




ABSTRACTS




2014 burgos
1-7 sept.

uispp

Union International
de Sciences Préhistoriques
et Protohistoriques


ATAPUERCA

XVII World UISPP Congress
XVIIe Congrès Mondial de l'UISPP
XVII Congreso Mundial de UISPP





ABSTRACTS




2014 burgos
1-7 sept.

uispp

Union International
de Sciences Préhistoriques
et Protohistoriques

ATAPUERCA

XVII World UISPP Congress
XVII^e Congrès Mondial de l'UISPP
XVII Congreso Mundial de UISPP





- A1 Siliceous rock extraction and prehistoric lithic economies
- A2a The first peopling of Europe
- A2b Technological change during the Lower-Middle Pleistocene transition in Europe
- A2c What's happening now in Atapuerca? Latest research at the Sierra de Atapuerca sites
- A2d Contextualizing Schöningen and its implications for human evolution during the Middle Pleistocene
- A2e The Early and Middle Pleistocene succession in the Guadix-Baza Basin (Andalusia, southern Spain): geology, paleontology, archaeology
- A2f Pleistocene human dispersals: climate, ecology and social behavior
- A3b Transition from Lithic to Metal – appraisal on global changes
- A3c The emergence of warrior societies and its economic, social and environmental consequences
- A3e Objects of the dead, offerings from the living: interpreting finds in funerary contexts
- A3f 50 Years of Prähistorische Bronzefunde
- A4a The revolution of the sixties in Prehistory and Protohistory
- A4b The scientific value of 3D archaeology
- A4c Underwater Archaeology
- A5a The Final Palaeolithic of Northern Eurasia
- A5b From the Atlantic to beyond the Bug River – Finding and defining the Federmesser-Gruppen / Azilian on the North European Plain and adjacent areas
- A6a Human occupations in mountain environments: a comparative methodological perspective
- A6b The management of resources and territories in the Pyrenees from the earliest human occupation to the end of the Protohistory. A behavioral perspective
- A7b Emergence and consequences of technical innovations in America
- A7c Climate change and use of animals in South America during the Holocene
- A8a Lobbying for Archaeology (18TH- 21ST centuries). Innovative alliances in the establishment of archaeology
- A8b International relations in the history of archaeology
- A9a The origins of Upper Palaeolithic in Eurasia
- A9b The Study of the Environment and the Landscape in the Reconstruction of the Economic and Social Activities during the Upper Paleolithic. Methodological Approaches and Case of study



- A9c** The initial Cantabrian Magdalenian & the question of Magdalenian origins
- A9d** The Human settlement of Western Europe during the last glacial maximum
- A10** The Neolithic from the Sahara to the Southern Mediterranean Coast: a review of the most Recent Research
- A11a** The chronology of Palaeolithic cave art: new data, new debates
- A11b** Late Pleistocene cave art in its context
- A11c** New solutions for old problems: the use of new technologies for the documentation and conservation of prehistoric art
- A11d** Styles, techniques and graphic expression in rock art
- A11e** Public images, private readings: multi-perspective approaches to the post-Palaeolithic rock art
- A11f** The Role of Art in Prehistoric Societies
- A12** Detecting the Landscape(s) - Remote Sensing Techniques from Research to Heritage Management
- A13** Quality Management of Cultural Heritage: problems and good practices
- A14** The water as generator of networks
- A15a** Archaeological Heritage Policies and Management strategies
- A15b** Management and use of science data from preventive archaeology: quality control
- A15c** Cultural resources, management, public policy, people's awareness and sustainable development
- A15d** The educational activities of archeology and socialization of knowledge
- A15e** Museum networking in Glocal communities: experiences in sharing and cooperation towards peer awareness and target increase in Quaternary and Prehistory Museums
- A15** Education and dissemination strategies in museums and prehistoric Sites
- A16** Aegean-Mediterranean imports and influences in the graves from continental Europe – Bronze and Iron Ages
- A17a** Recent Trends and Aspects of Use-wear Analysis and their contribution to the Modernization of Archaeology
- A17b** Traceological research and experimental work
- A17c** Microscopic determination of hafting technology: use-wear and residues
- A18a** Redefining the Postpalaeolithic rock art in the world: Groups, diffusion areas, chronology and last methodological contributions
- A18b** Post-Palaeolithic fliform rock art in Western Europe
- A19** Bifacial tools in the Middle Palaeolithic of western Eurasia: typo-technological variability and spatio-temporal trends

Index



- A20** The intellectual and spiritual expressions of non-literate peoples
- A21a** Neanderthals on their own terms: new perspectives for the study of Middle Paleolithic behaviour
- A21b** Technological change and behavioral variability in the MSA
- A21c** Movements in and Out for Africa: Assemblage variability and population dynamics in Northeast Africa and Southwest Asia during the MSA and Middle Paleolithic
- A21d** Chronostratigraphic data about the Middle to Upper Palaeolithic cultural change in Western Europe
- A22** Origins and evolution of Modern Humans Behaviour: a view from North Africa
- A24a** Recolonisation or new landscapes: adaptations and change in the Early Holocene
- A24b** Coastal adaptation: Assessing past resilient socio-ecological systems
- A25a** Materials, Productions, Exchange networks and their impact on the societies of Neolithic Europe
- A25b** Current Approaches to Collective Burials in the Late European Prehistory
- A25c** Standing stones and megalithic monuments in context
- A25d** Monumentality and territory: relationship between enclosures and necropolis in the European Neolithic
- A25e** Dynamics of human and cultural dispersals during the Neolithic transition in Europe: Complex Systems and Prehistory
- A25f** North-South connections and dis-connections in the prehistory and proto-history of the Levant
- A25g** Megalithism in the north-west of the Iberian Peninsula
- A25h** Domestication of Plants and Animals in the Near East
- A26** Southeast Asia: Human Evolution, Dispersals and Adaptation
- A27a** Linking Continents: Late hunter-gatherers and early farming communities relationships across the Mediterranean and the Black Sea
- A27c** The long road to the final transition. Regional dynamics in the western Mediterranean between the end of the LGM and the 8.2 event
- A28** Prehistoric Archaeology of China: Technology, Cognition, Culture and Environment

- B1** Task distribution in pre- and proto-historic societies
- B2** Biochronology, biostratigraphy and paleoecology of the Quaternary of Europe (B2PQUE)

Index



- B3** Monumental earthen architecture in early societies: technology and power display
- B4** Climate change and social change during the Late Holocene in arid and semiarid environments: archaeological and historical perspectives
- B5** New approaches to the study of Quartz lithic industries
- B6** Beyond the stones: Inter-disciplinary approaches to interpreting Palaeolithic Transitions
- B8** Hominid-bird interactions in Prehistory. The humankind and the avian world: archaeological evidence for inferring behavioural evolutionary signatures
- B9** Staring at the ground: archaeological surveys as a research tool in the early 21st century
- B10** The interglacial Holsteinian eldorado and the onset of the Middle Palaeolithic (400-300 ka)
- B13** Mathematical approaches for the study of Human-Fauna interactions in the Pleistocene
- B14** An Archaeology of fuels: social and environmental factors in behavioural strategies of multi-resource management
- B15** Social complexity in a long term perspective
- B17** Shepherds and caves
- B18** State of the art of the multidisciplinary research at Middle Pleistocene Qesem Cave, Israel
- B19** Aquatic resource consumption by prehistoric humans
- B20** Contexts without definition, definitions without context. Arguments for the characterization of the (Pre)historic realities during the neolithisation of the western Mediterranean
- B22** Premonetary currency systems in past societies
- B23** Beyond the reduction sequence: new insights in lithic technology
- B24** Innovation in the production and use of equipment in hard animal materials: origins and consequences in prehistoric Palaeolithic to Mesolithic societies
- B25** Looking at the sky, walking on the earth. Climatic changes and historical evolution in the Mesolithic and Neolithic of Western Europe
- B26** The lithic issues of the Gravettian
- B27** "Megalithic Biographies" Cycles of Use and Closure
- B28** Technology and the first agro-pastoral societies: ceramic manufacturing and decoration
- B30** A diachronic perspective of human behavioural adaptations to interglacial lakeshore environments during the European Pleistocene to early Holocene

Index



- B33** Environmental and cultural development during the Lower and Middle Palaeolithic in the Syrian Desert
- B34** Archaeometry approaches regard the study of networks of trade in raw materials and technological innovations in prehistory and protohistory
- B35** Paleolithic Archaeozoology: Advances on hunter-gatherer's subsistence
- B36** Analysis of the economic foundations supporting the social supremacy of the Beaker groups
- B37** Lithic, Evolution, Science
- B38** Advances in the dating of human dispersals, interactions and extinctions in the Palaeolithic
- B39** Paleoanthropological debates on Human Evolution
- B40** Cleaning up a messy Mousterian: how to describe and interpret Late Middle Palaeolithic chrono-cultural variability in Atlantic Europe
- B41** Archaeology of the Mesolithic in Europe: the Significance of Fen and Bog Sites
- B42** The adoption of pottery in prehistory: a functional perspective
- B43** Testing social behaviour with novel approaches in the Prehistoric mortuary record of Iberia
- B44** Within ditches and walls. Settlements, fortifications, enclosures, monuments, villages and farms in the third Millenium BCE B46-Iron Age communities in Western-central Europe: new approaches to landscape and identity
- B46** Iron Age communities in Western-central Europe: new approaches to landscape and identity
- B48** "To come, to go, to stay": ancient DNA and C/N and Sr isotopes analyses as indicators of human relationships during the Holocene
- B50** Paleoenvironment and early cultural dynamics in the Maya area
- B51** Reconstructing human mobility in the Palaeolithic: building new frameworks
- B52** How far is it possible to compare Europe and continental Asia? Focus on Middle Pleistocene. Track record and perspectives
- B53** The archaeology of early fire use
- B54** Genetic analysis of modern and ancient samples
- B55** Advances in Archaeological Palimpsest Dissection
- B56** Time for the tide: New perspectives on hunter-fisher-gatherer exploitation of intertidal resources in Atlantic Europe and Mediterranean regions
- B57** Reconsidering the significance of the Acheulian in Human Evolution

Presidenta de Honor: Su Majestad la Reina

Juan Luis Arsuaga Ferreras
José María Bermúdez de Castro Risueño
Eudald Carbonell Roura

Fundación Caja de Burgos
Diario de Burgos
Fundación Cajacírculo
Cerveza San Miguel
Eulen / Fundación David Álvarez
Fundación Repsol
Fundación Iberdrola
Junta de Castilla y León
Diputación Provincial de Burgos
Cámara de Oficial de Comercio e Industria de Burgos
Ayuntamiento de Burgos
Ayuntamiento de Atapuerca
Ayuntamiento de Ibeas de Juarros
Ministerio de Ciencia e Innovación. Consejo Superior de Investigaciones Científicas, CSIC.
Universidad de Burgos, UBU
Universidad Complutense de Madrid, UCM
Universitat Rovira i Virgili de Tarragona, URV
Centro Nacional de Investigación sobre la Evolución Humana, CENIEH



2014 burgos
1-7 sept.

uispp

Union International
de Sciences Préhistoriques
et Protohistoriques



XVII World UISPP Congress
XVIIe Congrès Mondial de l'UISPP
XVII Congreso Mundial de UISPP

A12 Detecting the Land-scape(s) - Remote Sensing Techniques from Research to Heritage Management

Commission on Archaeological Prospection
(Organiser: (Axel G. Posluschny))

Tuesday 2nd (9:00 to 13:00)
Meeting room B01



2014 burgos
1-7 sept.

uispp

Union International
de Sciences Préhistoriques
et Protohistoriques



XVII World UISPP Congress
XVIIe Congrès Mondial de l'UISPP
XVII Congreso Mundial de UISPP

ages, their morphological structure is highlighted by an intense backscatter signal. For the successful extraction of the linear paleo-shorelines and terraces a canny filter was implemented in a Python-script. For the resulting lines the corresponding elevations were extracted from a SRTM-X digital elevation model (30 m resolution) data covering nearly the whole Manyara Basin.

The Lower Manyara Beds were successfully delineated with ASTER multispectral data. Several distinct paleo-shorelines were detected with height levels between 10 m and 80 m above today's lake level of Lake Manyara. The results coincide to a high degree with field reference data collected during four field campaigns.

With multispectral band rationing techniques it was possible to extract the maximum visible extent of the Lower Manyara Beds and therewith a preliminary maximum lake level which is located more than 27 km east of today's shoreline. With TerraSAR-X images paleo-shorelines were successfully detected, which could not be delineated in detail by optical remote sensing techniques. The most elevated paleo-shoreline is with an elevation of 80 m above today's lake level on the same elevation as the lowest possible outlet of the endorheic Lake Manyara. Therefore an overflow into the neighboring Lake Engaruka and Natron / Magadi basins seems likely.

POSTER

12. THE POTENTIAL OF MAGNETOMETRY TO SURVEY IBERIAN SETTLEMENTS: REVEALING THE HIDDEN URBANISM OF "LOS VILARES" (CAUDETE DE LAS FUENTES, VALENCIA)

Cuenca-Garcia, Carmen – (1 Laboratory of Geophysical - Satellite Remote Sensing and Archaeoenvironment (GeoSat ReSeArch), Institute for Mediterranean Studies, Foundation for research and Technology, Hellas (FORTH)) carmen@ims.forth.gr

Sarris, Apostolos - (1 Laboratory of Geophysical - Satellite Remote Sensing and Archaeoenvironment (GeoSat ReSeArch), Institute for Mediterranean Studies, Foundation for research and Technology, Hellas (FORTH)) asaris@ret.forthnet.gr

Consuelo Mata Parreño (Department of Archaeology, University of Valencia) consuelo.mata@uv.es

This poster shows the results of a magnetometer survey carried out at 'Los Villares', an Iberian site located in a hill-fort near the municipality of 'Caudete de las Fuentes', in the Utiel-Requena district (Valencia, Spain). The aim of

the survey was to map the extent of buried structures in the area using non-invasive methods. The project is a collaboration between GeoSat Research (Greece) and the department of Archaeology of the University of Valencia (Spain).

The site has been identified as the ancient city of Kelin, where its extensive chronology expands from the beginning of the Iron Age (about 680 B.C.) to iberoroman times (75 B.C.). Kelin became the capital of a large Iberian territory and developed its own coinage (II century B.C.). Some studies have suggested that the site was destroyed as a result of a corrective measure applied by Rome to those Iberian cities that supported the defeated Sertorian side during the civil war. The twenty three excavation campaigns carried out by the University of Valencia between 1956 and 2002 have focused on two main areas at the site containing a number of houses, covering a total of approximately 1000 m². The excavations retrieved a great deal of findings relating to the economy of the community living at Kelin as well as the recording of several phases of the internal structure and architecture of the excavated houses.

A magnetometer survey was undertaken by a team of three people over two days in December 2013, using a single fluxgate gradiometer Bartington 601. Ten survey grids of 20x20m were recorded covering approximately 4.800 m².

The survey revealed a series of both strong magnetic responses and linear negative magnetic anomalies which seem to indicate the location of square and rectangular houses. These structures cover the whole area surveyed and seem to be distributed along a series of perpendicular and longitudinal negative or weakly positive magnetic responses which may show the distribution of roads or perimetral walls. The intensity of the strong magnetic anomalies may be associated with substantial burnt features such as mud-brick walls or other structural materials of the houses. This interpretation would seem to agree with the possible final destruction of the site. Other linear negative magnetic anomalies may be produced by the mud-brick walls that were not affected by the fire or the contrast produced by stone foundations of the houses.

The approach used in this study has proved the great potential of magnetometer survey to map the urban layout of Iberian sites with a final destruction phase in a non-invasive and cost-effective manner. Two days' survey and a small team were enough to get a complete view of the

buried structures at the site and therefore, an approximation of how Kelin looked like before its destruction. Further work intends to implement other geophysical techniques at the site to complement the magnetic results in the non-excavated area. For example, ground-penetrating radar may provide further details on some of the internal structures or information about the depth of burial of the structures.

POSTER

13. AFFORDABLE, LOW-COST TECHNIQUES FOR THE DOCUMENTATION OF CULTIVATION STRUCTURES IN THE ARID ATACAMA AREA (N. CHILE)

Parcero-Oubiña, César - (Instituto de Ciencias del Patrimonio (Incipit), Spanish National Research Council (CSIC), Spain) cesar.parcero-oubina@incipit.csic.es

Güimil-Fariña, Alejandro - (Independent researcher) alejandro.guimil.farina@gmail.com

Mañana-Borrazás, Patricia - (Instituto de Ciencias del Patrimonio (Incipit), Spanish National Research Council (CSIC), Spain) patricia.manana-borrazas@incipit.csic.es

Fábrega-Álvarez, Pastor - (Instituto de Ciencias del Patrimonio (Incipit), Spanish National Research Council (CSIC), Spain) pastor.fabrega-alvarez@incipit.csic.es

Borie, César - (Departamento de Antropología, Universidad de Chile) cesarborie@gmail.com

Pino, Mariela - (Departamento de Antropología, Universidad de Chile) marielitapino@gmail.com

Hayashida, Frances - (Department of Anthropology, University of New Mexico, USA) frances.hayashida@gmail.com

Salazar, Diego - (Departamento de Antropología, Universidad de Chile) maaconsultores@gmail.com

Troncoso, Andrés - (Departamento de Antropología, Universidad de Chile) atroncoso@gmail.com

The poster will summarize the methodological process for the detailed documentation of a vast complex of late Prehispanic agrarian elements (fields, irrigation canals) in the Atacama Desert (northern Chile). As opposed to the usual conditions for prospection in temperate regions, where the visibility of archaeological features is usually poor and confusing, here the extreme dryness of the landscape allowed an extraordinary preservation and visibility of fields, canals and other constructions.

The approach was initially based on a combination of visual interpretation of high resolution satellite images (GeoEye 1) and fieldwork for mapping the layout and shape of most of the elements (canals, groups of fields, settlement areas). For the accurate documentation of

smaller or densely built areas, an SFM-based photogrammetry approach was carried out, based on the use of a low cost UAV (Dji Phantom) and a consumer-grade compact digital camera for the acquisition of low altitude aerial images that allowed the generation of 3D models and orthoimages of some areas. Finally, ground based photogrammetry was also used to capture and represent some elements in greater detail.

The main result has been the construction of a highly detailed and accurate map of a complex group of archaeological structures, which has been used since for the analysis and interpretation of the area, and also for the design of new fieldwork seasons.

POSTER

14. USING AIRBORNE LASER SCANNING AND HISTORICAL AERIAL PHOTOS TO IDENTIFY MODERN AGE FORTIFICATIONS IN THE MINHO VALLEY, NORTHWEST IBERIA

Blanco-Rotea, Rebeca - (Technological Research Institute, Santiago de Compostela University, Edificio Monte da Condesa, USC Campus Sur, 15782, Santiago de Compostela, Spain) rebeca.blanco.rotea@gmail.com

Fonte, João - (Institute of Heritage Sciences (Incipit), Spanish National Research Council (CSIC), San Roque 2, 15704 Santiago de Compostela, Spain) joaofonte@gmail.com

Güimil-Fariña, Alejandro - (Independent researcher) alejandro.guimil.farina@gmail.com

Mañana-Borrazás, Patricia - (Institute of Heritage Sciences (Incipit), Spanish National Research Council (CSIC), San Roque 2, 15704 Santiago de Compostela, Spain) patricia.manana-borrazas@incipit.csic.es

In the Institute of Heritage Sciences (Incipit), Spanish National Research Council (CSIC), we have developed a transdisciplinary research project to study the Modern Age (17th century) fortified landscapes in the Galician-Portuguese border. In recent years, different techniques based on geospatial technologies for landscape analysis have allowed us, among other things, to identify and visualize some of these fortifications, to analyse their conservation status and to understand their relationship with other fortified elements. Among these techniques, we include the photogrammetric restitution of historical aerial photos and airborne laser scanning data.

The research of this fortified landscape was based on documentary and bibliographic sources, archaeologi-

ORGANIZATION



HOSTING INSTITUTION



UNIVERSIDAD DE BURGOS

GENERAL SPONSOR



**MUSEO
DE LA
EVOLUCIÓN
HUMANA**



**Junta de
Castilla y León**

LOCAL SPONSORS



**Ayuntamiento
de Burgos**



**DIPUTACIÓN
DE BURGOS**

SESSION SPONSORS



**Fundación
REPSOL**



**AYUNTAMIENTO DE
ARNEDO**



TECHNICAL SECRETARY

VIAJES

El Corte Inglés



- A1 Siliceous rock extraction and prehistoric lithic economies
- A2a The first peopling of Europe
- A2b Technological change during the Lower-Middle Pleistocene transition in Europe
- A2c What's happening now in Atapuerca? Latest research at the Sierra de Atapuerca sites
- A2d Contextualizing Schöningen and its implications for human evolution during the Middle Pleistocene
- A2e The Early and Middle Pleistocene succession in the Guadix-Baza Basin (Andalusia, southern Spain): geology, paleontology, archaeology
- A2f Pleistocene human dispersals: climate, ecology and social behavior
- A3b Transition from Lithic to Metal – appraisal on global changes
- A3c The emergence of warrior societies and its economic, social and environmental consequences
- A3e Objects of the dead, offerings from the living: interpreting finds in funerary contexts
- A3f 50 Years of Prähistorische Bronzefunde
- A4a The revolution of the sixties in Prehistory and Protohistory
- A4b The scientific value of 3D archaeology
- A4c Underwater Archaeology
- A5a The Final Palaeolithic of Northern Eurasia
- A5b From the Atlantic to beyond the Bug River – Finding and defining the Federmesser-Gruppen / Azilian on the North European Plain and adjacent areas
- A6a Human occupations in mountain environments: a comparative methodological perspective
- A6b The management of resources and territories in the Pyrenees from the earliest human occupation to the end of the Protohistory. A behavioral perspective
- A7b Emergence and consequences of technical innovations in America
- A7c Climate change and use of animals in South America during the Holocene
- A8a Lobbying for Archaeology (18TH- 21ST centuries). Innovative alliances in the establishment of archaeology
- A8b International relations in the history of archaeology
- A9a The origins of Upper Palaeolithic in Eurasia
- A9b The Study of the Environment and the Landscape in the Reconstruction of the Economic and Social Activities during the Upper Paleolithic. Methodological Approaches and Case of study



- A9c** The initial Cantabrian Magdalenian & the question of Magdalenian origins
- A9d** The Human settlement of Western Europe during the last glacial maximum
- A10** The Neolithic from the Sahara to the Southern Mediterranean Coast: a review of the most Recent Research
- A11a** The chronology of Palaeolithic cave art: new data, new debates
- A11b** Late Pleistocene cave art in its context
- A11c** New solutions for old problems: the use of new technologies for the documentation and conservation of prehistoric art
- A11d** Styles, techniques and graphic expression in rock art
- A11e** Public images, private readings: multi-perspective approaches to the post-Palaeolithic rock art
- A11f** The Role of Art in Prehistoric Societies
- A12** Detecting the Landscape(s) - Remote Sensing Techniques from Research to Heritage Management
- A13** Quality Management of Cultural Heritage: problems and good practices
- A14** The water as generator of networks
- A15a** Archaeological Heritage Policies and Management strategies
- A15b** Management and use of science data from preventive archaeology: quality control
- A15c** Cultural resources, management, public policy, people's awareness and sustainable development
- A15d** The educational activities of archeology and socialization of knowledge
- A15e** Museum networking in Glocal communities: experiences in sharing and cooperation towards peer awareness and target increase in Quaternary and Prehistory Museums
- A15** Education and dissemination strategies in museums and prehistoric Sites
- A16** Aegean-Mediterranean imports and influences in the graves from continental Europe – Bronze and Iron Ages
- A17a** Recent Trends and Aspects of Use-wear Analysis and their contribution to the Modernization of Archaeology
- A17b** Traceological research and experimental work
- A17c** Microscopic determination of hafting technology: use-wear and residues
- A18a** Redefining the Postpalaeolithic rock art in the world: Groups, diffusion areas, hronology and last methodological contributions
- A18b** Post-Palaeolithic filiform rock art in Western Europe
- A19** Bifacial tools in the Middle Palaeolithic of western Eurasia: typo-technological variability and spatio-temporal trends

Index



- A20** The intellectual and spiritual expressions of non-literate peoples
- A21a** Neanderthals on their own terms: new perspectives for the study of Middle Paleolithic behaviour
- A21b** Technological change and behavioral variability in the MSA
- A21c** Movements in and Out for Africa: Assemblage variability and population dynamics in Northeast Africa and Southwest Asia during the MSA and Middle Paleolithic
- A21d** Chronostratigraphic data about the Middle to Upper Palaeolithic cultural change in Western Europe
- A22** Origins and evolution of Modern Humans Behaviour: a view from North Africa
- A24a** Recolonisation or new landscapes: adaptations and change in the Early Holocene
- A24b** Coastal adaptation: Assessing past resilient socio-ecological systems
- A25a** Materials, Productions, Exchange networks and their impact on the societies of Neolithic Europe
- A25b** Current Approaches to Collective Burials in the Late European Prehistory
- A25c** Standing stones and megalithic monuments in context
- A25d** Monumentality and territory: relationship between enclosures and necropolis in the European Neolithic
- A25e** Dynamics of human and cultural dispersals during the Neolithic transition in Europe: Complex Systems and Prehistory
- A25f** North-South connections and dis-connections in the prehistory and proto-history of the Levant
- A25g** Megalithism in the north-west of the Iberian Peninsula
- A25h** Domestication of Plants and Animals in the Near East
- A26** Southeast Asia: Human Evolution, Dispersals and Adaptation
- A27a** Linking Continents: Late hunter-gatherers and early farming communities relationships across the Mediterranean and the Black Sea
- A27c** The long road to the final transition. Regional dynamics in the western Mediterranean between the end of the LGM and the 8.2 event
- A28** Prehistoric Archaeology of China: Technology, Cognition, Culture and Environment

- B1** Task distribution in pre- and proto-historic societies
- B2** Biochronology, biostratigraphy and paleoecology of the Quaternary of Europe (B2PQUE)

Index



- B3** Monumental earthen architecture in early societies: technology and power display
- B4** Climate change and social change during the Late Holocene in arid and semiarid environments: archaeological and historical perspectives
- B5** New approaches to the study of Quartz lithic industries
- B6** Beyond the stones: Inter-disciplinary approaches to interpreting Palaeolithic Transitions
- B8** Hominid-bird interactions in Prehistory. The humankind and the avian world: archaeological evidence for inferring behavioural evolutionary signatures
- B9** Staring at the ground: archaeological surveys as a research tool in the early 21st century
- B10** The interglacial Holsteinian eldorado and the onset of the Middle Palaeolithic (400-300 ka)
- B13** Mathematical approaches for the study of Human-Fauna interactions in the Pleistocene
- B14** An Archaeology of fuels: social and environmental factors in behavioural strategies of multi-resource management
- B15** Social complexity in a long term perspective
- B17** Shepherds and caves
- B18** State of the art of the multidisciplinary research at Middle Pleistocene Qesem Cave, Israel
- B19** Aquatic resource consumption by prehistoric humans
- B20** Contexts without definition, definitions without context. Arguments for the characterization of the (Pre)historic realities during the neolithisation of the western Mediterranean
- B22** Premonetary currency systems in past societies
- B23** Beyond the reduction sequence: new insights in lithic technology
- B24** Innovation in the production and use of equipment in hard animal materials: origins and consequences in prehistoric Palaeolithic to Mesolithic societies
- B25** Looking at the sky, walking on the earth. Climatic changes and historical evolution in the Mesolithic and Neolithic of Western Europe
- B26** The lithic issues of the Gravettian
- B27** "Megalithic Biographies" Cycles of Use and Closure
- B28** Technology and the first agro-pastoral societies: ceramic manufacturing and decoration
- B30** A diachronic perspective of human behavioural adaptations to interglacial lakeshore environments during the European Pleistocene to early Holocene

Index



- B33** Environmental and cultural development during the Lower and Middle Palaeolithic in the Syrian Desert
- B34** Archaeometry approaches regard the study of networks of trade in raw materials and technological innovations in prehistory and protohistory
- B35** Paleolithic Archaeozoology: Advances on hunter-gatherer's subsistence
- B36** Analysis of the economic foundations supporting the social supremacy of the Beaker groups
- B37** Lithic, Evolution, Science
- B38** Advances in the dating of human dispersals, interactions and extinctions in the Palaeolithic
- B39** Paleoanthropological debates on Human Evolution
- B40** Cleaning up a messy Mousterian: how to describe and interpret Late Middle Palaeolithic chrono-cultural variability in Atlantic Europe
- B41** Archaeology of the Mesolithic in Europe: the Significance of Fen and Bog Sites
- B42** The adoption of pottery in prehistory: a functional perspective
- B43** Testing social behaviour with novel approaches in the Prehistoric mortuary record of Iberia
- B44** Within ditches and walls. Settlements, fortifications, enclosures, monuments, villages and farms in the third Millenium BCE B46-Iron Age communities in Western-central Europe: new approaches to landscape and identity
- B46** Iron Age communities in Western-central Europe: new approaches to landscape and identity
- B48** "To come, to go, to stay": ancient DNA and C/N and Sr isotopes analyses as indicators of human relationships during the Holocene
- B50** Paleoenvironment and early cultural dynamics in the Maya area
- B51** Reconstructing human mobility in the Palaeolithic: building new frameworks
- B52** How far is it possible to compare Europe and continental Asia? Focus on Middle Pleistocene. Track record and perspectives
- B53** The archaeology of early fire use
- B54** Genetic analysis of modern and ancient samples
- B55** Advances in Archaeological Palimpsest Dissection
- B56** Time for the tide: New perspectives on hunter-fisher-gatherer exploitation of intertidal resources in Atlantic Europe and Mediterranean regions
- B57** Reconsidering the significance of the Acheulian in Human Evolution

Presidenta de Honor: Su Majestad la Reina

Juan Luis Arsuaga Ferreras
José María Bermúdez de Castro Risueño
Eudald Carbonell Roura

Fundación Caja de Burgos
Diario de Burgos
Fundación Cajacírculo
Cerveza San Miguel
Eulen / Fundación David Álvarez
Fundación Repsol
Fundación Iberdrola
Junta de Castilla y León
Diputación Provincial de Burgos
Cámara de Oficial de Comercio e Industria de Burgos
Ayuntamiento de Burgos
Ayuntamiento de Atapuerca
Ayuntamiento de Ibeas de Juarros
Ministerio de Ciencia e Innovación. Consejo Superior de Investigaciones Científicas, CSIC.
Universidad de Burgos, UBU
Universidad Complutense de Madrid, UCM
Universitat Rovira i Virgili de Tarragona, URV
Centro Nacional de Investigación sobre la Evolución Humana, CENIEH



2014 burgos
1-7 sept.

uispp

Union International
de Sciences Préhistoriques
et Protohistoriques



XVII World UISPP Congress
XVIIe Congrès Mondial de l'UISPP
XVII Congreso Mundial de UISPP

A12 Detecting the Land-scape(s) - Remote Sensing Techniques from Research to Heritage Management

Commission on Archaeological Prospection
(Organiser: (Axel G. Posluschny))

Tuesday 2nd (9:00 to 13:00)
Meeting room B01



2014 burgos
1-7 sept.

uispp

Union International
de Sciences Préhistoriques
et Protohistoriques



XVII World UISPP Congress
XVIIe Congrès Mondial de l'UISPP
XVII Congreso Mundial de UISPP

ages, their morphological structure is highlighted by an intense backscatter signal. For the successful extraction of the linear paleo-shorelines and terraces a canny filter was implemented in a Python-script. For the resulting lines the corresponding elevations were extracted from a SRTM-X digital elevation model (30 m resolution) data covering nearly the whole Manyara Basin.

The Lower Manyara Beds were successfully delineated with ASTER multispectral data. Several distinct paleo-shorelines were detected with height levels between 10 m and 80 m above today's lake level of Lake Manyara. The results coincide to a high degree with field reference data collected during four field campaigns.

With multispectral band rationing techniques it was possible to extract the maximum visible extent of the Lower Manyara Beds and therewith a preliminary maximum lake level which is located more than 27 km east of today's shoreline. With TerraSAR-X images paleo-shorelines were successfully detected, which could not be delineated in detail by optical remote sensing techniques. The most elevated paleo-shoreline is with an elevation of 80 m above today's lake level on the same elevation as the lowest possible outlet of the endorheic Lake Manyara. Therefore an overflow into the neighboring Lake Engaruka and Natron / Magadi basins seems likely.

POSTER

12. THE POTENTIAL OF MAGNETOMETRY TO SURVEY IBERIAN SETTLEMENTS: REVEALING THE HIDDEN URBANISM OF "LOS VILARES" (CAUDETE DE LAS FUENTES, VALENCIA)

Cuenca-Garcia, Carmen – (1 Laboratory of Geophysical - Satellite Remote Sensing and Archaeoenvironment (GeoSat ReSeArch), Institute for Mediterranean Studies, Foundation for research and Technology, Hellas (FORTH)) carmen@ims.forth.gr

Sarris, Apostolos - (1 Laboratory of Geophysical - Satellite Remote Sensing and Archaeoenvironment (GeoSat ReSeArch), Institute for Mediterranean Studies, Foundation for research and Technology, Hellas (FORTH)) asaris@ret.forthnet.gr

Consuelo Mata Parreño (Department of Archaeology, University of Valencia) consuelo.mata@uv.es

This poster shows the results of a magnetometer survey carried out at 'Los Villares', an Iberian site located in a hill-fort near the municipality of 'Caudete de las Fuentes', in the Utiel-Requena district (Valencia, Spain). The aim of

the survey was to map the extent of buried structures in the area using non-invasive methods. The project is a collaboration between GeoSat Research (Greece) and the department of Archaeology of the University of Valencia (Spain).

The site has been identified as the ancient city of Kelin, where its extensive chronology expands from the beginning of the Iron Age (about 680 B.C.) to iberoroman times (75 B.C.). Kelin became the capital of a large Iberian territory and developed its own coinage (II century B.C.). Some studies have suggested that the site was destroyed as a result of a corrective measure applied by Rome to those Iberian cities that supported the defeated Sertorian side during the civil war. The twenty three excavation campaigns carried out by the University of Valencia between 1956 and 2002 have focused on two main areas at the site containing a number of houses, covering a total of approximately 1000 m². The excavations retrieved a great deal of findings relating to the economy of the community living at Kelin as well as the recording of several phases of the internal structure and architecture of the excavated houses.

A magnetometer survey was undertaken by a team of three people over two days in December 2013, using a single fluxgate gradiometer Bartington 601. Ten survey grids of 20x20m were recorded covering approximately 4.800 m².

The survey revealed a series of both strong magnetic responses and linear negative magnetic anomalies which seem to indicate the location of square and rectangular houses. These structures cover the whole area surveyed and seem to be distributed along a series of perpendicular and longitudinal negative or weakly positive magnetic responses which may show the distribution of roads or perimetral walls. The intensity of the strong magnetic anomalies may be associated with substantial burnt features such as mud-brick walls or other structural materials of the houses. This interpretation would seem to agree with the possible final destruction of the site. Other linear negative magnetic anomalies may be produced by the mud-brick walls that were not affected by the fire or the contrast produced by stone foundations of the houses.

The approach used in this study has proved the great potential of magnetometer survey to map the urban layout of Iberian sites with a final destruction phase in a non-invasive and cost-effective manner. Two days' survey and a small team were enough to get a complete view of the

buried structures at the site and therefore, an approximation of how Kelin looked like before its destruction. Further work intends to implement other geophysical techniques at the site to complement the magnetic results in the non-excavated area. For example, ground-penetrating radar may provide further details on some of the internal structures or information about the depth of burial of the structures.

POSTER

13. AFFORDABLE, LOW-COST TECHNIQUES FOR THE DOCUMENTATION OF CULTIVATION STRUCTURES IN THE ARID ATACAMA AREA (N. CHILE)

Parcero-Oubiña, César - (Instituto de Ciencias del Patrimonio (Incipit), Spanish National Research Council (CSIC), Spain) cesar.parcero-oubina@incipit.csic.es

Güimil-Fariña, Alejandro - (Independent researcher) alejandro.guimil.farina@gmail.com

Mañana-Borrazás, Patricia - (Instituto de Ciencias del Patrimonio (Incipit), Spanish National Research Council (CSIC), Spain) patricia.manana-borrazas@incipit.csic.es

Fábrega-Álvarez, Pastor - (Instituto de Ciencias del Patrimonio (Incipit), Spanish National Research Council (CSIC), Spain) pastor.fabrega-alvarez@incipit.csic.es

Borie, César - (Departamento de Antropología, Universidad de Chile) cesarborie@gmail.com

Pino, Mariela - (Departamento de Antropología, Universidad de Chile) marielitapino@gmail.com

Hayashida, Frances - (Department of Anthropology, University of New Mexico, USA) frances.hayashida@gmail.com

Salazar, Diego - (Departamento de Antropología, Universidad de Chile) maaconsultores@gmail.com

Troncoso, Andrés - (Departamento de Antropología, Universidad de Chile) atroncoso@gmail.com

The poster will summarize the methodological process for the detailed documentation of a vast complex of late Prehispanic agrarian elements (fields, irrigation canals) in the Atacama Desert (northern Chile). As opposed to the usual conditions for prospection in temperate regions, where the visibility of archaeological features is usually poor and confusing, here the extreme dryness of the landscape allowed an extraordinary preservation and visibility of fields, canals and other constructions.

The approach was initially based on a combination of visual interpretation of high resolution satellite images (GeoEye 1) and fieldwork for mapping the layout and shape of most of the elements (canals, groups of fields, settlement areas). For the accurate documentation of

smaller or densely built areas, an SFM-based photogrammetry approach was carried out, based on the use of a low cost UAV (Dji Phantom) and a consumer-grade compact digital camera for the acquisition of low altitude aerial images that allowed the generation of 3D models and orthoimages of some areas. Finally, ground based photogrammetry was also used to capture and represent some elements in greater detail.

The main result has been the construction of a highly detailed and accurate map of a complex group of archaeological structures, which has been used since for the analysis and interpretation of the area, and also for the design of new fieldwork seasons.

POSTER

14. USING AIRBORNE LASER SCANNING AND HISTORICAL AERIAL PHOTOS TO IDENTIFY MODERN AGE FORTIFICATIONS IN THE MINHO VALLEY, NORTHWEST IBERIA

Blanco-Rotea, Rebeca - (Technological Research Institute, Santiago de Compostela University, Edificio Monte da Condesa, USC Campus Sur, 15782, Santiago de Compostela, Spain) rebeca.blanco.rotea@gmail.com

Fonte, João - (Institute of Heritage Sciences (Incipit), Spanish National Research Council (CSIC), San Roque 2, 15704 Santiago de Compostela, Spain) joaofonte@gmail.com

Güimil-Fariña, Alejandro - (Independent researcher) alejandro.guimil.farina@gmail.com

Mañana-Borrazás, Patricia - (Institute of Heritage Sciences (Incipit), Spanish National Research Council (CSIC), San Roque 2, 15704 Santiago de Compostela, Spain) patricia.manana-borrazas@incipit.csic.es

In the Institute of Heritage Sciences (Incipit), Spanish National Research Council (CSIC), we have developed a transdisciplinary research project to study the Modern Age (17th century) fortified landscapes in the Galician-Portuguese border. In recent years, different techniques based on geospatial technologies for landscape analysis have allowed us, among other things, to identify and visualize some of these fortifications, to analyse their conservation status and to understand their relationship with other fortified elements. Among these techniques, we include the photogrammetric restitution of historical aerial photos and airborne laser scanning data.

The research of this fortified landscape was based on documentary and bibliographic sources, archaeologi-

ORGANIZATION



HOSTING INSTITUTION



UNIVERSIDAD DE BURGOS

GENERAL SPONSOR



**MUSEO
DE LA
EVOLUCIÓN
HUMANA**



**Junta de
Castilla y León**

LOCAL SPONSORS



**Ayuntamiento
de Burgos**



**DIPUTACIÓN
DE BURGOS**

SESSION SPONSORS



**Fundación
REPSOL**



**AYUNTAMIENTO DE
ARNEDO**



TECHNICAL SECRETARY

VIAJES

El Corte Inglés