ANDREA DINI & MASSIMO D’ORAZIO: Metal production and trade in ancient “Etruria Mineraria” (Southern Tuscany and Northern Latium, Italy): new results	ZIAD EL MORR, DAVID BOURGARIT & ANNABELLE COLLINET: Islamic metalwork from Iran (10th-14th century AD)	MARC GENER MORET: Archaeometallurgical studies of iron age weapons from the Iberian Peninsula. A vision in perspective.
12.15-12.30	STEPHEN MERKEL & ANDREAS HAUPTMANN: Connecting the Dots: Production and Trade of Early Medieval Brass in light of new analyses from Hedeby, Cologne, and Dortmund.	SIRAN LIU, THILO REHREN, JIANLI CHEN & CHANGQING XU : Iron reduction process of lead/precious metal smelting in 9th-13th century AD China	MARION BERRANGER, SYLVAIN BAUVAIS, MOSTEPHA BOUKEZZOULA, PHILIPPE FLUZIN, STEPHANIE LEROY & PHILIPPE DILLMANN: Archaeometrical studies (metallography, chemical, radiocarbon dating) of an exceptional iron semi-product deposit: restitution of know-how, organization and circulation of production in the First Iron Age.
12.30-12.45	MARCOS MARTINÓN-TORRES, THOMAS BIRCH, MICHAEL F. CHARLTON, LYNN BIGGS & ZOFIA A. STOS-GALE: The Gresham shipwreck: european metals in a global world	XIAO BIRUI, ZHOU YINYIN & LI DADI: A study on the ancient zinc smelting sites in Chongqing, China	PETER HALKON: Putting some iron back in Iron Age Britain - recent research on the Arras Culture, UK
12.45-13.00	Debate	CARLOS IGNACIO ANGIORAMA: Consequences of the European conquest in the metallurgy of the Argentinian Northwest	BERNT RUNDBERGET & JAN HENNING LARSEN: The earliest iron bloomery in Southern Norway - Technological conformity and variation
13.00-13.30		Debate	Debate
LUNCH	LUNCH	LUNCH	LUNCH

14.45

TRANSPORT TO THE MUSEM

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MUSEO ARQUEOLOGICO NACIONAL CONFERENCE ROOM

MUSEO ARQUEOLOGICO NACIONAL ROOM 1

15.30-16.10

LECTURE by Ernst Pernicka

SESSION 14: Bronze Age 1

SESSION 15: Iron 2

16.15-16.30

MARTIN BARTELHEIM : Metal as a resource in the European Bronze Age

BRIAN GILMOUR: The early use of ultra-high carbon steel in a main door hinge from the Nabatean temple at Khirbet et-Tannur, Jordan

16.30-16.45

CECILE LE CARLIER DE VESLUD & CELINE SIEPI: The Armorican Brittany Tin production / a rich region exploited since Bronze

JUAN ANTONIO QUIRÓS CASTILLO & DAVID LARREINA GARCIA: Iron Tools in Early Mediaeval Basque Country (North of Spain): Metallographic analysis and peasant agency

16.45-17.00

NERANTZIS NERANTZIS, YANNIS BASSIAKOS, MYRTO GEORGAKOPOULOU, ELENI FILIPPAKI & GEORGE MASTROTODOROS: Copper production in EBA Thassos: new finds, experimental simulations and links with the Southern Aegean contemporaneous metallurgical practices

FCO. JAVIER FRANCO PÉREZ & MARC GENER MORET: Paleosiderurgy in Bizkaia (Basque Country, Spain): survey, excavation, experimentation and materials characterization. An integral study of the Ferrerías de Monte or "Haizeolak".

17.15-17.30

MAIKEL HENRICUS GERARDUS KUIJPERS: Early Bronze Age metalworking craftsmanship; an evidence based argument about levels of skill

ALEXANDRE DISSER, MAXIME L'HERITIER, CATHERINE BOURGAIN, EMILIE BERARD, MARC LEROY & PHILIPPE DILLMANN: The impact of technical changes on Late Medieval ironworking activities in Lorraine (France)

17.30-17.45

LENTE VAN BREMPT & VASILIKI KASSIANIDOU: Late Bronze Age copper production in the Kalavassos-Maroni area of Central-South Cyprus

ENRIQUE VEGA, STEPHANIE LEROY, FLORIAN TEREYGEOL & PHILIPPE DILLMANN: Statistical treatment of chemical data for direct process understanding: the iron production of Castel-Minier (14th-16th)

17.45-18.00

PETER NORTHOVER: Copper ingots of the British Late Bronze Age

Debate

18.00-18.20

Debate

Debate

18.20-20:00

VISIT TO THE MUSEM

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3rd JUNE

Timetable	ROOM Salon de Actos	ROOM Menendez Pidal	ROOM Maria Zambrano
	SESSION 16: Bronze age 2	SESSION 17: Iron 3	SESSION 18: Roman Metallurgy
9.15-9.30	VLAD RUMEGA-IRIMUŞ: Prehistoric copper mining and the bronze hoards of the Middle Hallstatt period (HA B-C) in Transylvania	ÜMIT GÜDER, SCOTT REDFORD, ASA EGER, CEMAL CEM TASAN, DIERK RAABE & ÜNSAL YALÇIN: Iron at the frontier: Medieval iron smithing at Kinet and Hisn al-Tinat	MICHAEL BODE, PETER ROTHENHOEFER & NORBERT HANEL: Lead-silver mines of the Iberian Peninsula and their exploiters – a reconstruction of Roman lead production in Southeastern Spain
9.30-9.45	ALEKSANDAR JAŠAREVIĆ, MARTINA BLEČIĆ KAVUR & DIANA ĆUBELA: Special edition: studies of Late Bronze Age hoards from Northern Bosnia	VINCENT SERNEELS: Korsimoro (burkina faso): iron mass production in Africa (7th – 17th AD)	GILBERTO ARTIOLI, IVANA ANGELINI, CATERINA CANOVARO & MARICA VENTURINO: The “Tesoro di Marengo” Roman silver hoard: lead isotope analysis of the metal
9.45-10.00	XOSÉ-LOIS ARMADA & MARCOS MARTINÓN-TORRES: The ALBIMEH project – new contributions to the comparative study of Atlantic Late Bronze Age hoards	STEPHANIE LEROY, MITCH HENDRICKSON, EMMANUELLE DELQUÉ-KOLIC, ENRIQUE VEGA & PHILIPPE DILLMANN: Iron and the Khmer Empire (9th to 15th c.): A multidisciplinary (sourcing and dating) approach to evaluate the iron procurement during the Angkorian period	MÁRTON BENKE, VALÉRIA MERTINGER, ISTVÁN FÓRIZS, VIKTÓRIA MOZGAI, BERNADETT BAJNÓCZI, ZSOLT MRÁV, MARIANNA DÁGI, MÁTÉ SZABÓ & MÁRIA TÓTH: Special applications of X-Ray diffraction on Late Roman silver artefacts
10.00-10.15	QUANYU WANG, MARION UCKELMANN, BENJAMIN W. ROBERTS & SUSAN LA NIECE: Technical studies of the British Bronze Age shields in the British Museum collection	THOMAS OLIVER PRYCE, OLIVIER EVRARD & CHANTHAPHILITH CHIEMISISOURAJ: An upland iron industry in Pre-Tai NW Laos	ELISA GRASSI & LORNA ANGUILANO: Moulds, pits, hearths: evidence of bronze casting in Roman Northern Italy
10.15-10.30	MARIANNE MÖDLINGER: European Bronze Age defensive armour: analyses and development	RAHIL ALIPOUR, THILO REHREN & MARCOS MARTINÓN-TORRES: Persian Pulād Production	ARNE JOUTTIJÄRVI: Copper alloys in the Roman Empire and Germania Magna
10.45-11.15	Debate	Debate	Debate
11.15-11.45	COFFEE BREAK	COFFEE BREAK	COFFEE BREAK
11.45-13.15	POSTER SESSION		
	LUNCH	LUNCH	LUNCH
	SESSION 19: Recycling	SESSION 20: Medieval and Modern	
15.00-15.15	YIU-KANG (GARY) HSU & BENJAMIN SABATINI: A Novel Chemical Approach To Investigating The Dynamic Flow Of Non-Ferrous Metals In The Pontic Steppe During The Late Bronze Age (1800-1500 BC).	ADRIÁN BERTA, MÁRIA TÓTH, BÉLA TÖRÖK, PÉTER BARKÓCZY & ÁRPÁD KOVÁCS: Archaeometallurgical examination of finds from Medieval bell casting foundries in Hungary	
15.15-15.30	BENJAMIN SABATINI YIU-KANG HSU: Experimental recycling, modeling, and thermodynamic explanations of some ancient copper-based alloys	SARIEL SHALEV: How Theophyllus, Cyril Smith, and Oppy Untracht help describing the history of a Byzantine metal object from the Holy Land.	
15.30-15.45	ROLAND SCHWAB: Supply and demand: metal recycling in Southern Germany at the End of the Late Iron Age	JUSTINE BAYLEY, HARRIET WHITE & MEGAN GOOCH: The Tudor (16th-century) mint in the Tower of London	
15.45-16.00	THOMAS E. BIRCH, GUÐMUNDUR S. SIGURÐSSON, ZSOLT KASZTOVSZKY, BOGLÁRKA MARÓTI, IMRE KOVÁCS, ZOLTÁN SZŐKEFALVI-NAGY, DANIEL SAHLÉN, GARÐAR GUÐMUNDSSON & MARCOS MARTINÓN-TORRES: Iceland's early crucible metallurgy: adapting to new environments with old metals	MANON CASTELLE YVAN COQUINOT & DAVID BOURGARIT: French bronze statues of the 16th -17th c AD: what can we learn from the casting cores	
16.00-16.30	Debate	Debate	
16.30-17.05	Closing Lecture by Thilo Rehren		
17.05-17.20	HMS Prizes and CLOSING		