FINAL LIST OF SESSIONS

XVII World UISPP Congress
Burgos, 1-7 September 2014

SCIENTIFIC SESSIONS

All conference papers must be sent to session organizer and our web www.burgos2014uispp.com by **30 April 2014** with the following information (in English): Title, author's name (or responsible when a team), mail, reference institution, abstract and keywords.

Congress participants must tell us in which sessions they want to include their communications and/or posters before May 31, 2014.

Sessions proposed by the UISPP commissions

Commission on Flint Mining in Pre- and Protohistoric Times

A1- Siliceous rock extraction and prehistoric lithic economies

(**Jacek Lech** lech@iaepan.edu.pl, Alan Saville, Xavier Terradas & Andreas Zimmermann)

Siliceous rock extraction has been one of the themes of research in European archaeology since the first discoveries of prehistoric flint mine sites at Spiennes (Belgium), Grimes Graves and Cissbury (England) in the last decades of the nineteenth century.

Researchers studying various aspects of prehistoric mining have devoted relatively little attention to prehistoric lithic economies. Today, when we know of many hundreds of quarries exploited by the Stone, Copper and Bronze Age societies in different parts of the world (used by communities representing different levels of social and economic organization, including early agrarian states), a return to the subject of lithic economies seems justified.

For this session, papers concerning various economic factors of siliceous rock extraction, processing (studies of chipping floors) and distribution would be especially interesting. We also invite authors ready to present, in the brief time, outlines of more general topics. These include observations and explanations of the changes which took place in the organization of mining and exploitation of siliceous rocks. For example, changes in the systems of providing raw material from the same deposits, but exploited at different periods in time, could be of interest. Also, again in outline form, comparisons of changes taking place in various regions of the world would be an interesting topic. It seems that in some cases we have the possibility of defining, in archaeological categories, different patterns of relation between extraction/production sites and consumption sites.

We wish to encourage fresh efforts to quantify some of the phenomena we are concerned with in this session (determining the mass of flint extracted from one mining unit, quantitative and weight relationships between waste material from chipping floors and their final products, etc.). This could also include critical analyses of earlier attempts. It would also be interesting to try to explain why the most advanced forms of subterranean mining

developed. To what degree were the reasons purely technological and what other factors, such as prestige or the ritual significance of a raw material in different periods, could have played a role? Also, can such factors be accurately distinguished? Did caches of mined siliceous rocks have purely ritualistic significance or, as was once thought, were they also of economic importance; and what archaeological criteria could resolve the issue?

Commission on First humans in Europe

A2a-The first peopling of Europe

(**Eudald Carbonell** firsteuropeans.uispp@gmail.com, Marina Mosquera, Andreu Ollé, Deborah Barsky, Xosé Pedro Rodríguez & Robert Sala)

The first peopling of Europe has been the focus of intense research over the last few decades. New discoveries and dates for several sites indicate that hominin occupations were established around 1.4–1.2 Mya. Most of the sites have yielded lithic assemblages ascribed to the technological Mode 1 and some have faunal remains bearing traces of butchery. What, if anything can these stone industries tell us about the behaviour and technology of the earliest inhabitants of Europe?

The earlier Dmanisi site, located in the Georgian Caucasus, was occupied by *Homo georgicus* by 1,85 Mya and is a key discovery that has validated evidence supporting the early chronology for the peopling of Eurasia. Among the European sites, Spain's Sierra de Atapuerca's Pleistocene sequence has yielded hominin remains ascribed to *Homo sp.* (Elefante level TE9) and *Homo antecessor* (Gran Dolina level TD6). It remains unclear whether these hominins originated in Africa or in Asia. Whether the occupation of Europe was continuous or punctual from this time is also a subject for debate.

Various routes into Europe could have been open during the Lower Pleistocene. Africa seems a plausible origin for the Dmanisi hominins and the Levantine corridor appears, geographically, as a likely steppingstone into Asia and Europe. Other pathways have been proposed, but archaeological evidence is still needed to validate them.

Concerning lithic technology, assemblages from some Lower Pleistocene sites such as Atapuerca's Elefante level TE9 and Gran Dolina level TD6 and Orce's Barranco León and Fuente Nueva 3 in Spain or Pont-de-Lavaud in France, contribute to defining the variability of core-flake assemblages in Western Europe at this time. These industries are distinguished by cores, heavy-duty tools and/or small, sharp-edged flakes.

The aim of this session will be to debate and update our knowledge about the origins for the earliest inhabitants of Europe in order to better ascertain similarities and differences in behaviour and technology compared with Africa, the Near-East and Asia.

A2b-Technological change during the Lower-Middle Pleistocene transition in Europe

(**Eudald Carbonell** firsteuropeans.uispp@gmail.com, Marina Mosquera, Andreu Ollé, Deborah Barsky, Xosé Pedro Rodríguez & Robert Sala)

Archaeological evidence dating to between 0,8 and 0,5 Mya in Europe is relatively scarce, leading some researchers to suggest that Europe was depopulated during the Lower-Middle Pleistocene transition. The lithics from a few sites dating to this period are assigned to the

technological Mode 1. However, recent discoveries suggest that new technologies typically associated with the Acheulian or Mode 2 had also begun to appear around this time.

According to the African evidence, more complex toolkits typical of Mode 2 technical achievement appear and multiply from around 1,75-1,5 Mya at a number of sites; mostly situated along the Eastern Rift Valley. The large chronological and geographical gap separating Western Europe from these African sites raises questions about whether Mode 1 evolved into Mode 2 in Europe, or if it arrived from Africa.

We propose to debate about convergence and/or cultural diffusion as possible agents for technical transmission in order to ascertain how innovative technologies could have taken root in Europe long after their appearance in other areas of the globe (Africa, India).

Other topics related to this debate may be: whether different migrations of hominin populations are observable before this technology became generalized across Europe by *Homo heidelbergensis* around 0,5 Mya and whether one or more species of hominin can be linked to the manufacture of the technological Mode 2.

We propose this Session as a debate and strongly encourage participants to present only new data: results and ideas should be tightly linked to the topics outlined above. Contributions treating already known sites and hypothesis will be welcomed as posters or will be redirected towards other Sessions.

A2c-What's happening now in Atapuerca? Latest research at the Sierra de Atapuerca sites

(**Jordi Rosell** jordi.rosell@urv.cat, Alfonso Benito & Jesús Rodríguez)

Sierra de Atapuerca is undoubtedly a world reference site on account of its contributions to knowledge about human evolution during the last million years. The Sierra contains an extraordinary concentration of archaeological sites that span the period from the lower Pleistocene to the Holocene. These sites are concentrated into four main locations:

1. The Railway Cutting, which contains the Sima del Elefante, Galería, Gran Dolina and Penal site.
2. Cueva Mayor, which contains sites such as Sima de los Huesos (Pit of Bones), Galería de las Estatuas and El Portalón.
3. Cueva del Mirador, at the south end of the Sierra.
4. The terraces of the Arlanzón, Pico and Vena Rivers, where several lithic scatters from different periods have been found.

A multidisciplinary team of over 50 researchers from different institutions are conducting multidisciplinary studies at several of these sites. The purpose of this session is to gather new information from the various sites and present the latest trends in the work by the Atapuerca research team.

A2d-Contextualizing Schöningen and its implications for human evolution during the Middle Pleistocene

(**Nicholas J. Conard** nicholas.conard@uni-tuebingen.de, Sabine Gaudzinski-Windheuser & Jordi Serangeli)

The well-known late Middle Pleistocene locality of Schöningen gained international prominence in the middle 1990s when excavators under the direction of H. Thieme recovered a number of beautifully preserved wooden artifacts in association with large numbers of butchered faunal remains and lithic artifacts.

The Paleolithic archaeology at Schöningen reflects a remarkable situation in which coal mining has led to a drop in the water table, making what was previously a group of underwater sites available for large-scale above ground excavation. More than a dozen localities have been studied over the last three decades, and since 2008 a new phase of interdisciplinary research has been initiated that has served to refine the interpretation of the unique archaeological record preserved at this important locality.

This session presents new results from the excavations and analyses at Schöningen and examines how these diverse observations inform researchers about hominin adaptations on the Northern European Plain during the Middle Pleistocene. Participants are asked to contextualize the observations from this unique sedimentary environment as a starting point for completing the often so fragmentary record of hominin social and economic behavior during the Middle Pleistocene.

A2e-The Early and Middle Pleistocene succession in the Guadix-Baza Basin (Andalusia, southern Spain): geology, paleontology, archaeology

(**Robert Sala** robert.sala@urv.cat, B. Martínez-Navarro, J. Agustí, D. Barsky & I. Toro-Moyano)

Communications proposed in the framework of this Session will concern new and innovative research data in the fields of: geology, paleontology and archeology from the Guadix-Baza basin. This depression preserves alluvial (Guadix) and lacustrine (Baza) deposits dating from the Upper Miocene to the end of the Middle Pleistocene. During this period, much of the depression was occupied by the saline lake Baza which existed within an endorheic system until it was drained by the changing courses of the Guadalquivir river and its affluents, around 0,2 Ma.

Existing deposits in the Baza sector are composed of lacustrine clays, silts and sands, reaching up to 100 m thick. Huge sections of these layered, calcareo-evaporitic deposits, exposed by tectonic activity and erosion, have been found to contain fossils and cultural artifacts. Over the last half a century, many fossiliferous and archeological localities have been documented from this unique accumulation.

Since their discovery, the Venta Micena, Barranco León and Fuente Nueva 3 sites have continued to yield spectacular faunal and/or lithic assemblages, registered within a precise stratigraphical and archeo-chronological context. Ongoing surveying, excavations and research at these and other important localities continue to provide multidisciplinary data about the Early and Middle Pleistocene faunal and cultural succession from this part of the Iberian Peninsula.

Amongst the major themes to be discussed are: faunal and hominin migrations, hominin-carnivore interactions, butchery and taphonomy, cultural transmission and percussive technology, raw material procurement patterns and land-use.

A2f-Pleistocene human dispersals: climate, ecology and social behavior

(**José Luis Lanata** jllanata@gmail.com, Sergi Lozano & Bienvenido Martínez-Navarro)

The modern history of thinking about the origin of species has been dominated by links between environments (and changes in them) and the process of speciation. Darwin's original argument for evolution by means of natural selection (Darwin 1859) is an ecological argument: species 'adapt' to their physical and biotic environments.

Those best adapted to their environment survive and leave more descendants than those that are less adapted. This reasoning clearly works on biological, even paleontological terms. But, does it work on social and cultural ones? And, if it does, how? The proposed working session will evaluate this question in the context of human evolution, by discussing different cases in all the continents.

The research on the human dispersal out of Africa, into Eurasia, Australia and the Americas, has changed the ideas about chronologies and the ecological scenarios where humans were able to colonize new territories with new environments in different and, sometimes, inhospitable climates with marked seasonality.

The oldest human record in Eurasia is found in Dmanisi (Georgia, Caucasus), dated 1.8 Ma, during the Olduvai normal chron. The fossil record of Eurasia reveals an important faunal turnover at this moment and also the arrival of several large mammals' species of African origin, chronologically coincidental with this human dispersal. Later, different speciation waves and other subsequent dispersals into Eurasia of fauna and hominins are coincidental during the Pleistocene. This geographic theatre increases when the megafaunal extinction around the planet -Eurasia, Australia and the Americas- can be related with the expansion of early modern humans, *Homo sapiens*, to these continents.

Climate changes, faunal turnovers, and human dispersals into new continents, seem to be coincidental. There is no doubt that climate and climate change interact with the biosphere and can therefore be expected to influence human activity as well, either directly or through paths leading from climate to plant cover to faunal resources.

What is not so clear is how and to what degree the social and cultural human evolution interacted with them. At this sense, an important question is to explain the effect of the increasing of sociality in early and more recent humans in order to be more successful during the global dispersal process, in competence with other faunal species and/or human populations.

Participants in the workshop should contribute to the discussion from their own perspective and background, giving ideas or motivates discussions related to this general topic, which aims at identifying different perspectives to discuss the mechanisms involved in human dispersal and subsequent development across continents. Participants' expertise could include, among others, Prehistory, Paleontology, Paleoclimatic Sciences, Complex Analysis Systems, Social Networks Analysis, Cultural evolution and transmission, and all related topics in recent issues without disciplinary restrictions. The proceedings of the workshop will be published in a special volume.

Commission on The Metal Ages in Europe

A3a-New theoretical-methodological approaches to the Bronze Age in southeast of the Iberian Peninsula

(**Fernando Molina González** molinag@ugr.es & Juan Antonio Cámara Serrano)

Argar Culture, that develops during the Bronze Age in the Southeast of the Iberian Peninsula (first half of the II millennium BC), has traditionally been considered as one of the first hierarchical societies of the western Mediterranean, although authors can considered it as a chiefdom or a state, a only society or a group of them. In recent years, new studies are being presented that deal its characterization from new points of view. Most approaches tend to analyze the complexity of craft production or to discriminate what are the indicators that can be used in order to characterize society, areas in which new theoretical and methodological approaches have much to say.

Discussions about its inner divisions and chronology, dating of its inner transformations or specific problems such as the dates of burials in multiple graves, are not lacking. In this sense the proposed session is divided into three main sections:

- approaching to the new lines of empirical analysis in relation to Argaric archeology, from the massive use of absolute dates for temporal dimensioning and the resolution of certain problems until bioarchaeological detailed studies, isotopic analyses related to the origin of certain raw materials (lead isotopes), environmental change and diet (carbon and nitrogen isotopes, etc.) and other archaeometric studies to characterize the production and use of artifacts;
- showing theoretical discussions to characterize Argaric society, especially regarding craft specialization, production control, social differences and the role of war;
- finally noting what are the indicators used to talk about hierarchy in the Argaric world and discuss to what extent they are appropriate and well empirically tested and what kind of hierarchical society we can propose from them.

A3b-Transition from Lithic to Metal – appraisal on global changes

(**Rama Krishna Pisipaty** sramakrishna.pisipaty@gmail.com)

Initiation of metal technology was a major breakthrough in the history of mankind. Because, the barbaric mode of living of the Stone Age had a turn towards successive stages of modification with the master over utility of metals like copper/bronze and iron for different purposes. Besides being technological attainment, the use of these metals improved general living patterns and also governed economic processes during the Early Bronze/Iron Age.

Generally, in history the Metal (Early Bronze/Iron) Age refers to mainly the end of second millennium BCE, however, the dates and context vary depending on the geographical region. It may be true that the advent and adoption of such hard material which available in most of the geographical zones provided an opportunity with other changes in society, including differing agricultural practices, religious beliefs and artistic styles. It further indicates the condition as to civilization and culture of a people using iron as the material for their cutting tools and weapons. Such a major breakthrough in the history mankind, still is not in common conclusion in many areas.

There have been a call for and discussion about the recent discoveries from all corners for some common conclusion related to - Environmental conditions, Settlement pattern, Technologies & industrial activities, Socio-cultural systems, Religious practices, After death rituals, Megalithic & eolith structures, Art & architecture, Literature, Regional contracts,

Trade & commerce, Celestial & applied science, etc., developments along with survived earlier mode of life in the different societies during transitions from lithic to metal, Early Bronze/ Iron Age as a theme of the present session.

A3c-The emergence of warrior societies and its economic, social and environmental consequences

(**Fernando Coimbra** coimbra.rockart@yahoo.com, Davide Delfino & Dragoş Gheorghiou)

It is well known that Neolithic was the first epoch of major changes of the landscape, modeled with fire to obtain lands for cultivation.

In a similar way the rise of warrior societies will generate environmental, as well as social and economic changes through the construction of strongholds, colonies, or the exploitation of open mines (*i.e.*, environmental changes), the new role of warriors within the society which created new myths and new funerary spaces (*i.e.*, social changes), or the technological and commercial development which increased the social contacts (*i.e.*, economic mutations).

In fact, the transformation of agricultural societies in warrior societies is a crucial moment in human history, resulting in a shift of local conflicts to large scale conflagrations, conducted after special laws and rules, alliances and trade over long distances, creating acculturations, which represent a major challenge addressed to anthropological archeology.

The Iliad, or Edda, reveal a world of symbols and important issues about the warlords, with weapons of prestige, monumental architecture built to impress and protect, with spectacular scenery and modeled mortuary rituals.

It seems that the art of war has imposed a deep cultural change to the world, with new myths and rituals, and especially the overall relationships among humans, between humans and new materials and between humans and animals.

With the discovery of metals a new materiality has changed the world and we are now witnessing the stratification of human societies (from the Chalcolithic period until the Iron Age), where the phenomenon of war has a central role, either in the social structure of human groups, which are designated as "warlike" societies, or in their interaction with the material culture and environment.

We invite therefore archaeologists and anthropologists to offer papers on the marks left by the warlike societies in the various manifestations of human culture: rituals, mythology, arts, commerce, technology and the space over the age of metals.

A3d-The Bronze Age in Europe: between realities and conventions

(**P. Brun** brun@mae.u-paris10.fr & A. Lehoërff)

When C.J. Thomsen, curator of the National Museum of Denmark in Copenhagen proposed his three-age system at the beginning of the 19th century, he firstly baptized a chronological era and secondly created a lasting conventional framework. The three-age system (Stone, Bronze, Iron) was seen as a technical progression, where techniques evolved in a chronological order. Presenting the museum's collections in a chronological fashion, Thomsen particularly chose artefacts from closed finds which strongly suggested that the three technical innovations followed on from each other.

The idea of the Bronze Age was adopted across Europe depended on the country's own discoveries and its intellectual and political contexts. Over the course of time, with new discoveries and studies and with the structuring of research on different levels, the Bronze Age has evolved, being enriched by its components and by its terminologies. Years have passed and Archaeology has been profoundly transformed in its methods and its problematics. The Danish three-age system, which became a four-age system in 1865 and was again subdivided at the beginning of the 20th century with the introduction of the Mesolithic, has in spite of everything survived. The Bronze Age terminology is still widely used at the beginning of the 21st century in Europe. After almost 200 years of research, do we need to envisage it as a convention fixed by tradition or as a historical period fundamentally different from those that come before and after?

This session has the ambition to answer this question using two different approaches: that of what the reality of archaeology reveals and that of the conventions by which our thinking is structured. More precisely, we aim overview the situation country by country and tackle the following subjects:

- The appearance and the diffusion of the concept and how its significance has evolved.
- The debates raging around Europe on data and chronological problems, in particular the chronological discrepancies between different areas: the South-East, the Mediterranean and the North-West.
- Alternative proposals such as "Metallicum" developed on evidence of progressive ruptures, that can be seen as perhaps more significant in today's archaeology, an archaeology that can no longer be limited by a purely technological way of thinking.

The theme of this session is about the history of research and if this 'old-fashioned' terminology is still able to influence thinking. In short, we need to reappraise the preconceived conceptual framework and open up to new approaches on a more globally societal level.

A3e-Objects of the dead, offerings from the living: interpreting finds in funerary contexts

(**Rebecca Peake** rebecca.peake@inrap.fr & Valérie Delattre)

The closed and protected space of the tomb can contain various types grave goods, from metal objects and potteries to animal bones, carbonized seeds and grains, etc, a very diverse set of objects brought together to represent and honour the deceased. Jewellery, weapons, ornaments are found on the buried body and in the case of cremations are found fragmented and melted with the burnt bone fragments. The pottery, sometimes an actual pottery service containing similar vessels with identical decors, can be used to contain the cremated remains of the deceased or a multitude of offerings.

Concurrent to typological and chronological considerations of objects in funerary contexts, how can we archaeologists, interpret these objects in terms of funerary practices, from the actual construction of the tomb to the community's perception of death and the dead?

Commission special on Prähistorische Bronzefunde

A3f-50 Years of Prähistorische Bronzefunde

(**U.L. Dietz** dietz@em.uni-frankfurt.de)

The international editing project "Prähistorische Bronzefunde" (PBF) has been running for nearly 50 years. It was founded in 1965 by H. Müller-Karpe and is now based in Frankfurt a.M. and Münster. It aims for a comprehensive publication of copper and bronze objects from the Copper, Bronze and Early Iron Ages (i.e. from the end of the 4th until the middle of the 1st millennium B.C.), mainly from Central Europe, but also from other parts of Europe and Western Asia. So far, more than 170 volumes have been published by nearly 130 researchers from c. 30 countries.

In addition to a presentation of PBF's long history and its continued importance for research on the early metal ages, the chances and perspectives of a digital edition with special features and the introduction of innovative approaches will be discussed. A vivid debate is sought on the methods of evaluating this huge amount of material (c. 140.000 items published so far). Contributions are welcome on PBF subjects, but also on topics relating to comparable corpora of material.

Commission on Historiography, Methods and Theory: Formalization, Quantification, Mathematics and Computerization

A4a-The revolution of the sixties in Prehistory and Protohistory

(**Colin Renfrew** dap38@cam.ac.uk, François Djindjian & Alessandro Guidi **in collaboration with Commission on History of Archaeology**)

The post second war period (1955-1975) has been a revolution in the history of Prehistory and Protohistory: new paradigms ("new archaeology"), advanced field techniques, new disciplines (Archeometry, Geoarchaeology, etc.) and major methodological and technical advances, which have diffused in the whole archaeological field. The colloquium has the purpose to remember this golden age and to replace it in the general context of the progress of Sciences.

A4b-The scientific value of 3D archaeology

(**Hans Kamermans** h.kamermans@arch.leidenuniv.nl, Chiara Piccoli & Roberto Scopigno)

The methods and techniques that fall under the broad definition of 3D archaeology have reached a mature state, where the advance in technology is at the service of archaeological research.

This session is dedicated to the presentation of methods, techniques and applications within the broad topic of 3D archaeology, with a specific focus on their scientific application. Papers of this session discuss how the use of 3D models has helped in the analysis and interpretation of archaeological evidence in a way that could not have been achieved by traditional documentation.

The session is open to communications presenting applications that include, but are not confined to, the use of 3D models for testing (reconstruction) hypotheses in the virtual environment, monitoring and studying archaeological buildings, excavations or objects,

performing virtual restoration, enabling the reading of past land use by using 3D sampling techniques (LiDAR, short range scanning, photogrammetry).

Papers may also discuss ways in which the obtained 3D models can be integrated with meaningful information in the form of metadata or multimedia productions and best practices to ensure their long-term storage and accessibility.

A4c-Underwater Archaeology

(**Alexandra Figueiredo** alexfiga@ipt.pt, Flavio Calippo & Deisi Eloy Farias)

The Underwater Archaeology has made great strides in the study of pre and proto-historic societies. Its importance is beginning to be reflected in the scientific community looking for new forms and data about the human past. The latest UISPP was the example of this, which was submitted about 15 papers.

The aims of this session:

- To promote the study and discussion of the archaeological sites from wet or submerged areas.

- To provide coexistence, dialogue and relationship between researchers, students and personalities linked to various areas under discussion.

- To provide the ideal opportunity for exchanging ideas, experiences and new findings on the application of underwater archeology to the study of the human past.

In this sense we are open to receive proposals for presentation of case studies, methodological analyzes and theoretical reflexions in archeology and conservation (recognizing in this discipline a strong relationship) applied to the underwater heritage.

Commission on The Final Palaeolithic of Northern Eurasia

A5a-The Final Palaeolithic of Northern Eurasia

(**B. V. Eriksen** Berit.Eriksen@schloss-gottorf.de, E. Rensink & M. Street)

The purpose of this session is to discuss recent research on the Final Palaeolithic of Northern Eurasia. From a chronological perspective we are concerned with the emergence from an Upper Palaeolithic substrate of hunter-gatherers adapted to life in the more temperate conditions of the Late Glacial and Early Postglacial and their dispersal into previously unoccupied territories.

We invite archaeological and palaeo-environmental researchers dealing with the diversity of man and environment relationships during the Late Glacial and Earliest Postglacial, i.e. the period from approximately 15,000 to 8,000 BP. Given the magnitude of changes in climate, landscape, vegetation and fauna during this period, the Final Palaeolithic cultures of Northern Eurasia were characterized by a variety of adaptive responses, reflected in technologies, settlement patterns, subsistence practices, social organizations and even ideologies.

Underlying this regional diversity of specific environmental and cultural changes were the fundamentals of climatic change in conditions that was relatively rapid and extreme and that clearly had major influence on contemporary hunter-gatherer land-use patterns. The general thematic focus of our session highlights all of these research questions.

A5b-From the Atlantic to beyond the Bug River – Finding and defining the Federmesser-Gruppen / Azilian on the North European Plain and adjacent areas

(**S. B. Grimm** uispp_a5b@mail.de, L. Mevel, I. Sobkowiak-Tabaka & M.-J. Weber)

During recent decades, many ambitious excavation programmes have revived the research on the Lateglacial Federmesser and Azilian groups. Through the exceptional degree of preservation at some of these sites,very detailed studies of the activities that took place at these sites became possible. Moreover, the increasing number of reliable radiocarbon dates from archaeological contexts allowed for more precise chronological attributions of the sites in question. As a result, the potential complementarity of these sites became evaluable at a macro-regional level. Furthermore, the transformation of the archaeological inventories can now be compared in more detail, particularly from a technological and economic point of view, and on a diachronic level as well as over wide geographic ranges.

At the same time, the knowledge of the palaeo-climatic and palaeo-environmental changes during the Lateglacial, in particular of the faunal and floral developments, have increased significantly. Thus, the combination of the archaeological and the palaeo-environmental data have led to a better understanding of the relationship between the changes of the environments inhabited by Lateglacial human groups and the transformations of their equipments.

Although the lithic industries of the Federmesser and Azilian groups are often and rightly called simplified, it seems clear that this finding does not apply to the entire technical productions of these human groups. Elsewhere, detailed techno-economic studies of lithic industries have helped reveal the degree of interrelation of groups. Besides the Federmesser and Azilian groups, further groups such as the assemblages from the British penknife phase and, possibly, the Hengistbury Head industries or the Polish arched backed piece technocomplexes as well as some northern late Epigravettian assemblages may be mentioned. These related groups were dominant in Northwest and Central Europe for more than one millennium during the Lateglacial Interstadial. However, their precise relationship is still a matter of discussion.

Therefore, the session aims to approach the material in its entirety and with a focus on its development. Research questions relating from local to macro-regional levels are often focused on lithic industries. However, in this session we also explicitly welcome approaches combining multidisciplinary data, in particular deriving from archaeozoological, environmental, spatial, or chronological studies. We thereby wish to address the following questions:

By the use of this wide-ranging view, is it possible to observe variations in the archaeological material from different environmental contexts? And how can we interpret these variations? Are they due to different environmental adaptations? Or are they diachronic? Can an initial, an intermediate, and a final phase be identified? Or on the contrary, do these industries show comparable characteristics throughout the whole Lateglacial Interstadial?

Thus, in the scientific exchanges during this session, we hope to address and decipher the diversity of evolutionary mechanisms within the Final Palaeolithic societies of Northwest Europe.

Commission on Human Occupations in Mountain Environments

A6a-Human occupations in mountain environments: a comparative methodological perspective

(**S. Grimaldi** stefano.grimaldi@lett.unitn.it, Sveinung Bang-Andersen, Francesco Carrer, Fabio Cavulli, Ignacio Clemente, Pierre Crotti, Philippe Della Casa, Federica Fontana, Walter Leitner, Maria Estela Mansur, Annaluisa Pedrotti & Sabine Reinhold)

This session addresses the topic of human presence and activity in mountainousenvironments on a global and comparative level, and thus encouragesand welcomes contributions from all mountain regions and from all continents. The aim of the session is to establish a comparative methodological approach to the archaeology of mountain environments, and to enable a dialogue encompassing a broad variety of geographical settings – Himalaya, Caucasus, Carpathians, Alps, Scandinavia, Rocky Mountains, Andes, etc. – sharing a common research question: early human presence. In order to structure this dialogue, we propose three core themes around which the contributions should evolve:

a) Strategies of Site Detection
b) Hunter-Gatherers and the Transition to Farmers
c) Exploitation of Lithic and other Mineral Resources

Papers can be presented in English. Contributors should send a title and an abstract (300 words max.). Please send the proposalto: Stefano Grimaldi (University of Trento), stefano.grimaldi@unitn.it and include as reference: UISPP-General session A6a.

A6b-The management of resources and territories in the Pyrenees from the earliest human occupation to the end of the Protohistory. A behavioral perspective

(**Xavier Mangado** mangado@ub.edu, Álvaro Arrizabalaga, Ignacio Clemente, Ermengol Gassiot, Mathieu Langlais, Xavier Mangado, Lourdes Montes, Javier Peñalbert, Christine Rendu, Nicolas Valdeyron & Abel Forteau)

This session focuses on general aspects of the behavior of human societies in the Pyrenees during Prehistoric and Protohistoric times. The aim of the session is to address economic, social and cultural issues which conditioned human settlement in this mountain environment, dealing e.g. with the analysis of human settlement patterns, resource management and economic strategies, and relations between communities. Archaeological analyses integrated in broad environmental and territorial perspectives will be especially welcomed.
Papers can be presented in English. Contributors should send a title and an abstract (300 words max.). Please send the proposal to: Xavier Mangado (University of Barcelone), mangado@ub.edu and include as reference:UISPP-Thematic session A6b.

Commission on American Settlements during Prehistory

A7a-The biological anthropology contribution to the understanding of the human spreads between Asia and Americas

(**Strauss Andre** andre_strauss@eva.mpg.de, Ted Goebel & Boëda Eric)

If, for few years, debates laid on little modelled data came from Beringie, for the past twenty years, discoveries of a lot of human remains and the progress of genetic data renewed this thematic and wealth the debate. The reality, if it is possible to have a quick look, is, as already defined by some researchers, is more complex as usually proposed. The settlement was probably multi-facetted with a specific future for each of them. We would like to give speeches according to new data and to different aspects of the anthropological discipline giving the best heuristic vision as possible, leading to new hypothesis. We choose to use the term "hypothesis" and not the term "model" because, right now, every modelling seems to lead only to confrontations. The difficulty is also to separate biology and culture can't be joined. An idea, to be diffused, doesn't have to be linked to any massive migration movement. That means that each of its aspects belongs to different dynamism. If, the biological anthropology is the only one to answer to the "who" question, it is not the only on the question of the spreading modalities. Furthermore, it may bring the observation. These few observations aim to refocus on each discipline what it could bring and enrich it.

A7b-Emergence and consequences of technical innovations in America

(**Boëda Eric** boeda.eric@gmail.com, Lourdeau Antoine, Franco Nora, Viana Sibeli & Carlos Aschero)

The technological fact is the marker of a knowledge and of a skill that are witnessing of an individual memory, itself shares by a community. But, a technical fact is never isolated. It is a part of a larger technical system within each group has got its own identity. Look at these facts, the place where they appeared - innovation - and where they were anchored in a regional scale - innovation - lead us to better observe an anthropological reality which is very complex, as we have seen just above. From a simplified view linked to a single object and by looking all the technical aspects given by an archaeological assemblage, we manage to observe an otherness that is the mirror of each individual future. For sure, this theme has to be approach to different perception degrees. If we missed this scale of observation, we risk to simplify the modelling and to reduce it too much.

The environment as a possible psychological traumatism factor could influence human behaviour by a cultural adaptation, and, could anchor those changes in space. It is then a factor of otherness. But, here we are, we have to deal with different spatial analyses scales by distinguishing the local, the regional and the continental, and to deal with different chronological analyses scales between short- and long-term. This chronological notion is an major element in the understanding of the emergence of the technics and of their consequences. The short-term gives us the possibility to study to history of a group by the knowledge they use. The long-term brings information on trendy marks dealing with the history of technics going through every single group.

To sum up, we would like this session enrich by new methodological purposes and by new data able to bring into light both spatial and chronological specificities of Americas and its belonging to a commune history.

A7c-Climate change and use of animals in South America during the Holocene

(**Hugo Yacobaccio** hdyacobaccio@gmail.com & Olivera Daniel)

This symposium will discuss the relationship between Holocene climate change and the use of animals in different social and temporal contexts in South America. With this objective in mind, we will look at the climate changes that took place in the Middle and Late Holocene (event 3700 BP; Medieval Climate Anomaly, Little Ice Age) and how these changes have shaped relations with the animal world, both wild and domesticated. Since the early settlement of the sub-continent, human groups forged deep relationships with animal species. While animals were a factor in human subsistence, their importance extended to social, economic, political and symbolic aspects as well.

This debate focuses on one of the key aspects for understanding the environmental and the cultural processes present in this changing relationship. The proposed -but by no means closed- list of topics for discussion includes:

• Middle Holocene aridity and changes in hunting techniques
• Domestication of camelids and other species
• Economic management associated with different environmental dynamics.

These issues will be covered by archaeology with input from palaeoenvironmental sciences, but contributions from the areas of ethnobiology, history and geography will also be accepted.

Commission on History of Archaeology

A8a-Lobbying for Archaeology (18TH- 21ST centuries). Innovative alliances in the establishment of archaeology

(**M. A. Kaeser** Marc-Antoine.Kaeser@ne.ch & G. Delley)

For several decades, historians of archaeology have demonstrated how this discipline was involved in the construction of colonial empires as well as in legitimating the main ideological and nationalistic trends of the 19th and 20th centuries. Nowadays however historians of archaeology should concentrate their attention on other forms of lobbying, more strictly economic and technical. It has been observed indeed that since the creation of modern states, archaeologists sometimes managed to gain the interest of non archaeological organs or institutions in order to establish flourishing alliances and to reinforce their own scientific practices – especially in the context of economical and structural upheavals.

Amongst varied cases of such "innovative alliances" we find for example :

a) archaeological excavations conducted by the *Ponts et Chaussées* engineers during the 18th Century, where the documentation of roman buildings was expected to improve the technique of the contemporary civil engineering sector;
b) the archaeology of the *New Deal* during the 1930's in the USA, where archaeological (prospection and research) took advantage of unemployment programs;
c) the development of the radiocarbon dating method after WWII, when nuclear research tried to extend the scope of its civilian potential.

The session "Lobbying for archaeology" will focus on alliances concluded between archaeologists and powerful allies (state apparatus or well established institutions) or on cases where the mobilisation of such allies relies on practical motives (scientific skills, technical infrastructures or economic supports) to the exclusion of ideological motives. A particular interest will be given to examples of international relevance where such alliances authorised a structural and sustainable reinforcing of the discipline.

Facing the new liberal order, in the present context of global economic crisis, we expect the historiographical analysis of such "innovative alliances" to contribute to the reflection on present and future modes of financing archaeological research.

A8b-International relations in the history of archaeology

(**Víctor M. Fernández** victormf@ucm.es & Margarita Díaz-Andreu)

Since its very beginnings, archaeology has been a field of study vastly exposed to international currents and influences. Yet, the global flux of ideas is not sufficiently acknowledged in the histories of archaeology. In this session, we would like to focus on how international contacts may have fostered change, not only in relation to new archaeological theories but also as regards to techniques, methods and practices. Which were the means by which these new ideas and practices moved? International congresses, publications, correspondence, talks by foreign scholars, PhD studies abroad and a range of other ways may have encouraged change in national archaeologies. Yet, is it enough that ideas move? We will also welcome papers that reflect on the different issues related to the unequal reception of alien ways of doing in scholarly communities.

Commission on Upper Palaeolithic of the Western Eurasia

A9a-The origins of Upper Palaeolithic in Eurasia

(**Federico Bernaldo de Quiros** fberg@unileon.es & Sergey Lev)

The results of recent research point to an increasingly urgent need to re-examine our ideas about regional settlement strategies, mobility, and demographic change during the transition from Middle to Upper Palaeolithic, as well as their influence on subsequent developments in the Upper Palaeolithic within the context of Europe as a whole. We find increasing evidence in the Middle Palaeolithic for the roots of behavioral, cultural, and technological traits once thought confined to the Upper Palaeolithic. Our current knowledge demonstrates that the terminal phase of the Middle Palaeolithic was more complex than previously assumed. It reveals significant overlap with the earliest Upper Palaeolithic and underscores the importance of a detailed, fine-grained analysis of late Middle and early Upper Palaeolithic in a regional setting.

The purpose of this colloquium is to explore how terminal Middle and earliest Upper Palaeolithic groups managed their time and space, and how the pattern (or patterns) compares with that of the later Upper Palaeolithic, which is firmly associated with anatomically modern humans. Genetics research suggests direct contact between the later Neanderthals and anatomically modern humans, and includes evidence for some gene flow between the two populations. As modern humans moved into Europe, groups of Neanderthals may have become isolated from other local populations, and this phenomenon could have played an important role in their interactions with modern humans. How would it have affected the archaeological record and the pattern of variability among sites of this period (i.e., the “cultural mosaic” of the terminal Middle and earliest Upper Palaeolithic and even later) in different parts of Eurasia?

The beginnings of the Upper Palaeolithic and the initial dispersal of modern humans in Europe must be examined from an interdisciplinary perspective, and the fossil and archaeological record must be approached on a regional level with full consideration of local trajectories of change and development. Future research should emphasize the relationships among the various "transitional industries," as well as the extent to which the behavioral patterns they reflect are manifest in later Upper Palaeolithic industries that are firmly associated with modern humans (from the final Szeletian through the Aurignacian, early and later Gravettian).

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

(**C. Cacho** carmen.cacho@mecd.es, P. Ortega & Liudmila Iakovleva)

The growing interest in territorial aspects in Upper Palaeolithic studies is a response to the need of understanding social geographies as a fundamental axis of the comprehension of Palaeolithic societies.

Upper Palaeolithic research has prioritised the archaeological deposits, and consequently the study of space, both in the open-air and in caves, has hardly been approached. Inter-site and intra-site analyses have been carried out in isolation, even though a joint approach would provide a more global perspective.

Territorial analyses are able to determine the landscapes occupied in the Upper Palaeolithic, the exploitation of the environment and the socialisation of space. At the same time, they are capable of identifying the social, economic or symbolic variables that conditioned the placement of the habitats.

Intra-site analyses can establish the activities carried out within the occupied areas and are thus the ideal basis on which to build an explanation of site functionality. The spatial relationships determined between the different elements in the archaeological record enables an understanding of the dynamics of the social behaviour of Palaeolithic human groups and their relationship with space and the environment.

This session aims to discuss and appraise the different perspectives from which to approach the conception of space and landscape held by Upper Palaeolithic societies and the use they made of them.

A9c-The initial Cantabrian Magdalenian & the question of Magdalenian origins

(**Lawrence G. Straus** lstraus@unm.edu & Manuel González Morales)

At or near the end of the Last Glacial Maximum, the Solutrean—characterized by a weapons technology of stone foliate, shouldered and tanged points-- was replaced by a variety of industries including the Badegoulian (a.k.a. Magdalenian 0) and Archaic (or Initial) Magdalenian. The Solutrean phenomenon, intimately associated with the LGM,seems to have ended at least a millennium earller in France than in Iberia, with the latest surviving Solutrean having been in the Mediterranean regions of Spain.

Just as the recently published cultural sequence from Cuzoul de Vers (Lot) details the early replacement of Solutrean technology by Badegoulian ones ca. 18,000 uncal. BP, the on-

going excavation of El Miron Cave (Cantabria), demonstrates the phasing out of Solutrean technology by one that underlies the classic Lower Cantabrian Magdalenian (which is very rich in bladelets) and that is partly characterized by abundant large flakes and "archaic" tool types made on flakes dating between ca. 17,000-16,000 uncal. BP. This symposium will explore possible reasons and processes for the replacement of the Solutrean by Badegoulian/Initial Magdalenian technologies.

What is the evidence for cultural continuity versus rupture?

Were the cultural changes due to environmental changes at the beginning of Oldest Dryas or even within the LGM?

If so, how so?

Were they due to changes in human populations and if so, how could this be proven?

Were shifts in the relative abundance of local vs. non-local lithic raw materials the result of broad cultural factors or simply changes in human mobility strategies and their scale in the context of environmental and subsistence resource changes?

Were differences between assemblages within France and within Iberia and between these two huge areas functional or ethnic in nature and how could these be demonstrated?

Are the similarities among distant sites and regions (as far away as Levantine Spain) the result of human contacts or even population movements, or were they evidence of technological convergence?

To what extent did the Badegoulian or Initial Magdalenian assemblages (both lithic and osseous) presage "true" Magdalenian industries that were to follow?

To what extent are our cultural constructs reflective of the reality of cultural traditions at the close of the LGM.

A9d-The Human settlement of Western Europe during the last glacial maximum

(**Lawrence G. Straus** lstraus@unm.edu **proposed joint UISPP/INQUA**)

The key issues concerning the human occupation of Western Europe during the Last Glacial Maximum are: the nature and variability (spatial and temporal) of environmental conditions and their effects on fodder, game and the tenability of human settlement; whether and to what extent settlement was restricted to southern refugia (Iberia and southern France); whether there were climatic episodes favorable enough within the LGM to permit northerly pulses of human expansion into regions as far north as western Germany or pulses into the upland regions of the interior of Spain. In addition the questions of cultural continuity from local Gravettian technological traditions to the Solutrean and from local Solutrean traditions to the Badegoulian or Initial Magdalenian should be addressed. However, the chief focus of this symposium will be on human –environment relations during the course of the LGM.

How specifically did relevant aspects of the LGM environments interface with and affect human settlement, mobility and social relations, subsistence and technologies will be key aspects of the papers. What were the factors that prevented, impeded or favored human settlement in specific areas during specific periods in and around the time of the LGM; how did humans react or adapt? These are the symposium's main questions. The symposium would be a follow-up to the Solutrean congresses that have been held In recent years in Preuilly (France) and Velez Blanco (Spain) whose foci were more heavily weighted toward matters of technology and art, rather than to human ecology of the LGM.

Commission on Art and civilizations in the Sahara during Prehistoric times

A10-The Neolithic from the Sahara to the Southern Mediterranean Coast: a review of the most Recent Research

(**Barbara E. Barich** barbara.barich@mclinknet.it & Giulio Lucarini gl374@cam.ac.uk)

The theme of this workshop is the Neolithization of Africa in the area between the Sahara Desert and the Mediterranean Sea. The workshop aims to make comparisons and highlight possible convergences between the Sahara and North Africa particularly regarding the origin and spread of the main domesticated cereal and animal species, a subject which has often been discussed in the literature but the deepening of which has so far eluded us owing to the two regions having been treated separately.

Key issues for discussion are:

- In the coastal territories of North Africa how did groups with a well-documented late Palaeolithic tradition developed locally? Was Neolithization due to outside influences during the middle and late Holocene, and if so, how did this occur?
- What were the contacts and ways of communication among groups in the Sahara where Neolithic cultures with ceramics in the Saharo-Sudanese tradition and initial forms of food production are well attested from the earliest phases of the Holocene?
- How was the so-called Neolithic 'package' transmitted through northern Africa from the eastern (Egypt) and western (Morocco) edges of the Mediterranean: both regions presenting clear Neolithic features such as domesticated cereals, pulses and animals?
- What were the time periods and methods of transmission along the southern Mediterranean coast, on the one hand, and in the Sahara on the other?
- Does North African art document changes in lifestyle and economy? How is the symbolic world of Neolithic groups different from that of hunters? Does Neolithic art represent a technological advancement?

At the current state of knowledge the coastal regions of North Africa present a high degree of variability and the spread of the Neolithic 'package' seems to have followed different routes and time sequences. The ability to study in this region has been intermittent largely for political reasons, however, the recent resumption of research is now able to contribute to a better understanding of the ways in which Neolithization penetrated the coastal regions of the southern Mediterranean.

The workshop will bring together numerous specialists who are currently researching a variety of topics from material culture to art, from chronology to the environment and bio-archaeological data. Trans-regional debate is a key aim and to this end the workshop is open to specialists on the Near East and Mediterranean regions. Members of the Commission will also be joined by specialists on the southwestern Levant who can contribute to the deepening of crucial issues about the manner and timing of the spread of the so-called Neolithic 'package' throughout the Mediterranean. Please send your proposal to: Barbara Barich, ISMEO – Rome, barbara.barich@mclinknet.it and Giulio Lucarini, McDonald Institute for Archaeological Research, University of Cambridge, gl374@cam.ac.uk. Abstracts No later than **30th April 2014.** More information on the XVII UISPP conference at http://www.burgos2014uispp.com/

Commission on Prehistoric art

A11a-The chronology of Palaeolithic cave art: new data, new debates

(**Roberto Ontañón** ontanon_r@cantabria.es, Pilar Utrilla, Marcel Otte & Tom Higham. Commission on Prehistoric art, Commission on Upper Palaeolithic of the Western Eurasia & Commission on Archaeological Methods and Theory: Formalization, Quantification, Mathematics and Computerization)

After several decades in which evolution of Palaeolithic art seemed to be a resolved scientific matter, new findings have called into question the soundness of this construction apparently well established. Obtained by increasingly refined and precise radiometric dating techniques, new data have shaken the interpretive building erected on the postulates of A. Leroi-Gourhan and which had stood, virtually unchanged, over the last quarter century.

The first major debate is about the discovery, study and dating of the Grotte Chauvet, with an astounding parietal ensemble whose Aurignacian chronology clashes against the waterline of the proposed stylistic evolution and the acceptance of which, even today, is discussed by different scholars.

The second major impact on the prevailing paradigm has arrived in what some call the "post stylistic era": Some preliminary results of indirect dating of rock art by means of the Uranium series technique backdated the beginning of cave art beyond Aurignacian times, allowing even some colleagues claim the possibility of a Neanderthal cave art that could deprive our first ancestors of what until recently was thought one of his most significant hallmarks.

This session aims to contribute to the knowledge of the latest developments in this field discipline and serve for discussion of their historical and anthropological implications, considering radio chronological data obtained on rock art but also information from the material record of the archaeological sites in which these representations lie, that can provide interesting information for proper contextualization.

A11b-Late Pleistocene cave art in its context

(**A. Pastoors** pastoors@neanderthal.de, P. Arias, T. Lenssen-Erz, R. Ontañón, G.-Ch. Weniger & M. Groenen)

Art, as part of cultural expression, is first repeatedly visible in archaeological records in the Aurignacian (after a first 'flash' in Blombos). Even today, in spite of the long-standing research tradition in this field, the meaning of these images and the interpretation of the surrounding context are still extremely speculative and influenced by the intuition of the researcher.

This deficit is due not least to the prevalent approaches, whereby individual figures are first described in great detail and subsequently interpreted on the basis of highly personal levels of experience.

The implementation of these graphical expressions into a wider frame of human behavior in caves is still pending, although the significance of caves as spaces with frequent human activities and cave art has been stressed by several researcher of the Palaeolithic.

Research needs an integrative approach linking art and other forms of human activities embedded into the natural space of the entire cave site.

Under this perspective we will discuss in the session three major topics on the theoretical, empirical and methodological level:

1- What makes context of rock art an important field of information for the understanding of the pictures itself?

2- What kind of context is available, what is discernible?

3- How can the context be studied by researchers of prehistory? Which means of recording do we have?

A11c-New solutions for old problems: the use of new technologies for the documentation and conservation of prehistoric art

(**Roberto Ontañón** ontanon_r@cantabria.es, Luis C. Teira & Vicente Bayarri)

In recent years there has been a strong push in the application of different techniques for gathering and processing graphic data to the documentation of prehistoric art. Rare is and action in this disciplinary area that does not include among its procedures performing a laser scanning geodesic survey and the use of different computerized graphic processing tools for the documentation of the parietal record.

This explosion of technology has not been accompanied, however, by sufficient theoretical and methodological reflection. Rather it seems that has been established as a "toolbox" of mandatory use and widespread application the results of which are in many cases far from being fully satisfactory.

The session aims to contribute to this reflection through the presentation and discussion of different theoretical, methodological and practical approaches to this section of the study of prehistoric art, and not just in relation to the aspects connected to the reading and interpretation of this cultural expression but also in the contribution of the new techniques to the conservation of rock art.
Prehistoric art)

A11d-Styles, techniques and graphic expression in rock art

(**Marc Groenen** mgroenen@ulb.ac.be & Marie-Christine Groenen)

Works of the last decades have fully shown the know-how of the painters, engravers and sculptors who executed the motifs on rock support. Some sets have required from their authors to acquire a strong graphic command. Likewise, workmanship techniques have very often proved to be more complex than foreseen, including for remote periods. Finally, it appears that the motifs have been placed according to specific criteria related to space situation or support shape, for instance.

The aim of our session is to question these aesthetic productions with the conceptual tools of art history. How were the employed techniques put to the service of the aesthetic project? How can the iconographic study and the stylistic analysis contribute to the understanding of the decorated site? Can we approach the “short time” of the realisation of cave or rock art sets? Is it possible to target regional particularisms?

These are some of the questions to which current investigation techniques may give some fresh topicality.

A11e-Public images, private readings: multi-perspective approaches to the post-Palaeolithic rock art

(**Ramón Fábregas Valcarce** ramon.fabregas@usc.es & Carlos Rodríguez-Rellán)

A significant number of Holocene societies throughout the world have resorted at one time or another to the making of paints or carvings on different places (tombs, rock-shelters or caves, open-air outcrops). The aim of this session is putting together the experiences of specialists from Europe and other regions of the world. The approaches may range from the archaeological definition of the artistic phenomena and their socioeconomic background to those concerning themselves with the symbolic and ritual nature of those practices, including the definition of the audience to which the graphic manifestations were addressed and the potential role of the latter in the making up of social identities and the enforcement of territorial claims. More empirical issues, such as new recording methodologies and data management or even dating will also be considered.

A11f-The Role of Art in Prehistoric Societies

(**Esther López-Montalvo** esthermontalv@gmail.com, Georges Sauvet & Carole Fritz)

The art answers vital needs for the society, allowing each individual to confront his(her) experience and affects to those of his(her) fellow men. The art produces symbols which take shape of actions in collective rituals and of images in plastic representations. These symbols allow the archaeologist to restore prehistoric cultures in their social, economic and ideological context. In this session, we want to put the artistic creation in disappeared societies in the heart of a multidisciplinary reflection involving psychological, sociological, cognitive and semiotic aspects. For this purpose, three main axes, going from the individual creative gesture to the collective behaviour and the inter-group relationships, will be examined in link with a current international research program entitled " *the Arts of Prehistory and the Cultural Dynamics of Societies before Writing* ". The aim is to gather experiences from various cultural and geographical environments, in particular those showing innovative theoretical or methodological approaches.
In this session are welcome communications concerning the following themes:

-**The characterization of the creative gesture:** the analysis of the operating or technical chain is the means by which the relationships between the artist and the society can be grasped. It allows us to understand the way the society conceives its relation to the work of art and how artworks take part in a system of collective representations.

-Art as cultural marker: the different aspects of the creative gesture (technical, formal/stylistic and thematic) and the spatial distribution of art can help us to define cultural territories. The simultaneous study of these variables offers a thorough knowledge of the prehistoric societies, of the cultural links between contemporaneous groups, as well as the diachronic evolution of these links, showing sometimes important breaking.

-Art as a means of communication and symbolic expression: the topic will be mainly devoted to the narration in rock art, and the graphic processes used for the building of

compositions bearing a narrative intention. Attention will be paid to thematic changes over time as they can reveal meaningful societal mutations (socio-economic upheavals, periods of conflict, etc.).

Commission on Archaeological Prospection

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

(**Axel G. Posluschny** axel.posluschny@dainst.de)

Non-invasive or remote sensing techniques such as Aerial reconnaissance, Airborne Laser Scanning (LiDAR), Geophysics, UAVs etc have become one of the major sources of archaeological information especially for large areas and landscapes as a whole. The aim of this session is to highlight the great potential of these techniques for all aspects of landscape archaeology, including but not restricted to site detection, landscape research, heritage management, site and landscape preservation etc. A special focus shall be on national and regional survey strategies, and from broad-brush to site specific approaches.

A number of case studies will show recent work that has been done in this field all over Europe and beyond.

Commission on Prehistoric and Protohistoric heritage sites management

A13-Quality Management of Cultural Heritage: problems and good practices

(**M. Quagliuolo** mquagliuolo@aol.com)

From Lascaux to Shanidar caves, from Malta temples to Stonehenge, from Serra do Capivara to Foz Coa park, from Australia to North Africa's Rock Art, from Pechino to Isernia excavations, from the Musée de l'Homme in Paris to the Museum of Civilization in Quebéc, from Catal Hüyük to Varna village, from the Rift Valley to the Grand Canyon, most problems have to be fronted in a common perspective. UISPP Scientific Commission for the Quality Management of Prehistoric and Protohistoric Sites, Monuments and Museums (UISPP-PPCHM) is aimed to this purpose.

The help of specialists from different Countries and the exchange of opinions with other colleagues from other fields and/or organizations is needed in order to:

- discuss the reasons and possibilities for preservation and use of Sites, Monuments and Museums;
- let the management of Rock Art Sites and Parks, Prehistoric excavations, Museums and Interpretations Centers and related structures open to the public to be made according to criteria agreed at an International level, both in normal and critical conditions;
- enhance standards in preserving, communicating and using Sites, Monuments and Museums;
- involve the public and diffuse awareness;
- analyze tourism benefits and risks at these destinations;
- introduce new opportunities for jobs and training;

- develop networks on these topics in connection with other specialized Organizations.

Which is your experience?,
Which problems would you like to address?
Which solutions?
Please, tell us your story at the 2014 UISPP Meeting in Burgos!

Commission on Theory and method in Landscape archaeology- Archeogeography

A14-The water as generator of networks

(**Sandrine Robert** sandrine.robert@ehess.fr)

Through its functions as diverter (drainage) or collector (irrigation, water samplers) water management can be regarded as a powerful agent organizing the layout of the ancient landscapes. Wide networks whose main structuring lines were set up before Antiquity in Europe developed in vast drained plains. Drainage and irrigation were directly involved in the transmission of patterns over a very long period.

In addition, the water acts also as an organizing agent for settlements.

The session will also include the relationships between the alluvial dynamics and the networks (settlement networks, but also roads systems related to rivers, field layouts that are shaped by the morphology of rivers).

The objective of the session is to assess how water management as a collective issue is important for societal communities

Commission on Archaeological heritage policies and management structures

A15a-Archaeological Heritage Policies and Management strategies

(**E. Robrahn-Gonzalez** erika@documentocultural.net, F. Lüth & A. Cámara)

This session's main goal is to analyze different international models, practices, and solutions referring to Archeological Heritage management policies and systems.

The Session will take place through a meeting of representatives/specialists from different countries. Each representative will present their materials focusing on supplying models that may also be used to subsidize the implementation of archeological heritage management policies in countries where this practice needs further advancement. Thus, the content of the specialists' presentations should contain, among other points:

- Legislation
- Public Policies
- Management Systems
- Institutional contexts for research

The interdependence and the effect for Science is part of the considerations and as well as a special view to the integrated approach of heritage management and science.
This session began at the XVI UISPP Congress/Brazil where models from Germany, France, Russia, Uruguay, and Brazil were presented.

Models, good practices, and solutions to individual sites and landscapes shall help to develop heritage management through better understanding among specialists respecting the regional, national and global diversities and individualities.

A15b-Management and use of science data from preventive archaeology: quality control

(**P. Depaepe** pascal.depaepe@inrap.fr, A. Engovatova)

Quality control is generally defined as "an operation to determine if the controlled product is or is not in its predetermined specifications and requirements". In preventive archaeology, quality control is mainly turned towards technical aspects during the excavation, and sometimes the scientific quality of the final report is considered. Other criteria can be thought, such as environmental respect or social standards.

This session's main goals are:

- to analyze and compare different international quality control models
- to list best solutions and good practices
- to propose new criteria for preventive archaeology

A15c-Cultural resources, management, public policy, people´s awareness and sustainable development

(**Ranjana Ray** prof.ranjana.ray@gmail.com & Vidula Jayswal vidula.bhu@gmail.com)

Cultural diversity is enhanced through rich cultural heritage. The session will focus on the cultural resources and its management (CRM). It will look into the local traditional crafts, many of which are continuing from the prehistoric period to present day. The purpose of the session will be to look into the cultural resources of different countries, public policy for the preservation of such heritage, people's awareness of the cultural resources and its management with emphasis for sustainable development, especially in the background of changed world perspective.

A15d-The educational activities of archeology and socialization of knowledge

(**Valdir Luiz Schwengber** valdirluiz@gmail.com, André Luis Soares & Ana Carolina Cunha)

The advances of archeological research everywhere in the last decades - both in number of studies/publications and in debates about the development of humanity – have been stimulating the necessity to publish the knowledge produced for the general public, specially for the societies which hold the archaeological sites ignoring their cultural potential.

It is remarkable that the appropriation of such knowledge produced, with different intensity among countries, is still limited. In a special way, educational systems still reproduce outdated conceptions in the scientific context and thus, the scientific knowledge fulfills only partially its social function.

This working group aims to discuss educational activities, named Heritage Education in Brazil, on a global scale, which has grown substantially to meet the demands of science publication 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

(**Ivo Oosterbeek** ivoosterbeek@gmail.com, Sílvia Marques & Ursula Thun Hohenstein)

In a Global World with clear Local awareness, Museum networks are a means not only to establish quality patterns in terms of collection study and conservation or public satisfaction, but also to increase peer recognition and increase the range of product supply between partners.

In terms of awareness and recognition, national museums tend to eclipse smaller, local museums since they possess higher financial availability and have governmental recognition. However, these national museums are generally monolithic, not being as able to cope with social and economic changes as smaller museums. The latter are also more prone to museological and museographic experimentation, resulting in a much wider variety of experiences than those found in national museums.

Quaternary and Prehistory Museums have the complex task of transmitting knowledge of a "not abstract enough but not concrete enough" nature. In fact, whereas physics or chemistry museums deal with essentially abstract concepts, which allows for the visitor to detach itself from the empiric world, and biology or geology museums deal with empirical evidence, transporting the visitor to the everyday environment, Quaternary and Prehistory museums have to transmit environmental and social pictures which cannot be but pictures.

This session aims to explore sharing and cooperation experiences in Quaternary and Prehistory museums. The main aims of the session are the overview of Local Museum strategies in order to increase peer awareness and public exposure, National or Regional Museum strategies in order to increase museographic variability and innovation, and the constitution of a network of Quaternary and Prehistory museums.

A15f-Education and dissemination strategies in museums and prehistoric Sites

(**Aurora Martín** amartin@museoevolucionhumana.com & Rodrígo Alonso Alcalde. With commission on Prehistoric and Protohistoric heritage sites management)

Now a days more museums and prehistoric sites are increasingly willing to be part of the patrimonial reality understood as the spreading or diffusion places of scientific knowledge related to the study of our ancestors. For that reason, many museums and prehistoric sites are developing actions that expects to combine the following objectives:

1. To design educational programs to promote the study of the prehistory in all educational levels.
2. To formulate different actions in order to promote and attract visitors to these types of museums and archaeological sites.
3. To build activities to promote the revitalization of these centers and active participation of the citizens.
4. To design modern and attractive resources for museography, taking into account new technologies in order to enable a personal and active approach to the contents of the museum and to enable a unique a personal experience to the visitor.

5. To develop applications to evaluate all activities for dissemination in the museums and cultural spaces and create protocols for procedure to facilitate the communication of the knowledge that the Cultural Heritage offers.

Sharing experiences about the actions developed by the museums and the archaeological sites is essential to facing the new challenges and necessities in popularizing and spreading knowledge about prehistoric societies in this century.

Commission on Mortuary Practices in Prehistory and Protohistory

A16-Aegean-Mediterranean imports and influences in the graves from continental Europe – Bronze and Iron Ages

(**Valeriu Sîrbu** valeriu_sirbu@yahoo.co.uk & Cristian Schuster)

There is a "history" of divergent, and even contradictory, opinions on the role played by the Aegean-Mediterranean area on the development of peoples from continental Europe during the Bronze and the Iron Ages, including in terms of funerary customs.

By means of the lectures to be held and the discussions to follow, the organizers of this session intend to generate new information on the influences and imports from the Aegean-Mediterranean area present in the graves, as well as on the possible movements of population groups that circulated then. We will pay attention to their "routes" and diffusion stages, but also to the feedback from the regions considered to be at the periphery.

We want to emphasize the role played by the southern imports in the development of the elites from the local communities and their impact on the overall trend of the peoples from continental Europe, as well as the possible meanings of their being present in graves.

The analysis of these phenomena on large areas (from the Urals to the Atlantic) and long periods (the 3rd-1st millennia BC) will shed light general characteristics (e.g. the permanent and the temporary elements), as well as specifics (e.g. the impact of the southern imports and influences on the communities from various regions).

We will publish the lectures in the volume of the congress, so we are asking the participants to this session to finish their lectures by the end of 2014

Commission on Functional Studies of Prehistoric artifacts and their Socio-economic inferences on Past Societies

Introduction

Half a century since the publication of Sergej Semenov's fundamental work 'Prehistoric Technology' (1964), traceology or microscopic use-wear analysis continues to be the major method for the identification of prehistoric tool use and function. The recognition of microscopic wear traces and use-related residues contributes to various important aspects of archaeological research. Among them are questions on site functions and activities carried out in prehistoric settlements or the reconstruction of archaeologically invisible components of complex tool technology, e.g. hafting and composite tool design. Traceology has also significantly contributed to the debate on human behavioural complexity and cultural and cognitive advancement as well as other aspects of the evolution of the human intellect.

Since the establishment of the **International Scientific Commission A17 on Functional studies of prehistoric artefacts and their socio-economic influence on past societies** and particularly since the Liège Congress in 2001, its main activity has been devoted to the complex and manifold role of artefacts in human palaeoecology and the reconstruction of ancient economic systems. This implies that the reconstruction of production and use of artefacts in the past is not just the reenactment of processing of materials, human activities or prehistoric technologies but a matter of understanding the evolution of production techniques and their consequences for the people that produced and used the artefacts in a socio-economic context. The Commission will ensure that the greatest possible effort is made to promote methodological advancement and support cutting-edge research that is aimed at widening the informative capacity of use-wear analysis, as well as establishing new data recording and relational database systems.

A17a-Recent Trends and Aspects of Use-wear Analysis and their contribution to the Modernization of Archaeology

(**Andreu Ollé** aolle@iphes.cat, Juan José Ibáñez, Adrian E. Evans & Laura Longo)

Although use-wear analysis has developed a set of basic methodological procedures that have remained constant from the beginning of the discipline, throughout its development many technological innovations have been introduced, with more or less success, to overcome specific problems and to achieve better results.

One of the objectives of UISPP Commission A17 is to assess how various technological enhancements can improve the observations made and how they can be used in complement to develop methodological procedures. Here we mainly refer to different microscope techniques available for imaging, analysing and quantifying use-wear (reflected light microscopy, focus variation microscopy, laser confocal microscopy, scanning electron microscopy, Raman microscopy, atomic force microscopy, scanning white-light interferometry, etc.). Complementary imaging techniques such as extended focus systems or the creation of 3D models using any of the above equipment will receive special consideration.

Another objective of this session is the application of single or combined methodological procedures to especially difficult archaeological issues, among which we would like to stress ancient assemblages composed of lithic raw materials other than flint, or those coming from archaeological contexts affected by postdepositional processes.

A17b-Traceological research and experimental work

(**Alfred Pawlik** afpawlik@gmail.com, Richard Yerkes, Patricia C. Anderson, Natalia Skakun & Mikhail Zhilin)

The identification of prehistoric tool uses and activities has direct implications for the reconstruction and assessment of human behaviour and intellectual advancement. It is, however, a rather complex task that requires an experimental framework, ethnographic data and the aid of microscopes. Use-wear analysis is a comprehensive research system based on a detailed data and information pool that enables the analyst to identify and interpret wear patterns, residues and other surface alterations on artefacts. This ‘traceological reference collection’ is mainly supplied by experiments using tool replicas and imitating prehistoric

working activities as realistically as possible. Complemented by archaeological accounts, ethnographic observations and also technical knowledge, this experimental framework is crucial for the reconstruction of prehistoric tool uses.

Although traceological analysis appears to be a straightforward method, the interpretation and reconstruction of tool use still depends heavily on the understanding of mechanical processes and the research experience of the analyst. It is high time to work on enhancing the knowledge and to further develop the discipline as well as to broaden archaeologists' horizons so that Traceology / Functional Analysis becomes a standard practice in modern archaeological investigations.

This session invites archaeologists who work in the field of microwear and residue analysis and its experimental framework to present their current research, in order to contribute to methodological debate and the exchange of ideas in the discipline.

A17c-Microscopic determination of hafting technology: use-wear and residues

(**Robert Sala** robert.sala@urv.cat, Juan F. Gibaja, Veerle Rots, Xavier Terradas, Belén Márquez & Juan José Ibáñez)

Thirty years ago Danielle Stordeur organised a workshop on hafted tools in Lyon (France): "**La main et l'outil: Manches et Emmanchements Préhistoriques**". The communications from that workshop were published three years later in the series *Travaux de la Maison de l'Orient.*

On the occasion of the forthcoming UISPP Congress, to be held next September in Burgos (Spain), we thought it interesting to propose a new session devoted to the issue of prehistoric hafted tools. On this occasion we encourage communications to be proposed on the following topics:

- Presentation of hafted tools, usually possible only when the haft itself has been preserved in very specific sedimentary contexts or because the handle has been produced in less perishable materials such as bone and antler.
- Use-wear studies describing microwear produced by the haft itself or related to the use of a hafted tool
- Analysis of the substances used to adhere the tool to the haft

We envisage expanding our knowledge of hafted prehistoric tools and their complexity and, finally, of the human communities that produced and used them.

Commission on Post-Palaeolithic Rock Art

A18a-Redefining the Postpalaeolithic rock art in the world: Groups, diffusion areas, chronology and last methodological contributions

(**Hipólito Collado Giraldo** hipolitocollado@gmail.com, José Julio García Arranz & Jane Kolber)

The Postpalaeolithic rock art is a global realitywhich,thanks to the continued research carried out in different parts around the world, continues to increase in diversity, complexity and geographical extent.

Our aim is to put in commonthe contributions of researchers who are addressing these artistic cycles in order to perform an update, with the addition of the latest findings, in defining stylistic groups, their geographical spread, the formal and technical characteristics that define these styles of rock art and addressing issues relating to the chronology or interpretation of these prehistoric representations, as well as, the application of new methods for recording and documentation.

A18b-Post-Palaeolithic filiform rock art in Western Europe

(**Fernando Coimbra** coimbra.rockart@yahoo.com & Umberto Sansoni)

The so called filiform rock art is characterized by having very thin grooves, just scratched on the rock surfaces, being produced either by stone or metal tools. In Western Europe it appears with a similar typology of motives in countries like Portugal, Spain, Andorra, France and Italy. However, these very same motives are frequently found produced with larger grooves, after the use of a "polissoir" technique, being first incised on the rock surface and then polished with repeated movements. This way it's crucial to distinguish engravings made with thin grooves (the true filiform carvings) and others done with medium/thick grooves, which often doesn't happen in the published bibliography.

This kind of art can be found usually on open air schist greywacke surfaces, but it's also present on the walls of several caves from central Spain, some of them with an archaeological context.

The already mentioned similarity of motives can result from possible contacts of different peoples in Late Prehistory. However, in the present level of knowledge about this art, it's difficult to understand who influenced who, because there are also differences in the typological characteristics of the engravings from one country to another.

Regarding chronology there's still a lot a work to be done about Post-Palaeolithic filiform rock art. Indeed, there are known examples dating from Late Neolithic, from all the Metal Ages, and even from historical periods, until the Middle Ages. Curiously, some of the motives carved on rocks even "survive" on the walls of some churches from the 17th and 18th centuries.

In this session we welcome papers about filiform rock art (with thin grooves or with "polissoir" technique), concerning aspects like new discoveries, typology of motives, chronology, possible contacts among different peoples, chronological survival, or, in another field of research, the contextual interpretation of particular cases like zig-zags, net-patterns, five pointed stars, "ladders", tree like motives, among others.

In order to participate in this session please send a title (even provisory) and an abstract about 10 to 15 lines to both of us.

Commission on Middle Palaeolithic Bifacial Tools, Backed Bifaces and Leaf Points in Western Eurasia

A19-Bifacial tools in the Middle Palaeolithic of western Eurasia: typo-technological variability and spatio-temporal trends

(**Árpád Ringer** bolringa@uni-miskolc.hu Luis Raposo & Karen Ruebens)

Across western Eurasia bifacial core production systems and bifacial tools, including handaxes, backed bifacial tools and leaf points, form a common component of the Middle Palaeolithic toolkit. The aim of this session, part of a newly established UISPP commission, is to investigate the variability among these bifacial tools, both across a wide geographic range (from western Europe to western Asia) and a wide times pan (including early and late Middle Palaeolithic contexts). We would therefore like to invite papers which tackle topics such as:

- The typo-technological characteristics of Middle Palaeolithic bifacial tools and reduction sequences, including raw material, technological, typological and metric studies
- The spatio-temporal occurrence of Neanderthal bifacial technologies, their presence/absence in certain regions and/or time periods and the potential links between bifacial and non-bifacial Middle Palaeolithic industries
- The role of the bifacially flaked artefacts in the Neanderthal toolkit, including use-wear, functional and mobility studies
- The origins and relationships between different bifacial entities such as the Mousterian of Acheulean Tradition, the Keilmessergruppen and various leaf point industries
- Chronology, environment and subsistence strategies of different bifacial entities and theirs geographical extensions in western Eurasia

Conference proceedings will have the opportunity to be published in the journal Praehistoria.

Commission on The intellectual and spiritual expressions of non-literate peoples

A20-The intellectual and spiritual expressions of non-literate peoples

(**E. Anati** emmanuel.anati@gmail.com)

The main idea was that of considering various aspects of art, religion, cult structures and monuments, burial customs and funerary architecture, and other expressions of the spiritual and intellectual life of non-literate peoples as a cultural assemblage which could provide a dimension on the conceptual life of various horizons of human cultures.

Rather than separating specialized sectors of rock art, mobiliary art, burials and other expressions of human creativity, as is sometimes customary, the Commission intended to invite experts to focus on a wider debate and create a permanent dialogue on the global phenomenon of the intellectual and spiritual manifestations of pre-literate and non-literate societies. The purpose is to explore the human soul, using the material outputs. “The material heritage as a source to discover the immaterial heritage”.

Another aspect of our goals is developing cooperation and joint studies between different disciplines in the humanities and social sciences.

Commission on Settlement Dynamics of the Middle Paleolithic and Middle Stone Age

A21a-Neanderthals on their own terms: new perspectives for the study of Middle Paleolithic behaviour

(**M. Gema Chacón** gchacon@iphes.cat & Florent Rivals)

The origin and evolution of Neanderthal populations during the Middle and Late Pleistocene is a very relevant issue in the international scientific debate. No other species has produced such an intense discussion within Prehistoric Archaeology. Excavations carried out in recent years at archaeological sites with long stratigraphic sequences and the application of new scientific methods have provided information of high-resolution about Neanderthals behaviours and strategies in Eurasia. This interest was strengthened by the paleoanthropological and paleogenetical data obtained recently.

Neanderthals has been traditionally studied through the comparison with Anatomically Modern Humans (AMH). Consequently, the cognitive and social capacities of Neanderthals were always reported and described in relation to our species. Neanderthals have their own biological and cultural entity as species. For this reason we suggest to address the interdisciplinary analysis of the archaeological record resulting from their activities and compare it to other Neanderthal records, i.e. with themselves.

Thus, it will provide the information required to generate hypotheses about their social complexity and their behavioural diversity without any necessity to compare with the first AMH. Only through this kind of studies it will be possible to evaluate the proper diversity of this population. Thus, we will be able to understand their behavioural patterns in a more objective and scientific way.

This session will represent an ideal forum in which to generate and integrate research ideas cutting across various disciplines. Moreover, it will be an opportunity to update the current state of the research on Neanderthals with the presentation of evidences from different archaeological sites or geographic areas. The contributions selected will bring forward new data obtained through interdisciplinary studies and comparing Neanderthals inside Neanderthals.

A21b-Technological change and behavioral variability in the MSA

(**Nicholas Conard** nicholas.conard@uni-tuebingen.de, Anne Delagnes & Guillaume Porraz)

Recent research in the MSA indicates that many of the previous models for technological and cultural taxonomy in Africa have been overly simplistic. In extreme cases specific artifact forms are viewed as pan-continental, or even intercontinental, markers of cultural identity that track movements of people and ideas. At the same time detailed cultural stratigraphic sequences from across the continent are providing new insights into the speed of cultural change and the scope of spatial-temporal variation in lithic assemblages and other behavioral signatures.

These new data sets are moving MSA studies away from tradition of placing labels on assemblages and toward a more strongly contextualized reading of the complex history of MSA populations. Earlier concepts of largely static cultural-stratigraphic units are giving way to a more dynamic, more high-resolution understanding of spatial-temporal variation of MSA behavior. Scholars working in Africa and interested in the archaeology of early modern humans are invited to contribute papers to this session that aims to establishing a more nuanced, high-resolution understanding of 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

(**Knut Bretzke** knut.bretzke@uni-tuebingen.de & Nicholas Conard)

In recent years much progress has been made in characterizing lithic and faunal assemblages in East and North Africa and southwestern Asia during the MSA and Middle Paleolithic. This research is an essential step toward documenting the movements of hominins between Africa and Eurasia and for better understanding the demographic developments that led to the expansion of modern humans out of Africa and the ultimate extinction of archaic hominins across the globe.

In this context the role of Arabia as providing viable routes between Africa and Asia has begun to come into focus, and new discoveries are begining to allow researchers to test models of movements into and out of Africa. Similarly, new fieldwork and the study of existing collections across East and North Africa, the Levant and Iran have made it possible to characterize regional archaeological variability.

This session addresses the question of whether the archaeological variation documented reflects movements of populations across the region, local independent adaptations, or a combination of both phenomena. The session aims to address these questions on the basis of new analyses of lithic and faunal assemblages within the contexts of the most up-to-date records of climatic change, fluctuations in sea levels and cultural chronostratigraphy. Papers may also address how topographic factors, hyper-aridity, monsoon patterns and other variables produced barriers and opened corridors for the expansion and contraction of populations.

With this session we hope to move toward a better characterization of archaeological assemblages that document the adaptations of archaic and modern humans at the interface of the African and Eurasian continents.

A21d-Chronostratigraphic data about the Middle to Upper Palaeolithic cultural change in Western Europe

(**Julià Maroto** julia.maroto@udg.edu, Álvaro Arrizabalaga, Javier Baena, Jesús Jordá, Pedro Rasines & Manuel Vaquero)

Cultural change from the Middle Paleolithic to the Upper Palaeolithic in Western Europe is subject to on-going debates because it is directly related to the replacement of Neanderthals by modern humans.

In recent years, various research groups and laboratories have prioritized efforts to obtain new reliable dates, essentially through radiocarbon, from well stratigraphied contexts. At the same time, studies of both environmental and material culture in such contexts have increased.

Thus, this session is aimed to share and discuss new chronostratigraphic data and their derived interpretations, with the intention to bring together different syntheses.

Commission on Palaeolithic Landscapes, Techniques and Cultures of Western North Africa

A22-Origins and evolution of Modern Humans Behaviour: a view from North Africa

(**Abdeljalil Bouzouggar** abouzouggar@yahoo.fr, Nick Barton & Nabiha Aouadi Abdeljaouad)

One of the most keenly debated issues in human evolutionary research concerns the African origins and dispersal of Homo sapiens. Until recently, Northwest Africa has been a much neglected region despite the occurrence of early *Homo sapiens* with the "Middle Palaeolithic" finds. In this region, several sites contain stratified sequences with exceptionally well-preserved organic remains offering rich sources of multi-proxy data for palaeoenvironmental and chronological studies.

The Northwest Africa is of key interest in the understanding of human evolution and behavioural development. A broader theme identified and could be discussed in the session concerns the nature, chronology and human associations with the cultural North African MSA, LSA and Early Neolithic. New chronological data move the LSA back in time to more than what it was known in North Africa. From calibrated record of AMS dates, the data of this region are compared with the global marine isotope record.

Sites in North Africa provide rare sources of information on the lives of early modern humans. Amongst the best evidence for early expansion of MSA people in the Mediterranean is in Northwest Africa where sites abound of MSA, LSA and Neolithic ages, ca. 7,000 to at least 200,000 yr ago. Unlike Europe, some of these cultural phases appeared to have occurred exclusively within *Homo sapiens* populations. Another distinctive characteristic is the abundance of symbolic artifacts and other behavioral indicators of cultural modernity that appear within North African MSA contexts, perhaps 50,000 yr earlier than in Europe. Conversely, the transition from the MSA to LSA was relatively late (25-20,000 yr ago) compared to many areas outside Africa.

Amongst the key issues to be identified so far are: How early is the North African MSA, does its appearance signify the arrival of new populations, is there any relationship between the LSA and MSA, what is the environmental context of these two technologies.

This session seeks to unite archaeological, geological and geochronological approaches to better understand the spatial signature and temporal dimensions for these cultural changes in humans for North Africa.

Commission on First Stages of Human Evolution in Africa

A23-Advances in the reconstruction of early hominin behavior at Olduvai Gorge

(**Manuel Domínguez-Rodrigo** manueldr@ghis.ucm.es)

The Olduvai Paleoanthropology and Paleoecology Project (TOPPP) produced in its first research phase (2006-2010) a wealth of information which enabled a better understanding of the Bed I sites and their paleoecology. This was published in a special issue of Quaternary Research (2010). The on-going second phase has increased the amount of information of the activities carried out by hominins in the anthropogenic sites of Bed I (FLK Zinj) and Bed II

(SHK, TK and BK). It has also increased the paleoecological information of key sites enabling a more detailed paleoecological reconstruction. For example the paleoecological reconstruction carried out at FLK Zinj incorporates a detailed geological and paleobotanical interpretation of almost 1 km of paleolandscape in which FLK Zinj was formed and adds a new site with the exact same stratigraphic provenience (PTK). Taphonomic analyses at sites in Bed I and Bed II reinforces the interpretation that passive scavenging was not a common strategy used by hominins at Olduvai. Hunting or small and medium-sized animals is well supported taphonomically. Finally, recent discoveries of plant exploitation by hominins are some of the oldest evidences of plant consumption by hominins in the archaeological record. This enables the understanding of hominin activities in palimpsests in which carnivores were the main accumulators of faunal remains.

Commission on Cultures, economy and ecology of Post Palaeolithic hunter gatherers

A24a-Recolonisation or new landscapes: adaptations and change in the Early Holocene

(**P. Woodman** p.woodman@ucc.ie)

How did human populations adapt to the radical changes that took place at and just after the commencement of the Holocene? How successful were groups of hunter gathers in i) the recolonisation of old landscapes that had been altered in the final stages of the Pleistocene, ii) did this require the development of new technologies and /or the abandonment of the older traditions and methodologies that they brought with them and iii) or in adapting to new environments such as rapidly changing coastal regions? It is hoped to discuss matters such as when did fully developed marine technologies emerge and were these early marine environments, river systems or landscapes as productive as those which were in existence 5000 years later.

A24b-Coastal adaptation: Assessing past resilient socio-ecological systems

(**Ximena S. Villagran** ximena.villagran@uni-tuebingen.de & André C. Colonese)

Coastal settings are becoming paradigm for the development of modern human behavior, as primordial migration routes and for the establishment of complex social systems among hunters and gatherers. In many coastal areas of the world the arrival of farmers into the territories previously inhabited by coastal hunter-gatherers unchained irreversible and unique processes of change.

In some cases, cultural replacement has been identified, while in others new systems developed from the clash of cultures. Our session aims to explore the discussions into cultural change in coastal settings, with special emphasis in the unique coastal cultures that develop from the contact of farmers with prehistoric fishing and shellfish gathering communities. We welcome all archaeologists working with coastal settings, without chronological or geographical constrains, interested in exploring the specificities of cultural change in the dependence of aquatic resources.

Commission on Neolithic Civilizations of the Mediterranean and Europe

A25a-Materials, Productions, Exchange networks and their impact on the societies of Neolithic Europe

(**Marie Besse** marie.besse@unige.ch & Jean Guilaine)

The circulation of raw materials or finished pieces is a constitutive element of the European Neolithic, at any stage of its development. The exchange networks created by these processes maintain multiple interactions between groups and cultures, over varying distances. They may involve material goods (of domestic use, economic) or markers of social differentiation. Likewise, they may trigger the transfer of technical skills (stone, bone, antler working, metallurgy, draught animals and ard-ploughing, wheeled vehicles, etc.).

These networks may alsoencourage the diffusion, or even interaction, of ideas (gender-related concepts, codes and signs of group identity, influx of ideologies, and models of socialorganization). The forces behind these unidirectional or multidirectionalmovements are displacements of individuals or groups – migrants, intermediatepersons, traders, specialized craftsmen, expeditions, etc. – and the economic or sociocultural « politics » explaining these exchange strategies.

Based on concrete examples we are aiming at defining the characteristics and the geographical extent with regard to these distributions of materials or productions and to the dissemination of ideas or symbols. We will try to evaluate their impact on the techniques or goods in the different areas, but also the social status of these exchanges (gifts/counterparts, integration, acculturation, tensions, etc.).

A25b-Current Approaches to Collective Burials in the Late European Prehistory

(**Tiago Tomé** tiagotome@gmail.com, Marta Díaz-Zorita Bonilla, Karl-Göran Sjögren, Ana Maria Silva, Rui Boaventura & Claudia Cunha)

Collective burials are a common feature in the Late Prehistory of several regions of Europe. The gathering of multiple individuals in a shared burial place occurs in diverse types of burial structures, being generally associated with communities in the agropastoralist transition.

Over the last few decades, a renewed interest in the study of collective burials and specifically on their human skeletal remains has emerged. Such interest is a consequence of the adoption by biological anthropologists of methods focused on the understanding and reconstruction of the formation processes of funerary contexts, an increment in physicochemical analysis such as radiocarbon dating, ancient DNA and stable isotopes studies, as well as a growing collaboration between anthropologists and archaeologists. All this led to a larger integration of anthropological data into archaeological interpretation, eventually resulting in the emergence of a new disciplinary field, Bioarchaeology. This allows us to currently hold a deeper understanding of these communities, as well as of their funerary practices.

For a long time, human skeletal remains exhumed from collective burials were dismissed as valuable sources of information, their studies being limited mostly to morphological assessments and subsequent classification in predefined “races”. They currently represent a starting point for diversified, often interdisciplinary, research projects,

allowing for a more accurate reconstruction of funerary practices, as well as of palaeobiological and environmental aspects, which are fundamental for the understanding of populations in the Late Prehistory of Europe.

This session aims at gathering the professionals involved in the study of these collective burials. We are searching for contributions regarding the different approaches to Late Prehistory collective burials developed recently, as well as future avenues of research on this topic. Reflections stemming from Archeology, Bioarchaeology, Biological Anthropology and the Archaeological Sciences are welcome.

A25c-Standing stones and megalithic monuments in context

(**Terence Meaden** terencemeaden01@gmail.com)

In prehistoric times most standing stones probably had a symbolic meaning and importance deemed helpful to the communities who erected them. Such megaliths of the Neolithic Age and Bronze Age worldwide were raised singly or in pairs or arranged in multiple groups forming circles or rows, or otherwise set as structural parts of cells or galleries in circular and longitudinal monuments. Another group, of cromlech or dolmen type, has an open structure with elevated capstone.

In many instances stones were chosen for their particular shape or else they were fashioned into the shapes desired. At times carvings were added in the form of symbols and images meaningful to the builders. These include spirals, lozenges, triangles, cup-shaped hollows, and markings some of which were anthropomorphic in character. In parts of the world devotion for such sites began in later epochs, and there are places where respect or worship continues to the present day. Also, where explanations have been forthcoming by interviewing tribal devotees, it is known that megaliths are sometimes painted or else bear other temporary markings or offerings.

Such matters continue to attract much archaeological attention. This session examines aspects that relate to improving our knowledge of these subject areas in identifiable contexts especially where there is new relevant research and discoveries.

Discussions can include iconographic and other interpretations involving megaliths or their carvings relating to general and specific worldviews. This can include situations where stones are positioned purposefully with respect to one another or to solar or lunar risings and settings, so explanations involving cosmological alignments of interpretable significance are welcome. Acceptable too are considerations of substantiated *traditional* ritual actions by native communities at particular megalithic sites. The stone settings discussed may range from minor ones—having only one or two standing stones—to major ones, as with Stonehenge and Newgrange among numerous possibilities. The common thread is exploring the meaning and usefulness of standing stones in the context of the lives of people past and present.

A25d-Monumentality and territory: relationship between enclosures and necropolis in the European Neolithic

(**Vincent Ard** vincent.ard@univ-tlse2.fr & Lucile Pillot)

In many European areas, the Neolithic period corresponds to the development of architectural monumentality which left important marks in the landscape, as well as the land clearing and the cultivation by the first agro-pastoral societies. This monumentality can be observed in the domestic sphere, particularly by the edification of enclosures with various functions and surfaces, and in the funeral and ritual sphere, by the development of many megalithic or pre-megalithic cemeteries.

It is noteworthy that the concomitant development of these monumental sites reveals the complexity of cultural, symbolic and socio-economic practices of Neolithic societies. These monumental sites probably reflect socio-cultural dynamic systems in which the notion of territory seems to be a fundamental concept. Obviously, in many areas of Europe, Neolithic people have appropriated their surrounding landscape, exploited or not, by the edification of these monumental sites. In this way, they probably sustain their control over a definited territory. That's why burial, domestic or even defensive monumental sites, must be jointly analyzed in order to understand the organization of these Neolithic spaces, in which enclosures and cemeteries can structure a territorial net.

This session will examine:

1-The various manifestations of the relationship between Neolithic enclosures and cemeteries in different contexts of Europe, notably through spatial analysis.

2-The concept of landscape appropriation, combining domestic, symbolic, economic or natural spaces.

3-The patterns of territorial organization, in which enclosures and cemeteries have a fundamental role in some Neolithic contexts.

A25e-Dynamics of human and cultural dispersals during the Neolithic transition in Europe: Complex Systems and Prehistory

(**Joan Bernabeu Aubán** jbauban@uv.es, Oreto García Puchol & Salvador Pardo Gordó)

Complex Adaptive Systems (CAS) represent dynamic systems, characterized by information transmission and processing that allow to adapt to changes produced by external and internal circumstances. Although complex systems approaches have not yet considered into a robust theoretical framework, they have identified important properties of organization and behaviour across diverse phenomena. Some of these properties are particularly interesting when they are applied to social sciences (e.g., hierarchy, interaction, emergence, transmission and processing of information).

Although it is clear that human societies are CAS, this perspective has not yet been applied systematically to understanding the long-term social change, including the archaeology. This may be due to difficulties in applying a CAS perspective in current archaeological research practice that emphasizes the inference. Using a CAS perspective implies a focus on information flow, interaction at multiple scales, decision-making and non linear dynamics (individual agency generating emergent systemic properties); and all these processes are absent from the archaeological record.

In spite of its potential as an explanatory framework for the human sciences, the application of a CAS to the archaeological record is indeed a challenge which require:

a) the development and application of a robust theory about the nature of long-term change in CAS; and

b) new forms of archaeological practice, moving from inductive "reconstruction" of an

unknowable past, to systematic experimentation and hypothesis testing. The growing popularity in the use of models based on Cellular Automata (CA), Dynamic Networks or Agent Based Models (ABM) is framed in this perspective.

Despite these difficulties, some recent approaches have tried to take advantage of these new concepts, including regional-scale studies of the Neolithic transition in Europe. The systematic application of new concepts derived from the Evolutionary Theory, or the effects of interaction between anthropogenic land-use and global climate events are being re-examined from a CAS perspective as potential endogamous and exogamous drivers of long-term cultural change. Moreover, new methods for using radiocarbon data as demographic proxies or the style of the material culture as proxies for social interactions, allow to propose questions about the best way to identify the archaeological variables associated to human and cultural dispersals during the Neolithic transition.

Current archaeological data suggests two primary geographic routes taken by the spread of agriculture in Europe: along the Danube River corridor and around the Mediterranean littoral. Although to date most of the modelling efforts have focused on the Danube corridor expansion, recent advances seems to show interesting parallelisms between both regions, including:

a) a rapid, but discontinuous expansion leaving large unoccupied areas by farmers, at least initially;
b) a subsequent, more continuous and wider distribution of Neolithic cultural complexes—the LBK in central Europe, and the Impressed-Cardial in Mediterranean— and, shortly thereafter, a marked fragmentation of these cultural patterns.

Can these processes apparently parallel in both areas be related with demographic fluctuations (including migrations), global climatic changes, problems of cultural transmission or social network fragmentation? And importantly, how can we reliably identify the phenomena in the archaeological record that can evaluate alternative models of relevant social dynamics?.

The aim of this UISPP workshop is to provide a framework of meeting for the researchers that employ these new concepts and methods in order to discuss results, compare methodologies, and share ideas about how we can gain a deeper understanding about a complex process: the neolithic transition in Europe.

Contributions related to Neolithic spread, cultural transmission, the presence of boom and bust cycles, and the relationship between the climate and the cultural change are particularly encouraged. Since, from a CAS perspective, patterns of change can emerge from different local to regional processes and interactions, studies situated at different scales are welcome as well as the cross-scale studies.

A25f-North-South connections and dis-connections in the prehistory and proto-history of the Levant

(**Ianir Milevski** ianirmilevski@gmail.com, Fanny Bocquentin & Miquel Molist)

The Levant, the westernmost of the Near East, is one of the areas with the largest concentration of prehistoric and protohistoric sites. It has witnessed radical changes in the history of mankind, and even in its "prehistory" -the evolution of hominins since the "out of Africa" processes, especially in the Great Rift valley. The Neolithic revolution, the emergence

of metallurgy and the urban revolution in the Levant have been one of the greatest expressions of major changes in which humanity was involved. On these issues we have countless fieldwork and research works. However, the connections and disconnections between Northern and Southern Levant have been less studied. We assume that such comparisons will highlight those processes and will also promote better studies in each of the Levantine geographic areas. The goal of this workshop is to focus on those connections and differences and bring together researchers working in different areas of the Levant.

A25g-Megalithism in the north-west of the Iberian Peninsula

(**Anton A. Rodríguez Casal** antonabel.rodriguez@usc.es)

This debate focuses on the early 21st century analysis of the megalithic and burial mound phenomena in North-western Iberia, critically analyzing the current archaeological situation. There will be a special focus on the issue of spatial analysis and megalith mapping in the light of the latest archaeological surveys, and the current state of the north-western megalithic archaeology will be presented.

We will also review the relationship between rocks, soil and burial mounds found in pedological and petrographic analyses, and include a section on statistical analysis, GIS and databases. Other issues to be discussed will include the realms of symbols, megalithic art and archaeoastronomy. Finally, participants may present studies of district-scale models currently being used in areas such as Costa da Morte, the Deza district and the Baixo Miño area straddling Galicia and Portugal.

A25h-Domestication of Plants and Animals in the Near East

(**María Saña Seguí** maria.sana@uab.cat, Jean-Denis Vigne, Sue Colledge & Miquel Molist)

There is a long history of studying the processes of animal and plant domestication in the Near East that has been facilitated by the existence of archaeological sites with occupation sequences covering the period of transition from hunting and gathering to early farming; the region thus plays a central role in many of the models proposed to explain the first domestication.

Research projects undertaken in recent years in which the emphasis has been on interdisciplinary studies have brought to light new data that have enriched scientific debate enormously. One of the main points raised in the debate on the phenomenon of Neolithisation is the need for integration of studies of animal and plant domestication within the context of economic and social change that took place in the early Holocene. The aim of this session is to present and discuss from different standpoints our understanding of the processes of domestication, for example, their causes and consequences, based on the wealth of accumulated data from recent research and, most importantly, with a particular emphasis on drawing together evidence from archaeozoological, archaeobotanical and archaeological studies. Special attention will be paid to new conceptions about early domestication (i.e. “predomestic” agriculture or control of wild animals), to new methodological, technical and high resolution approaches to the study of the processes, to different temporal and spatial scales and to the exploration of the variables that interact during the domestication of animals and plants.

With these aims in mind, the session will be interdisciplinary, including presentations and discussions on the following aspects:

- concepts used in the study of domestication in the Near East;
- new methodological and technical approaches to the study of plant and animal domestication, for example, criteria involved in the definition and classification of the first domestic animals and plants;
- the empirical record and new archaeological evidence for domestication — micro- and macro-spatial approaches;
- economic strategies and the integration of animals and plants: the origins of agricultural and pastoral practices;
- explanatory models for animal and plant domestication;
- the role of the Near East in the study of the domestication and Neolithisation processes: its distinctiveness and heuristic power.

Commission on Southeast Asia: Human Evolution, Dispersals and Adaptations

A26-Southeast Asia: Human Evolution, Dispersals and Adaptation

(**Victor Paz** victorpaz67@gmail.com, François Sémah & Hubert Forestier)

The session is organized in the frame of the constitution of a regional UISPP scientific commission. Its purpose is to foster scientific, training and heritage networking concerns throughout the Southeast Asian area, together with connecting Southeast Asian scientific issues to relevant projects related to Eurasia on a larger scale, with special reference to neighbouring zones (especially South and East Asia and Australia). As such, it welcomes contributions from scholars and graduate students working in the area.

Addressed scientific topics will mostly include:

1. Human evolution and dispersals throughout the Quaternary period
2. Environment, landscapes and adaptations
3. Regional patterns in technology, subsistence and symbolic behaviours
4. Recent implementation of research methods on Southeast Asian prehistoric sites

Part of the session will be devoted to presentations reflecting current networking programs regarding academic training issues and also heritage concerns at the crossroads of science and conservation.

Commission on Holocene Hunter-Gatherers In Southern Europe and the Mediterranean /Pontian Basin

A27a-Linking Continents: Late hunter-gatherers and early farming communities relationships across the Mediterranean and the Black Sea

(**Pablo Arias** linkingcontinents@gmail.com, Grégor Marchand & Jörg Linstädter)

The origin and spread of the farming communities is undoubtedly one of the most relevant topics in Prehistoric Archaeology. Therefore, it is not surprising that this has been a central issue of the discipline since its very beginning. However, the knowledge of this process has undergone a profound change within the last years. Archaeologists have become fully aware

of the diversity and complexity of the processes of introduction and consolidation of farming. Moreover the dramatic development of field research outside the areas with a long and dense tradition, such as Europe or the so-called "nuclear areas" of the Levant, has provided a much more nuanced and complex view of the processes. In particular, the role of the hunter-gatherers' groups has been upgraded in terms of their significant contribution to the spread of domestic species and other Neolithic traits. In this context, new (or renewed) paradigms are appearing, opening new perspectives for a better understanding of social and cultural change.

The Mediterranean/Pontic basin is one of the regions where those improvements are particularly apparent. Let us mention, for instance, the development of ambitious research programs on the Mesolithic of Southern Europe, the important novelties on the earliest Neolithic in the Western Mediterranean, or the spectacular increase in the density and quality of the research in northern Africa and Anatolia. Exciting new data are arising each year from the field, the museums and the laboratories, and attempts to assess the new panorama have been proposed. It appears that we are approaching a new paradigm on the transition to the Neolithic in this area, in which the relevance of trans-continental links among the communities involved in the processes (both hunter-gatherers and early farmers) may have been particularly relevant. Researchers are starting to ask themselves about the role played by already existing hunter-gatherers' networks in the rapid spread of food production and other Neolithic features, such as pottery. This should undoubtedly be one of the focuses of the session, including the detailed study of Mesolithic seafaring, demonstrated several years ago by the distribution of the obsidian from Melos, but insufficiently valued by the research.

This session is intended as a forum for the critical assessment of the new data and for the discussion of the role of the relationships between groups from both sides of the Mediterranean/Pontic basin in the processes of social change among late hunter-gatherers and early farmers. Epistemological and historiographical approaches will also be welcome.

A27b-Atlantic reinterpretations: the emergence of pottery technology in South-western Europe

(**Miriam Cubas** atlanticretinterpretations@gmail.com, Pablo Arias, Mariana Diniz & César Neves)

The origin of ceramics has traditionally been related to the introduction and development of domesticated plant and animals in Europe. However, the articulation between the dynamics of the appearance of pottery-making and a productive economy is not an unidirectional process. This session will deal with the earliest evidence of pottery recorded in Europe, with a particular focus on the Atlantic side of the continent. It aims to establish the chronological framework and the socioeconomic characteristics in which the appearance of this technology is produced in different geographical areas. It also aims to establish the technological and functional features characteristic of the first pottery evidences.

The study of the pottery technology and its manufacturing sequence allows us to better understand the dynamics of the introduction of this new technology. The application of methodologies related to the raw materials used in the manufacture and functional studies allow us to know the method of transmission (either by technological transmission or by exchange between different societies) and the needs which raise the assimilation of this new technology. Therefore, we propose to discuss the interaction between ceramic technology and the different socioeconomic conditions of its appearance. This session aims to show how the

analysis of this interaction can reveal the different socioeconomic conditions in which its emergence and development is produced.

This session aims to be a meeting among researchers who focus their research on the analysis and contextualization of the first pottery evidences in SW of Europe, especially in the Atlantic Coast. It will assemble archaeologists, anthropologists, archaeometrists and ethnographers who are working on this subject of the origin of pottery.

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

(**J. Emili Aura Tortosa** Emilio.Aura@uv.es & Jesús F. Jordá Pardo)

The history of relations between the western Mediterranean regions during the late Pleistocene and the early Holocene (18 to 8.2 ka BP) has failed to move beyond old stereotypes. Relationships between regions of southern Europe and North Africa throughout the Palaeolithic have been documented on the basis of formal and technical convergences, and a hypothetical maritime link during the stadial phases. However, researchers working on either shore have yet to meet to contrast the evolutionary trends and models in their respective regions. To this end, we propose a session on this issue at in the next IUPPS Congress (Burgos 2014).

The choice of the time limits has taken into account several considerations related to the contents of the session:
the first is ecological, given that following the LGM, global ecological changes accelerated (flooded coastal zones, repositioned lagoon systems and coastlines, gradual colonization of mountain areas and afforestation), which took its final impulse in the 8.2 event,

- the second is an archaeological consideration, as the events coincided with the transition from Mode 4 to Mode 5. During this period, there were significant coincidences in the development pace of the technical-economic systems, which spread into the Neolithic (spread of microflake and reinforcement production, with uneven development of bone/horn industries and a widespread increase in the use of tools), economic strategies (intensification/diversification: use of plants, small dams and marine resources) and territoriality (increased logistical occupations, symbolism and burial practices, including the first cemeteries),
- the third is taxonomic, given that in addition to the named regional technocomplexes (Magdalenian, Azilian, Ibero-Mauritanian, Epigravettian, Epipalaeolithic microflake, Epimagdalenian, etc.), there were socio-ecological processes that can be discussed from a common approach yet with a perspective on their diversity.
- the fourth reference is sociocultural: although this period saw the greatest technical-economic convergences, specific models and mechanisms have yet to be proposed to understand the convergence/dissemination between the regional processes on either side of the Mediterranean.

Sessions proposed outside the UISPP committees

B1-Task distribution in pre- and proto-historic societies

(**Sophie A. de Beaune** sophie.de-beaune@mae.cnrs.fr, Haris Procopiou & François Sigaut †)

Understanding how pre- and protohistorical societies functioned, and more generally, so-called pre-industrial societies, entails examining how technical activities were divided up. Rather than broach this issue only from the standpoint of economics, as has been done too often, we approach it here in an anthropological perspective. We propose to bring together participants who have developed their thinking in two main directions.

According to the first, emphasis will be on the precise technical modes involved in assigning an activity to men or to women. It is a classic statement to say that feminine activities are linked to domestic needs and that, as soon as activities take on a 'mercantile' economic status, they leave that sphere and move into the hands of men. Hence, there would be no masculine or feminine tasks as such. On the other hand, in the same task, women and men do not use the same techniques – for example, women generally hand-shape pottery, whereas men use the potter's wheel. Is it possible to make, or not, this sort of observation about more ancient peoples? And, for that matter, are archaeological methods available to do so? This 'technographic' approach is meant to enrich a debate that all too often remains tied to too general categories.

In societies termed undivided (Clastres), the only way tasks can be divided up is according to sex and age, which distinguishes them from more complex societies in which the growth of production and exchange leads to greater specialization. A second question thus arises about the way tasks are divided up within a particular group – family, social or other – specializing in a particular technical activity.

The concept of workshop, due to the Frédéric Le Play school and applied by Paul Descamps to the 'savage peoples' in the 1920s may prove to be useful here in considering this issue. It is not a question of simply the workshop seen as workplace, but of the workshop seen within a network of people collaborating in the same activity, within a broader network including the whole social group.

Understood in this way, the structure of a workshop and the repertoire of activities may well enable us to understand the organization of the social group, as well as the repercussions on the group, should even minimal changes occur in one of the elements of the technical chain.

Case studies are welcome, not only in the fields of pre- and protohistory, but also in ethnography in so-called pre-industrial societies, to the extent they may elucidate the former. More technical communications on the reliability of our interpretations in this field will also enrich this discussion.

B2-Biochronology, biostratigraphy and paleoecology of the Quaternary of Europe (B2PQUE)

(**Gloria Cuenca-Bescós** cuencag@unizar.es, Juan Rofes, Juan Manuel López & Hugues-A. Blain)

Fossils of small vertebrates are the best tools for biochronology, biostratigraphy and paleoecological reconstructions in the Quaternary of the European continent. Europe has been the forefront of biostratigraphy and paleoecology of small mammals since the early work of paleontologists in the late nineteenth century and early twentieth century as Cuvier, Major, Hinton, Stehlin, Schaub... In the Iberian Peninsula, the systematic work of Miquel Crusafont and Nieves López Martínez laid the foundations of modern biostratigraphy based on the

biostratigraphic correlation with small mammals during the Cenozoic. Both were cooperating with our eastern colleagues, i.e. Crusafont organized the East-meet-West meetings in Sabadell (as professor Kahlke did in Weimar, Germany); and Nieves had used the pan-European correlations of Janossy, Fejfar, Heinrich, Mein…as the biostratigraphic framework in which the Iberian Peninsula localities could be situated.

During the last three decades, the studies of small vertebrates related with important archaeontological and palaeontological Quaternary sites in Europe has increased notably. Young (now senior) scientists started in the 1990' numerous studies of the small mammals of the Quaternary of the Iberian Peninsula, Lourdes Martín Suárez, Jordi Agustí, Carmen Sesé, Paloma Sevilla, and Gloria Cuenca-Bescós. Their work has laid the foundation for the formation of new ECR, and PhD, who continue the work begun by our predecessors; and who continue studying and analyzing the small vertebrate faunas not only from Spain, but also from other European countries as Italy, France, Germany, Poland, Russia, and north Africa, Mexico, etc.

Our long term goals are: the foundation of new projects and the consolidation of ongoing projects; the time for discussion of ideas, methodology, and results of our respective projects. For this, a session such as the B3-Biochronology, biostratigraphy and paleoecology of the Quaternary of Europe, will be a good opportunity to communicate. The biostratigraphic correlation, the paleoecological comparison and the biochronology of the Quaternary in Europe, needs the communication of a large number of participants, working in different European countries in order to have the possibility of comparing between the faunal contents of different stratigraphic sequences of different ages, and of different places.

B3-Monumental earthen architecture in early societies: technology and power display

(**Annick Daneels** annickdaneels@hotmail.com)

The purpose of the symposium is the archaeology of earthen architecture in pre- and protohistoric cultures, with an emphasis on constructive techniques and systems, and diachronic changes in those aspects. The main interest is in monumental architecture (not domestic), where it is better possible to appreciate the building strategies that show raw earth to be as noble a material as stone or wood, but with its very own characteristics which required the development of original solutions and construction techniques. The scope on monumental buildings will also allow analyzing the political, social and economical factors that made such architecture a recognized expression of societal values and political power.

Due to the scope of the UISPP congresses, I would hope to gather researchers from the 5 continents, and from very diverse ecological and climatic settings, to compare on a macro scale the building of monumental earthen architecture, the range of constructions (pyramids, palaces, tombs, temples, warehouses, ramparts, causeways…), the architectural solutions for control of internal pressure, facings, roofing, drainage, ventilation, maintenance, etc., and the variety of sociopolitical contexts that produced it.

Up to now, we have candidates from America and Europe covering topics from Mexico, Perú, Morocco, Anatolia and Syria, and we are waiting for answers from researchers from Asia, Africa and Autralia.

B4-Climate change and social change during the Late Holocene in arid and semiarid environments: archaeological and historical perspectives

(**Rafael A. Goñi** rafaelagustingoni@gmail.com & Diego D. Rindel drindelarqueo@gmail.com)

The general purpose of this symposium is to assess and discuss aspects of world archaeology from a perspective that includes environmental approaches in the study of the processes of human settlement during the final stage of the Holocene (last 2500 years BP) in arid and semiarid environments. The current debate about issues such as climate change and how it affects human populations has controversial arguments about causes and effects in our disciplines. The analysis of past climatic fluctuations is therefore quite relevant, especially those with a global scope (e.g. Medieval Climate Anomaly, Little Ice Age) and the impact and responses to these climatic factors amongst human populations. The emphasis here is on case studies from arid and semiarid environments, since these types of habitat cover a large part of the Earth's land surface, and they are amongst the most difficult for human occupation.

The symposium debates will be open to multiple approaches concerning interactions between human societies and their natural environments, from environmental archaeology to approaches that interpret the environment as a social construct.

In this symposium, we propose to explore these issues from multiple lines of evidence. Within this broad range, some of the suggested, but by no means not exclusive, themes will be:

1. Environment/society relationships. Interaction, sustainability, economic development, etc. Production of correlated variations and mutual modifications.
2. Analysis of the relationship between climatic variations and sociocultural processes.
3. Change trends during the late Holocene. The internal variations in this period and its cultural correlations in different parts of the world.
4. Studies of resource structures and variability associated with climatic factors. Expansion and contraction of human niches and environmental zones.
5. Environmental models and their possible archaeological correlations.
6. Theoretical and methodological aspects: discussion of topics related to the concepts of causality, determinism, constraint, conditioning, role of the environment in shaping social structures, consistency of scales, etc.

A productive debate about human-environment interactions is expected, as well as new perspectives and the inclusion of the new flow of information generated in recent years as a result of concerns about climate change. This symposium will seek to define new models and frames of reference to contribute to an issue that has become particularly important on a global scale.

B5-New approaches to the study of Quartz lithic industries

(**Arturo de Lombera-Hermida** artulomb@gmail.com & Carlos Rodríguez-Rellán)

The aim of this session is to bring together the experience of researchers working with quartz industries as a method to advance in the overcoming of the problems that have affected the studies of this raw material in the last century. Quartz has traditionally been regarded as a

second-rate raw material, which use by the prehistoric communities would have been strictly conditioned by the absence of flint resources.

Nevertheless, new approaches appeared in the last decades, together with revisions of old lithic collections, have evidenced the complexity and importance of the roles played by this raw material in the technology and economy of the prehistoric societies of many regions of the world. Many of these studies have focused on the characterization of quartz artefacts and varieties, dealing with the fracture mechanics and fragmentation processes, the use-wear analysis or the application of specific techniques to the knapping of quartz (vg. Bipolar-on anvil reduction); other approaches, in turn, have dealt with the role of this raw material in the subsistence and territorial strategies or the symbolic spheres.

B6-Beyond the stones: Inter-disciplinary approaches to interpreting Palaeolithic Transitions

(**Parth R. Chauhan** parth73@gmail.com & Marta Camps)

This session represents the UISPP commission, *Transitions in the Palaeolithic*, and includes papers on a diverse range of topics in relation to hominin behavioural change and/or stasis throughout the Quaternary.

As most research on the Palaeolithic often centers on the stone tool records of different regions, the overarching goal here is to present and discuss on all aspects of behaviour *but* the stone tools. This approach will not only complement the archaeological evidence and prevailing interpretations, but will help pursue more insights into the biological, material, socio-cultural, geographic, environmental, ecological and linguistic aspects (among others) of human evolution. Data to be presented can include site-specific information or large-scale compilations from published evidence or entire regions with multiple sites and localities. Previously unaddressed topics, methods and approaches are particularly welcome, including interdisciplinary and theoretical perspectives in understanding Palaeolithic transitions and related sub-topics.

Current debates and controversies in human evolutionary studies and Palaeolithic archaeology can also be addressed through novel or fresh insights and methods. As with our previous sessions and the first published volume, the scope of this endeavour and the mission of the commission are global and not restricted to the Old World.

B7-Discussing Variation, Transmission and Selection in Cultural Evolution: Current Trends in Evolutionary Archaeology

(**Hernán Muscio** hmuscio@gmail.com & Federico Restifo)

Along the last decades, and after recognizing that human cultural evolution is Darwinian, the theoretical framework of Evolutionary Archeology was expanded in a straightforward manner by the integration of different selectionist approaches for explaining human behavior. These middle range theoretical frameworks include the human evolutionary ecology approach, the theory of cultural transmission and the neutral model of cultural evolution.

This theoretical integration was followed by important advances in the methodologies used to document patterns of evolutionary change in the archaeological record. On this basis, this meeting seeks to discuss the evolutionary mechanisms implied in processes of

transmission and differential retention of cultural variation which are traceable in the material record, and the way these mechanisms operated in the past producing patterning in the archaeological record.

Of special interest is the discussion of how processes such as adaptive decision making, cultural transmission, selection and drift, can be related to other processes as demographic dynamics, environmental change, population geographic expansions and niche construction, among others.

Also, an important issue is the comparative analysis of the patterns and processes of cultural evolution along time and space, discussed on the basis of particular case studies from different regions of the world and with different chronologies.

In this way this symposia will bring together researchers working in a wide range of time periods and geographic areas, in order to generate a rich discussion ambience regarding current trends in Evolutionary Archaeology.

B8-Hominid-bird interactions in Prehistory. The humankind and the avian world: archaeological evidence for inferring behavioural evolutionary signatures

(**Ruth Blasco** rblascolopez@gmail.com & Marco Peresani)

In the challenged reconstruction of human behaviour and dietary habit alongside the evolution of humans, a role should have been played by the avifaunal complexes preserved in many and different contexts. Although many scholars assert that bird bones from archaeological sites cannot be considered the result of human activity (unless obvious anthropogenic modifications are present), there are other evidences that suggest the human exploitation of some species from the Upper Palaeolithic onwards.

Up to now, the oldest evidences belong to the Lower Pleistocene, although sometimes are subject to debate. As a consequence of this claims for a lack of obvious anthropogenic modifications in some avian assemblages from old chronologies, it is necessary to pay attention to other factors as the statistical indexes of representation of anatomical remains, the models of spatial patterning and other taphonomically sourced data.

Archaeological findings and the zooarchaeological studies demonstrate that clear diagnostic elements may document the acquisition and use of avifaunal resources for food but also for as traces of symbolic purposes since the Middle Palaeolithic. A new challenge is now to strengthen the growing body of data about these archaic Hominids and their supposed sophisticated technologies used to capture these animals, with the aim to provide data comparable with evidence from later periods.

The topics of this session may range from methodological protocols encountered in paleontological and zooarchaeological contexts, to taphonomy and bias in skeletal composition. Experimental butchering and ethnographic examples are welcome, in order to support the reconstruction of how humans interacted with the avifaunal world.

B9-Staring at the ground: archaeological surveys as a research tool in the early 21st century

(**Marta Navazo Ruiz** mnavazo@ubu.es, Jesús F. Jordá Pardo & Alfredo Maximiano Castillejo)

The first meetings to discuss different aspects of archaeological surveys were held more than 40 years ago. Having entered a mature age, this discipline is now well consolidated. First came debates about different ground survey methods, whereas now discussions focus on new techniques and methodologies like GPS, GIS and DBMS.

Different researchers use different methods in their projects. Fieldwork can be planned one way or another, depending on the aims of the project. But,

- what are the goals that we can set ourselves using these methods?
- Can we draw conclusions about settlement patterns on the basis of random inspections in our study areas?
- Do all researchers mean the same thing when the use the same terminology - landscape, territory, field, etc.?
- Can we compare similar work in order to compare and optimize our results in future studies?

For the 17th Congress of International Union of Prehistoric and Protohistoric Sciences in September 2014 in Burgos, we propose a session that will bring together the range of studies and projects that are currently underway, along with their theoretical framework, methodology, objectives and results. We will discuss the different field survey methodologies, their application based on the aims of each researcher, and what archaeological surveys mean for prehistoric and protohistoric research.

B10-The interglacial Holsteinian eldorado and the onset of the Middle Palaeolithic (400-300 ka)

(**Marta Arzarello** rzrmrt@unife.it, Marie Hélène Moncel, Carlo Peretto & Anne Marie-Moigne)

The aim of the workshop is to group interventions focusing on archaeological data and human activity for MIS 11 and MIS 9 all over Eurasia for a period of time where number of sites increased following the Glacial Elster crisis.

This period is characterized by a wide biodiversity, a large faunal dispersion associated to a regionalization of mammal communities and variability of human morphology.

On the side of the techno complexes, large behavioral variability is observed with both Late Acheulean and onset of Early Middle Palaeolithic assemblages, fire use generalization and structured living places. Management of local resources leads to another type of land use with seasonal settlements into a territorial network.

In the technological point of view, “transformation” of technical systems and supply methods characterize the onset of Middle Palaeolithic. However the unchanged component that remains rooted for environmental constraints or cultural reasons is often overlooked. Through an interdisciplinary approach, the aim is to describe the changes that have occurred between the Lower and Middle Paleolithic in relation to the unchanged substrate.

B11-The Discoid technology, ten years on: an assessment of variability, functionality and the techno-economy

(**Marco Peresani** marco.peresani@unife.it & Vincent Mourre)

The discoid method is one of the most widespread flaking techniques used by hominids in different periods and in various ecological, economic and functional situations. However, this interesting predisposition does not appear to have been adequately investigated in research to date. Although the literature has been enriched during the last ten years, several aspects still await analysis at various levels of interaction. If, on the one hand the generalization of the criteria defining this volumetric concept remains incomplete, on the other hand we see clear signs of a deepened understanding of the role of the discoid technology in adaptation.

This section considers several aspects of the technology. In addition to the conceptual-methodological dimension, we would also like to see discussion of new data and broad syntheses regarding the chronological and cultural distribution of the discoid industries, their variability, functioning and productivity, economy and the possible detection of indicators of mobility. Possibly in combination with new data achieved from experimentation, this assessment of the state of the art regarding discoid technology will increase our ability to interpret human behavior in a wide range of situations.

B13-Mathematical approaches for the study of Human-Fauna interactions in the Pleistocene

(**Ana Mateos** ana.mateos@cenieh.es & Jesús Rodríguez. Supported by the INQUA HaBCom Commission)

Most recent hunter-gatherer societies have a high reliance on animal food, and it is generally accepted that animal resources were also essential to Pleistocene hominins. Moreover, competition with carnivores strongly influenced the survival opportunities of Palaeolithic hunter-gatherers. Thus, the study of human-fauna interactions in the Pleistocene is a highly relevant topic for the understanding of the viability and dispersion of human populations. Key research questions related to human-fauna interactions include, but are not restricted to, estimating the amount of resources that can be obtained from an ungulate population, evaluating the effect of human hunting on the extinction of some large mammal species, measuring the intensity of competition inside the carnivore guild, and understanding the role of humans in past food webs.

All these research questions are amenable to quantitative analyses and most of them have been occasionally addressed using mathematical models. The aim of this session is to discuss and promote the use of mathematical tools, mainly through mathematical modeling, for the study of key topics in human evolution related to human-fauna interactions in the Pleistocene.

B14-An Archaeology of fuels: social and environmental factors in behavioural strategies of multi-resource management

(**Ethel Allué** eallue@iphes.cat, Llorenç Picornell & Marie Agnès Courty)

The management of fuel resources by past societies has been mostly considered from the perspective of pyrothechnology and fire-related activities, all approached along the fire *chaîne opératoire*: combustible supply, energy production and fire use, and by-product disposal. Within this frame, combustible are widely assumed to have been for long mainly provided by fresh biomass resources (plant and animal). Therefore, the control of environmental factors on

the availability of these resources is generally viewed to have exerted a major role on behavioural strategies of fuel management.

We intend here to debate how a comprehensive approach of fuel management in the archaeological record, through cultural periods and across cultural territories, can help to reach a holistic comprehension of energy control in the social spheres along to human evolution. The session will put together recent investigations of authors coming from a wide diversity of archaeological and environmental disciplines. We expect to generate a compilation of innovative research which will be published in an international high-profile scientific journal or monograph.

We seek contributions on the integrated characterization of fuel resources from all environmental related disciplines (archaeobotany, zooarchaeology and geoarchaeology, geochemistry) and their contextual interpretation in terms of energy production at all scales of occupation units within the frame of archaeological data. We request presentations that critically analyse the relevance of field-analytical procedures, experimental archaeology and ethnoarchaeology to providing a comprehensive data base of indicators with respect to fuel sources, combustion processes, firing products and related residues.

Multidisciplinary attempts to decouple the complex interaction of environmental and social factors on fuel management deciphered from all archaeological records are most welcome. We suggest participants to particularly question our ability to tracing changes in the availability of fuel resources through time, and their repercussion on social behaviour for energy production and various uses (domestic households, manufactures, ritual and funeral practices).

B15-Social complexity in a long term perspective

(**Joaquina Soares** cea.maeds@mail.telepac.pt)

The purpose of this session is to actualize the debate about social complexity mainly on the field of prehistoric societies, as well as on a broad scope of the pre-industrial social formations.

So the ethnographic record can shed light on the archaeological domain. Case studies and theoretical presentations are welcome to articulate regional processes of political and economical transformations seen from the archaeological record to more general trends of cultural change, with anthropological components. Researchers from different continents would enrich the discussion with contributions from a huge variety of socio-political contexts:

From the origins of inequalities inside the Neolithic family nucleus, where the studies of the gender labour division are still not entirely explored, to the development of social stratification, which involved the rise of the state. Discourses of power and its mechanisms of legitimation, like those displayed by the European Late Bronze Age societies are central issues to be addressed in order to explain social organization and the increase of social complexity. Another important theme that could engage an interesting discussion would be the revaluation of the Iberian Copper Age.

Finally, this session is proposed to develop specific analyses about the role played by local salt exploitation, textile work, metallurgy and long distant interactions as key-factors of social complexity.

B16-Social complexity in the third millennium BC in Southern Portugal

(**Joaquina Soares** cea.maeds@mail.telepac.pt)

The author proposes a complex tribal organization model for communities that inherited their social kinship structure from the megalithic societies, at the first half of the III millennium BC, in Southern Portugal. This social and economical model began to collapse in the second half of the same millennium, as a result of the development of the arsenical copper metallurgy (copper-arsenic alloys) and craft specialisation.

The control of metallurgy made it possible for the elites to legitimate the accumulation of the political power, and gave them a coercive capacity to impose an unequal and very hierarchical social structure based on chiefdom.

This theoretical construction has been tested in the analysis of the settlement system at Triângulo da Luz (in the middle Guadiana valley), during the III millennium BC. The stratified social organization seems to be preceded by the chiefdom that raise in the second half of the III millennium BC and developed in the Bronze Age.

By the end of this period the chiefdom society reached it's most complex structure. In opposition with other authors, that defend the emergence of the state in the III millennium BC with a centre based in the lower Guadalquivir region, this paper proposes that the state took place in the South of the Iberian Peninsula only at early Iron Age, in the context of the orientalising process.

B17-Shepherds and caves

(**Josep Maria Vergès** jmverges@iphes.cat, Ethel Allué & Marta Fontanals)

Since the beginning of livestock farming, natural overhangs and caves were used by shepherds as shelters during their travels in search of pasture, as short-term pens for their herds and also for long stabling periods, when they were used as regular habitats for human groups. These activities built up a quite characteristic type of sedimentary deposit, mainly composed of livestock dung.

The high rate of sediment build-up generated by livestock and the repeated use of the same spaces over hundreds or even thousands of years has left many of these sites with powerful sedimentary series that span broad chronological periods, making them prime sources of archaeological records and high-resolution data on the nature and evolution of prehistoric agropastoral communities. Today, many of these deposits, known as pen caves, are being excavated and studied, especially in the Mediterranean area, and some of them have already or will soon become reference sites.

This session aims to bring together the researchers working in/on these sites, regardless of their geographic location and discipline, in order to pool the main problems that affect their excavation and study.

We will discuss the excavation and documentation methodologies used in this type of record, the wide range of studies that can be done and their potential. Key issues in the session will include, amongst others, herd composition and husbandry, the seasonal nature of the occupations, the human habitat-animal stable relationship, the impact of livestock husbandry on the environment and the identification of agricultural practices based on the study of these pens.

We intend to publish the articles based on the papers presented in this session in an international journal or a monograph.

B18-State of the art of the multidisciplinary research at Middle Pleistocene Qesem Cave, Israel

(**Ran Barkai** barkaran@post.tau.ac.il & Avi Gopher**)**

Qesem Cave is a Middle Pleistocene site in Israel, dated to 420,000-200,000 years ago and assigned to the the Acheulo-Yabrudian cultural complex (AYCC) of the Lower Palaeolithic Levant. The cave reveals a rich and well-preserved array of lithic and faunal remains as well as human teeth. It provides a good context in which to test hypotheses concerning the intriguing liaison between the environment, culture, and biology in the Middle Pleistocene Levant.

In this session we summarize a decade of research and present new studies in the fields of faunal analysis; lithic analysis; human dental remains; Absolute chronology; the human use of fire; Microvertebrate studies; sedimentology and stratigraphy and more in order to provide a better understanding of Qesem Cave in particular and the Acheuleo-Yabrudian Cultural Complex in general.

B19-Aquatic resource consumption by prehistoric humans

(**Dorothée G. Drucker** dorothee.drucker@ifu.uni-tuebingen.de & Yuichi I. Naito)

Aquatic resource procurement and consumption over the course of human evolution has raised an intense debate in regard to the cognitive capacities of prehistoric humans. Not only does the relative importance of aquatic resources as diet intakes shed light on the exploitation of aquatic ecosystems but also on the evolution of subsistence strategy of ancient hunter-gathers. However, detection of aquatic resource consumption is often challenging due to different archaeological and preservation biases. Effort to trace this type of food intake has led to the development of new approaches, including morphometric equations, stable isotope measurements, organic residue analyses, peptide mass fingerprinting, and ancient DNA analyses.

For this session, we would like to invite contributions that present significant case studies and technical developments in the fields of zooarchaeology (e.g., osteometry, skeletochronology), biogeochemical analysis (e.g., stable isotopes, trace elements, ZooMS, fatty acid analysis) and paleogenetics.

B20-Contexts without definition, definitions without context. Arguments for the characterization of the (Pre)historic realities during the neolithisation of the western Mediterranean

(**Iñigo García-Martínez de Lagrán,** contextosuispp2014@gmail.com, Esther López-Montalvo, Claire Manen)

One of the main aspects in the discussion of the neolithisation of any territory is the definition of the concerned contexts. This difficulty can be explained by the fact that no archaeological

element defines for itself the hunter-gatherer or farmer nature of the context. This is due to the fact that the presence / absence of certain archaeological elements respond to multiple factors: functionality of the deposits, interaction / exchanges between different groups, importance of the activities of subsistence …

The main goal of this session deals with the definition and characterization of these criteria that allow to distinguish, in an objective way, the different socio-economic situations of every context: farmer communities of colons, Mesolithic communities with evidences of the Neolithic "package" due to the exchange, "mixed" communities, in which the weight of the predatory and producing activities is similar, etc.

Traditionally, this approach has been achieved from the pottery and the lithic industry. Nevertheless, the characterization of these pre-historic realities must be approached in an integral way taking into account all the elements of material, economic, cultural and symbolic production. In this sense, we try to integrate in the discussion other arguments, as the stratigraphic and taphonomic analysis of these deposits; the discussion related to the settlement, the economic exploitation of territory resources, the funerary context, the social organization or the place of the art in the communities involved in the process of neolithisation.

Definitively, we pursue to offer a global vision of this historical process and to establish the criteria that define the different archaeological contexts, from an innovative approach. For that reason, we will give priority to the analyses that offer new methodological and theoretical points of view and approaches.

B21-Archaeozooiconology

(**Thomas Wyrwoll** t-w@gmx.com)

Since animals have been crucial to man during the entire course of evolution, animal depictions do naturally form a major subject of artistic expressions. Such depictions provide a wealth of information that is not accessible by other evidence. For the archaeologist, they form a key pictorial source for basic human activity, ranging from hunting over domestication and husbandry to religion. For the zoologist, they show morphological traits of animals which are almost never preserved otherwise, for example fur colour or the shape of a number of destructible body parts. Therefore, animal depictions form a major source for both cultural and natural history.

Papers on all aspects of animal depictions in archaeological art are invited. Though a focus will likely be given to archaeotherioiconology, i.e. depictions of mammals, as on the global scale this group of animals forms the major taxon being in regular contact with man, papers focusing on other kinds of animals are encouraged, too.

B22-Premonetary currency systems in past societies

(**Dirk Brandherm** d.brandherm@qub.ac.uk & Stefan Wirth)

The study of premonetary currency systems has been for ages an integral part of the scholarly attempts for a better understanding of the economic basis of past societies, and the calamities currently troubling the global economy have further fueled interest in this field. At the same time, the wide range of object categories employed as currency – including lithic and organic

materials, as well as metals and livestock – has led to a certain fragmentation of approaches and perspective. Hence, the purpose of this symposium is to provide scholars from around the world with an opportunity to explore common ground in their research and to develop a broad perspective that goes beyond the application of special-purpose approaches to the study of special-purpose currencies.

Problems and issues this symposium hopes to cover include, but are not limited to: identification of premonetary currencies in the archaeological record, the role of weight measurement systems in the development of premonetary currencies, the interrelationship between socioeconomic change and premonetary currency systems, the role of premonetary currencies in the transition from staple to wealth finance systems (and vice versa), 'prestige goods' economies and the ideological underpinnings of premonetary currency systems more generally.

B23-Beyond the reduction sequence: new insights in lithic technology

(**Sara Cura** 0saracura0@gmail.com, Eric Böeda, Stefano Grimaldi &Fabio Santaniello)

Nowadays, despite the application of numerous and diverse types of research technologies, the behavioral significance of lithic production variability has remained mostly unsolved.

One of the main reasons may be due to the current studies on lithic technology which tend to be more and more oriented toward a new "technological typology", replacing the traditional morphological one. The reduction sequence approach is mainly related to the reconstruction of the core life, without any justification or interpretation in terms of behavioral variability.

This tendency leads – similarly to the typological approach - to discard all the contextual peculiarities of a lithic industry.

The lithic artifact is the marker of an individual knowledge shared by a community. Then, a lithic artifact should be considered as a direct reflection of its cultural and natural environments. The technological approach – with its reconstruction of the "*chaîne opératoire*" - should consider a prehistoric lithic assemblage as a residual trace of the human behavior; a lithic industry has to be analyzed as a whole of technical choices and economical purposes which satisfy the needs of that human group living in that site in a given time. Then, we have to go further the simple reconstruction of the core life: we have to justify it. Without this identification, any reconstructed reduction sequence remains an empirical description just useful to better visualize collected data through a simple terminology.

Analogously, the use wear analyses –focusing on the functional life of the lithics – is lacking to observe an anthropological reality which goes beyond the artifact use and it is part of a larger technical system anchored in a regional scale.

Our working hypothesis is based on the following assumptions: a) if reduction sequences are a real adaptive tool elaborated by a human group, differences in environmental conditions should be involving technical variability; b) technical variability, leading to differences in the pursued objectives, is related to functional purposes which vary from site to site and in time according to variations in settlement/mobility strategies; c) technical objectives could differ from those items traditionally identified as "predetermined" by typological or technological analyses: a technical objective could be represented even by one or more techno-functional features characterizing different kinds of blank, whether technologically predetermined or not.

A true technological-functional approach is our goal to increase our perception on the adaptive significance of the lithics. We try to synthesize different but interconnected features such as Production and Preparation of the lithics as well as their Prehensile and Transformative edges.

If we missed this scale of observation, we risk to simplify our interpretation. For this reason, in this session, we hope to raise reflections on the mentioned issues through the presentation of contributions about study cases showing a true techno-functional approach.

B24-Innovation in the production and use of equipment in hard animal materials: origins and consequences in prehistoric Palaeolithic to Mesolithic societies

(Aline Averbouh averbouh@univ-tlse2.fr, José-Miguel Tejero, Nejma Goutas & Marianne Christensen**)**

Since the earliest stages of prehistory, humans have struggled to adapt to changing environments through the use of as many materials as possible that have been available to them. Amongst these materials, bone and other hard animal material in general played an important role, along with stone and probably other perishable materials as well, such as wood, which have not survived to the present day. Particularly during the Upper Palaeolithic, various bone materials (bones, antlers, ivory, teeth ...) were used as raw material for making much of the equipment used for processing, hunting and personal or "symbolic" ornaments, mainly because the economic and technological basis of Pleistocene hunter-gatherers revolved around the use of the entire faunal spectrum.

In recent decades, different lines of research into hard animal material industry from (initially typological, later technological and trace-functional) have expanded vigorously. Nevertheless, our understanding of production using hard animal material is still sketchy, as few studies have used the latter two approaches. Analytic equipment available for the last decade facilitates technological analysis on the same scale as studies that use the lithic technology approach. The challenge for the coming years is to propose a more realistic reinterpretation of prehistoric societies, contrasting established diffusionist chrono-cultural models (mainly based on lithic analysis) against data from bone industry in order to question the pertinence of our palaeo-historic reconstructions.

For this session, we propose an analysis of various aspects of bone industry, in particular the emergence and development of certain technical innovations which are considered to be a reflection of the evolution of societies, and which facilitate the identification of different cultural units that are structured via their technical systems. The analysis of innovative functional or technical events is thus one of the major thrusts of research into these non-literate societies as it allows us to understand how they changed the terms of a pre-existing system and -necessarily- led to their restructuring. The resulting new stability characterised a new cultural stage before once again, intra- or extra-social tension bred the conditions for new inventions. We hope that the invention/stabilization cycle mechanism can help to improve our understanding of the development and periodization of prehistoric societies. This broad issue has been studied by the members of the GDRE PREHISTOS (CNRS) for several years (www.gdreprehistos.cnrs.fr).

Two major conceptual inventions, one technical, the other functional, which are also the two major thrusts of research by the GDRE, the session's co-organizer, have been chosen to encourage debate at the Congress.

The first concerns ***débitage* by extraction**. *Débitage*, which is conceptually close to laminar knapping in stone industry, can produce similar standardized, artificial blocks, amongst which the best known is the rib or *baguette* (morphologically close to lithic flakes). This potential for identical mass-produced cores and subsequently objects, opened the way to standardized production that marked the evolution of certain bone categories such as spear tips.

The second innovation concerned the **production of bevels in hafting systems**. This functional invention played a major role especially for hafting projectile tips by ensuring greater adherence and flexibility between the item and the shaft.

While avoiding the risks inherent to an approach based on environmental determinism or a linear evolutionary perception of societies and the range of inventions that accompanied them, we aim to characterize these innovations and also understand the complex, multifactorial mechanisms that drove their development.

In order to enrich debate about this category of archaeological remains during the session, in addition to the two proposed issues, participants who lack material to discuss one of them can present the series they are working on using other angles or their experimental results concerning the exploitation of hard animal material. Communications covered by this "free" thematic line should nevertheless lie within the session's main thematic framework. They should therefore raise questions about sociological or economic phenomena (without discarding environmental factors that may be involved) which generated technical changes, inertias or continuities in the evolution of the prevailing *savoir-faire* in work on hard animals during the proposed period. The major changes (at all levels) that affected Palaeolithic and Mesolithic nomad communities is what led us to choose this chrono-cultural framework for this session of the 17th UISPP Congress.

B25-Looking at the sky, walking on the earth. Climatic changes and historical evolution in the Mesolithic and Neolithic of Western Europe

(**Mª Jose Iriarte-Chiapusso** cambiosclima.uispp2014@gmail.com & Iñigo García-Martínez de Lagrán)

In the last years, a number of researchers have studied the relationships between climatic changes and the social evolution in Mesolithic, Neolithisation process, and Neolithic times.

From continental level studies, these climatic events have been analysed in more specific geographical areas of Western Europe.

The main goal of this session will be to define and characterized these events and analyse their consequences in this period of the European Prehistory. Therefore, this session has two related different aims:

- Paleoclimatic: the starting point will be the definition of these paleo-climatic changes from Palynology, Anthracology, Sedimentology, etc.
- Historical: the implications and consequences of these events from an archaeological and pre-historical point of view, for example on the settlement patterns, on the technological development and evolution, or on the situations and realities during the Neolithisation process.

B26-The lithic issues of the Gravettian

(**György Lengyel** bolengyu@uni-miskolc.hu & Jarosław Wilczyński)

While the developing analysis techniques in the research of Palaeolithic reveals various details of the life of prehistoric hunter-gatherers, still, primary finds are the lithic artifacts. Shaping stones in the past required humans to obtain knowledge of stone properties, design, landscape, etc. Applying these resulted in the earliest technology of human kind. The environment in which humans live may be various, thus, so do the knowledge required and consequently the technology of shaping stones. Operating variously the lithic technology may have happened in societies which, according to our classification, belong to the same human culture.

How much does the lithic technology differ under various natural conditions within a culture, if it does at all? What does make the difference, if there is? Are there universal elements of technology, independent of subsistence conditions? The Gravettian culture is apt for studying the variability of lithic technology, because its archaeological remains are found all over Europe, in different conditions and availability of exploitable natural resources in the past. The session welcomes papers from the field of knapped lithic research, preferably from the domain of lithic technology. The papers must focus on the Gravettian. Thus, it is hoped to answer the questions above with discussing the data Europe wide.

B27-"Megalithic Biographies" Cycles of Use and Closure

(**Manuel A. Rojo-Guerra** marojo@fyl.uva.es, Chris Scarre & Cristina Tejedor-Rodríguez)

Traditionally, studies of the megalithic phenomenon have focused on its origin and expansion, or on the significance and function of its monumentality and its relationship with the landscape. The megalithic monument has been interpreted as a single event, without considering the successive phases of construction that may have been involved. Modifications made after the construction of a monument were interpreted in terms of deterioration or later intrusions. Megalithic tombs have, however, continuously been manipulated, destroyed and modified, in order to adapt their structures to new cultural contexts and to the needs of each period. The evidence reveals a periodicity in the development of the megalithic phenomenon, with moments of high constructional or destructive activity, followed by others of apparent inactivity, in a recurrent pattern that represents the continuous reimagining of these megalithic monuments.

Through these 'post-foundational uses' it is possible to define the 'life-histories' of megalithic monuments, which are indeed a complex superimposition of various reconstructions, removals and reuses accompanied by changes in both function and meaning. These 'cycles of use' can be documented by a wide range of events, such as destruction by fire, superimposition of different structures, dumping of stone or soil to prohibit access, addition of new architectural elements, etc. However, in many cases, the archaeological documentation of these processes is often difficult or even impossible to achieve.

The main goal of this session is to create a discussion group in which different researchers working on megalithic monuments can share their views, and to discuss the interpretative implications of this type of evidence.

Session Goals:

- To document the different **"uses"** and the different **"types of structural modifications"** that have been documented in megalithic monuments.
- To propose appropriate **archaeological methodologies** that can be employed to obtain a global view of the monument and of its constructional and/or destructive development, taking into account (a) the type of evidence resulting from these practices (remodeling, reconstruction, etc.), and (b) the understanding that these are not exceptional or occasional events but recurrent acts.
- To recognize the megalithic building as the **final result** of a long sequence of **"cycles of use"** and interventions by different agents, that we have to unravel.
- To identify the **obstacles** that will encountered in such a study, ranging from **terminological questions** (there is no standardization in the naming of the different practices) to **archaeological problems** (difficulties of dating some kinds of evidence or even of detecting particular events in the history of a monument).
- To discuss the **interpretative implications** of this type of archaeological event, since modifications to the original structure could be evidence of change not only in the use and meaning of the megalithic monument, but also in the socio-economic strategies or the religious ideologies and funerary beliefs of the successive user populations.

B28-Technology and the first agro-pastoral societies: ceramic manufacturing and decoration

(Dragos Gheorghiu alrsoaressan@gmail.com, Moustapha Sall, Luiz Miguel Oosterbeek, André Luís Ramos Soares & Jedson Francisco Cerezer)

The proposed communication session will cover studies of Neolithic pottery on three continents: Africa, South America and Europe, The speakers' experience will ensure a rich debate on recent research and analytical studies of ceramics, gestural techniques, different types of experimental archaeology and their results.

Ceramic studies can focus on the physics, chemistry and analysis of the clay, the definition of the raw material, the manufacturing methods and the gestures involved from the resource supply chains to the transformation of the clay into ceramic items at every stage of the production process. Recent research involving lab-based reproduction of production processes using replicas is yielding new lines of study that would not be possible using archaeological samples.

Debates on Neolithic pottery or ceramics on these three continents may well facilitate an aperture of research protocols and changes in approaches that spill across political boundaries. We also expect to improve our understanding about the way that human groups in the past, independently or otherwise, developed a close relationship with clay and expanded their creativity on the basis of ceramics.

At the same time, we want to look at the responses found in the past -and ways to rethink the present- in the production of ceramics and in cases where this knowledge has disappeared and cannot be ascertained by any other way.

B29-Bronze Age between Atlantic and Mediterranean: encounter between two worlds

(**Chris Scarre** chris.scarre@durham.ac.uk, Ana Cruz, Davide Delfino, Marianne Mödlinger & Ana Graça)

Cultural contacts, networks and trading connections between the Mediterranean and the Atlantic Bronze Age are, especially for the late Bronze Age, the topic of several papers (e.g. Sherratt 1993; Oliveira Jorge 1998; O' Connor 2008). Nevertheless, only few papers focus on metallurgical interactions as transfer of technologies, raw metal or metal object exchange (Giardino 1995; Brandherm 2007; Brandherm e Moscal del Hojo 2010).

Besides the difficulty of clarifying intensity, direction and impact of these reciprocal connections, an 'Atlantic culture' is hard to be defined (Oliveira Jorge 1998). Moreover, the fact that the Bronze Age chronology of the Iberian Peninsula does not rely on an as solid base as e.g. in the Mediterranean, the British Isles or northern France, the difficulties to reconstruct cultural contacts and the way they appeared are increased.

Nevertheless, the importance of the Iberian Peninsula for the relation between Mediterranean and Atlantic Bronze Age is without discussion. The goal of this session is to bring together scientists working on the Atlantic and Mediterranean Bronze Age in order to discuss the role of the Iberian Peninsula as an active centre between these two worlds.

The presentation of the most significant and newest data on the distribution of metal objects, the transfer of technology, the diffusion of ceramic styles, as on problems and dynamics of funerary rituals and trading of raw materials will contribute significantly to a better understanding of the Atlantic-Mediterranean relationship and the role of the Iberian Peninsula during the Bronze Age.

B30-A diachronic perspective of human behavioural adaptations to interglacial lakeshore environments during the European Pleistocene to early Holocene

(**Sabine Gaudzinski-Windheuser**, Alejandro García, Jarod M. Hutson, Lutz Kindler, Geoff M. Smith, Elaine Turner, Aritza Villaluenga villaluenga@rgzm.de)

During the course of human evolution, we have successfully adapted to various environments. Changing climates and landscapes often required new behavioural strategies for survival. To understand the complex and interdependent relationship between particular behavioural adaptations and specific environmental conditions it is first necessary to identify relevant levels of comparability, providing a solid foundation to contextualize the archaeological record as a product of behavioural adaptation. The use of different strategies in similar environments during different periods can illustrate how human behaviour evolved over time.

Here we consider human behavioural adaptations to European interglacial environments, beginning in the Middle Pleistocene. Such sites offer favourable conditions for the preservation of archaeological remains and high-resolution ecological archives. Frequently, these records have been recovered near to freshwater sources (lakes, springs, rivers etc.), which provided attractive, well-known locations for the procurement and butchering of animals, lithic provisioning and occasionally more permanent visits. Adaptation to warmer climates was not formulaic, nor do all freshwater sites during interglacials reflect the same patterns of behaviour. Climatic oscillations within interglacial periods elicited different behaviour as a consequence of adaptations to unique environmental conditions and the availability and distribution of local resources. We expect however that these adaptations are also based on inherent behavioural strategies developed over long cultural histories which are independent from the environment.

Thus, it is our aim to collate and understand the importance and attractiveness of freshwater localities as focal points for human behaviour during interglacials. In this comparative session, we intend to explore the complex relationship between environmental influence and patterns of behaviour using equivalent case studies and high resolution archives from European Middle Pleistocene through to early Holocene contexts. The ultimate goal is to evaluate how survival strategies in similar environmental situations evolved throughout the course of our history.

It is intended to publish papers presented in this session in a premier monograph series with a high visibility.

B31-Prehistoric Warfare: experimental and analytical approaches

(**Andrea Dolfini** andrea.dolfini@ncl.ac.uk, Ben Roberts & Christian Horn)

The last twenty years have seen a renewed interest in the study of prehistoric warfare including, among others, (1) examinations of the combat injuries detectable on human skeletons; (2) body-centred reappraisals of the image and self-understanding of the prehistoric warrior based on funerary evidence and rock art; (3) martial-art approaches that have tested possible uses of prehistoric weapons and armour in combat experiments; (4) and use-wear analysis of the combat marks visible on prehistoric stone and bronze weapons.

Despite the giant leap forward made by the discipline in the last two decades, two overarching problems still loom large in prehistoric combat studies: experiment design and the formal analysis of wear marks. The first problem encompasses a number of unresolved questions concerning how researchers can meaningfully design laboratory and field experiments using long-disappeared weapons and long-forgotten fighting styles. The reliance on historic (usually late and post-Medieval) and ethnographic sources is widespread in ancient combat studies, but the extent to which these may reflect prehistoric combat is presently unclear. The second problem involves the dearth of replicable analytical protocols and procedures for the use-wear analysis of ancient weapons and armour, and the lack of shared databases of combat marks. The problem here is that the absence of an open debate about how wear studies should be conducted and published makes the analytical results poorly comparable with each other. Both problems, together with the lack of targeted super-regional osteological studies of combat injuries, make it difficult to answer pressing questions regarding the nature and frequency of interpersonal violence in prehistoric times, and how fighting techniques might have changed from the Palaeolithic onwards.

The papers presented at this session will seek to explore problems concerning warfare and combat in world prehistory from the Palaeolithic onwards, paying special attention to (1) how to conduct research-oriented field and laboratory experiments with replicas of prehistoric weapons and armour; (2) how to approach the analysis of the combat marks detectable on stone, bone and metal weapons and armour; (3) and how to examine osteological markers of interpersonal violence in order to address specific questions regarding the frequency and intensity of prehistoric combat, and the use of identifiable fighting styles.

B32-Rock art and pigment analysis

(**Martí Mas** mmas@geo.uned.es, Mónica Solís, Racso Fernández & Alberto Jorge)

During the last decades pigment analyses of prehistoric rock paintings have become widespread.

The combination of different physicochemical techniques and theoretical and methodological approaches has made it possible to determine raw material sources, operational sequences, paint composition, taphonomic processes..., which in certain cases can also have chronological implications.

Nevertheless, because this field is relatively new, there are few studies that delve into the characterization and identification of the increasingly probable binders (technical difficulties, high degradation...).

We invite and encourage the participants in this session to debate around the different studies (pigments, binders, rock surfaces, patinas...), the most recent methodologies, scientific instrumentation..., taking into account the state of the current issue and the future prospects of this line of research.

B33-Environmental and cultural development during the Lower and Middle Palaeolithic in the Syrian Desert

(**Jean-Marie Le Tensorer** jean-marie.letensorer@unibas.ch, Reto Jagher, Dorota Wojtczak Fabio Wegmüller & Hani Elsuede)

Despite its unfavourable environmental condition the arid Syrian Desert was inhabited throughout the whole Palaeolithic period. While a narrow strip along the mountains on the Mediterranean coast benefits from abundant precipitation preserving the typical Mediterranean vegetation, extensive plains with arid steppes and deserts prevail over the central part. Within a few kilometres drastic changes occur from suitable conditions for bountiful subsistence to a harsh and monotonous environment. Research focussed on the promising areas along the coast and alongside the banks of the Euphrates River because it was thought it unlikely that Palaeolithic hunters and gatherers would have faced the challenge of settling inland. Emerging evidence over the last decades however showed quite a contrasted picture of human behaviour during the Palaeolithic in the Middle East.

Since the very beginnings of human presence in the Levant, i.e. more than 1.5 my ago, people not only occupied favourable zones but regularly ventured deep into less welcoming environments suggesting an astonishing flexibility in their behavioural and survival skills. Such cultural adaptation can be observed throughout all periods of the Palaeolithic of the Levant as a cultural border never existed between the two ecological settings. The same cultural traditions regularly moved back and forth from the lush coast deep into the dry inland area without any noticeable change in their material culture.

Intensive field investigations have brought to light permanent and dense settlement patterns in the desert and steppes of the Levant. Natural springs made it possible for humans and animals to live in the Syrian Desert. Many of these wells depended on deep aquifers and hence were independent from coeval precipitations, explaining the exceptionally long occupation sequences regularly present at such sites. These particular conditions permitted survival not only during wetter periods of the Pleistocene, but also under less favourable global conditions. Some of these sites show an unexpected dense and nearly uninterrupted occupation throughout the whole Palaeolithic. Such minute and fine stratigraphies are exceptional within such limited areas in Pleistocene Archaeology (e.g. El Kowm, Syria or Azraq, Jordan).

This session aims at presenting results of research carried out by different teams within the last decades. Chronology, environmental changes, cultural development and human adaptation will be discussed in a multidisciplinary approach synthetizing results from a variety of fields including archaeology, geoarchaeology, paleobotany, paleontology and micropaleontology in addition to proxy data for paleoclimate and environment as well as discussions about archaeological models such as human movements and settlement patterns.

B34-Archaeometry approaches regard the study of networks of trade in raw materials and technological innovations in prehistory and protohistory

(**João Carlos Baptista** jbaptist@utad.pt, Davide Delfino & Paolo Piccardo)

In the last twenty years the archaeometric investigations on lithics, metals, ceramics, bones, glassy materials have given a great impetus to the understanding of the pre- and proto-historic societies**.** A deeper knowledge on technologies, trades, strategies for procurement of raw materials has been established. Traceology in the flint Paleolithic technology, green stone archaeometry in the Neolithic polished axes, OCP-OES, Metallography, Lead and Tin Isotopes in copper base alloys in the Bronze Age, petroscopy and XRD in ceramic slimming and clays, are only some examples among the most recent.

The bibliography produced so far is the result of the application of such evolution of the investigation process and testify the evolutition in the understanding of innovation strategies, optimization of raw material, beneficial business relationships and adaptation strategies. One the main issues from a deep knowledge of the past is a better understanding of the present and a wiser planning of the future. Among all the research objectives pursued by these archaeometric applications two strands seem to show a stronger appeal and a higher potential for discoveries: 1) trade networks of raw materials where it is known the need for a refining process; 2) technological innovation, less common topic deserving an important place in the archaeological investigation to understand the evolution techniques per each material. At this session will attend researchers whose work dealt with these topics with the aim to make a point of the actual situation and to open a discussion about new archaeometric and archaeological strategies.

B35-Paleolithic Archaeozoology: Advances on hunter-gatherer's subsistence

(**J. Carlos Díez Fernández-Lomana** clomana@ubu.es & Jean-Philip Brugal)

During the last years, archaeozoological studies carried out on palaeolithic assemblages have shown a great improvement in several topics of special interest regarding the subsistence behaviour of ancient human societies, the development of economic systems and social and territorial structure of different hominid species evolving during this long time period.

The studies about the scavenging, food-sharing, role of small-game preys, exploitation of aquatic and aerial resources, anthropophagy, origin of specialized hunting, collective apprehension of herds, site functionality, intensive use of preys, differed consumption, interaction with other predators, or change of faunal spectra related with the environment are some of the topics that fit well with this session.

Taphonomical studies, experimental archaeology and ethological and ethnological information have provided a great amount of new interpretative procedures about past human societies which need to be updated.

On the other hand, theoretical and methodological perspectives applied to the study of the way of life of prehistoric human groups also requires further analysis, discussing the independence degree of economic and social decisions that these groups adopted in every circumstance and time. This session aims to propose integrated approaches allowing new insights about the livelihoods of Palaeolithic human groups whatever the geographical area and the chronology concerned.

B36-Analysis of the economic foundations supporting the social supremacy of the Beaker groups

(**Elisa Guerra Doce** elisa.guerra@uva.es & Corina Liesau von Lettow-Vorbeck)

The Bell Beaker phenomenon is one of the most fascinating horizons in European Later Prehistory, due to its vast geographical distribution, the intrinsic value of its most distinctive artefacts, or its alleged connection to an incipient social elite. This privileged minority might make up an aristocratic group, as evidenced by the richness of their tombs.

It is widely accepted among scholars that the Beaker package should be better interpreted as symbols of power that were common to socially prominent individuals by mid/late 3rd millennium BC. The proximity of Beaker sites to natural routes of communication suggests that exchange networks might have been kept under the control of Beaker groups. However, the economic foundations that helped those individuals to gain their social status are poorly known.

The aim of this session is to examine this issue on a European scale. Rather to study the Beaker package itself, we shall focus on the items and raw materials under the monopoly of Beaker groups that might have been exchanged through those networks (such as cinnabar or salt, among others).

B37-Lithic, Evolution, Science

(Mark Collard mcollard@sfu.ca & Steven L. Kuhn**)**

For the last 30 years, the study of stone tools has been dominated by two approaches, the technological organization approach developed in North America, and the *chaîne opératoire* approach pioneered by European scholars.

These perspectives on lithic analysis have yielded many important and interesting findings. However, they are poorly equipped to deal with questions arising from applications of Darwinian evolutionary theory to archaeological questions. In recognition of this, researchers in both Europe and North America have begun to develop new ways of thinking about and analyzing stone tools intended to complement or, in some cases, replace the technological organization and *chaîne opératoire* approaches.

These new approaches operate at a range of different scales of analysis, from studies of the mechanics of flake production to models of technological variation at the scale of entire continents. The goal of this USIPP 2014 symposium is to bring together the leading exponents of these novel approaches to lithic analysis, in order to identify areas of overlap

and difference, and to work towards developing a more synthetic approach to the study of stone tools that encompasses all scales of analysis.

B38-Advances in the dating of human dispersals, interactions and extinctions in the Palaeolithic

(**Katerina Douka** katerina.douka@rlaha.ox.a.c.uk & Rachel Wood)

Chronology underpins many of the major questions in prehistory, providing a framework on which to compare different technological and biological assemblages, and environmental records. These accurate frameworks are crucially important if we are to understand issues relating to human evolution, for example, the extinction of archaic hominins, early modern human dispersals and the interaction between these populations. However, the establishment of a refined chronological framework covering the Middle and early Upper Palaeolithic period, or Middle and Late Stone Age, has been very challenging, lying at or beyond the limit of the radiocarbon dating technique and therefore requiring a suite of other dating methods to be used.

Recent years have seen numerous exciting developments in chronology building. Existing techniques have been improved, for example, new pretreatment methods increased the accuracy of radiocarbon dating in the Pleistocene and the use of LA-ICPMS drastically increased the efficacy of U-series dating of bone. New methods have been developed or adopted from other fields, for example, tephrochronology provides chronological tiepoints, and statistical methods have been refined to combine individual dates into large chronological frameworks. Finally, large-scale projects examining the chronologies of multiple sites or regions to answer single archaeological questions, undertaken through close collaboration between archaeologists and dating specialists, are becoming increasingly common and are often extremely fruitful.

In this session we will focus on issues concerning recent developments in the dating of material from OIS3 from the Levant, through Europe, Asia and Island South East Asia to Australia. Central to the session will be the discussion of the impact recently developed methodologies had on the accuracy of Palaeolithic chronologies. Papers presenting recent results from the period and their archaeological significance would be of interest and reviews discussing previous dates from specific sites or regions are particularly welcomed, especially if there are new data showing the problems previously encountered.

B39-Paleoanthropological debates on Human Evolution

(**Ignacio Martínez** ignacio.martinezm@uah.es, Rolf Quam & Carlos Lorenzo)

In comparison with the archaeological record, fossil human remains are more scarce, but they provide direct information about our evolutionary ancestors. The Sierra de Atapuerca contains several sites with human remains documenting human evolution in Europe from the arrival of the first immigrants to the present day. The objective of this session is to highlight the current debates and the latest advances in paleoanthropological studies on various aspects such as taxonomy, paleobiology, mechanisms of evolution, population dynamics, etc. with special attention to human evolution in Europe.

B40-Cleaning up a messy Mousterian: how to describe and interpret Late Middle Palaeolithic chrono-cultural variability in Atlantic Europe

(**J.Ph. Faivre** jp.faivre@pacea.u-bordeaux1.fr, M. Frouin, A. Turq & E. Discamps)

Atlantic Europe is an ideal area for the study of Mousterian cultures. Years of previous research, an abundance of information, and numerous absolute dates today provide sufficient resolution for addressing the socio-economic variability of Neanderthal groups across this vast territory (Iberian Peninsula, France, Belgium, Holland, and Great Britain).

Over the last few years, research concerning the Western European Middle Palaeolithic has benefitted from a substantial increase in available data. Numerous excavations, both research oriented and in rescue contexts, combined with collaborative projects have made a decisive impact on our understanding of the dynamics of Neanderthal populations. This includes the definition of regional techno-cultures, identifying pedostratigraphic idiosyncracies and paleoclimatic differences between regions, the documentation of diachronic and synchronic variability, and refining the resolution of particular chronological markers.

It now seems necessary to assess this new information in order to (1) re-discuss the criteria solicited to define lithic techno-complexes (LTC) and (2) question and refine their chrono-cultural and socio-economic significance in Western Europe. Relevant Issues articulate around several different inter-connected questions. What is the significance of singular or coexisting production systems within LTC ? What do synchronic and diachronic trends evident in LTC from North-west and South-west Europe mean? Does each LTC follow a specific model of techno-economic organisation, and what factors (cultural, environmental, etc.) underlie this organisation?

This session will focus on general chronological, regional, and palaeoenvironmental syntheses concerning the characterisation of lithic techno-complexes based on pertinent techno-economic information.

B41-Archaeology of the Mesolithic in Europe: the Significance of Fen and Bog Sites

(**Lars Larsson**, Harald Lübke harald.luebke@schloss-gottorf.de, John Meadows & Nicky Milner)

The purpose of this session is to bring together specialists who work on fen and bog sites dating from the end of the last Ice Age to the introduction of farming. Sites of this period are very rare, so there is a strong rationale to focus on bog sites, which, with excellent organic preservation, provide a unique insight into past lives.

Interdisciplinary collaboration and cutting-edge scientific methods are enabling high-resolution palaeoclimatic and palaeoenvironmental modelling to be used to discover how people reacted to and adapted to severe climate changes at the end of the Ice Age and in the early Holocene. The wonderful preservation of organic materials means that these sites are ideally suited to the application of Bayesian chronological modelling methods for the interpretation of radiocarbon results.

We would therefore like the session to focus on papers that connect regional/local environmental databases to the archaeological record, or which discuss the chronological modelling of Stone Age bog sites in more detail. However, papers that present new results of

investigation of Stone Age bog sites from a wider perspective are also welcome. We anticipate that through discussion of the various themes, the session will broaden our common knowledge of these archaeological resources, stimulate the growing interest of the scientific community in new areas of research on bog sites, and foster collaboration on an international level.

B42-The adoption of pottery in Prehistory

(**Julien Vieugué** archeojulien@hotmail.com & James Skibo)

The adoption of ceramic vessels is one of the most important technological transitions in the history of prehistoric societies. It had significant impacts on the dietary habits, technical practices, funeral rituals and many other socio-economic activities of ancient populations (Barnett & Hoopes, 1995). Archaeological research has revealed the existence of several independent inventions of pottery at different time periods. Pottery thus appears in East Asia at 18,000 cal. BC. (Wu *et al.*, 2012), in West Africa around 10,000 cal. BC (Huysecom *et al.*, 2009), in Near-East around 7000 cal. BC (Nieuwenhuyse *et al.*, 2010), in North-America around 2500 cal. BC (Sassaman, 1993) and in Oceania around 1500 cal. BC. These independent inventions of ceramic containers were followed in many parts of the world by its adoption, so that in a relatively short time period it becomes the most common artifact found at archaeological sites.

If we generally know where and when the pottery appeared, we still ask about why this new technology developed (for instance Conroy, 2008). Our session aims to investigate the various reasons for the adoption/invention of pottery. To achieve this goal, we intend to bring together various researchers who have worked on the function of the first fired clay containers within different regions. Over the past fifteen years, there has been remarkable progress on pottery use-alteration traces (residues, carbonization, and attritions) that has enriched the debate about the emergence of pottery (Skibo and Blinmann 1999; Craig *et al.*, 2013). The comparison of various archaeological case studies will allow us to highlight the differences and similarities regarding the actual use of ceramic vessels and, thus, offer a comprehensive reading of the historical phenomenon.

B43-Testing social behaviour with novel approaches in the Prehistoric mortuary record of Iberia

(**Domingo Carlos Salazar-García** Domingo_carlos@eva.mpg.de & Oreto García Puchol)

This session aims to bring together specialists that work in prehistoric mortuary contexts throughout the Prehistory of Iberia, applying novel methods and techniques in order to understand better our past. During the last years, new methods and techniques (isotopic palaeodietary and provenance studies, ancient DNA analyses, plant microfossil studies, new chronological models) are contributing significantly to our understanding of the prehistoric funerary record in the Prehistory of the Iberian Peninsula by supplying new explanatory mechanisms to recreate social behaviours from prehistoric funerary contexts. The goal of this session is to provide a current state of the research about prehistoric mortuary contexts and their potential to provide information on social behaviours. We have chosen to give the session a diachronic perspective, from the Palaeolithic up to the end of the Bronze Age, to be

able to assess the contribution of these novel techniques in better understanding the evolution of prehistoric socioecological dynamics in the region of Iberia. Papers applying a multi-approach perspective to their questions, as well as those introducing their results into a broader discussion at the macro-regional level, are encouraged.

B44-Within ditches and walls. Settlements, fortifications, enclosures, monuments, villages and farms in the third Millenium BCE

(**Victor S. Gonçalves** vsg@campus.ul.pt & Ana Catarina Sousa)

In this sense, walls and archaeometallurgy began as the founders evidences of the concept of 'Chalcolithic' in Iberia. Since the mid-20th century, habitats with walls have assumed a central place in the interpretive models for the Chalcolithic. Today, places with walls are interpreted in very different ways in terms of origins, functionality and meanings. Apart from the theoretical perspective, the recent discoveries of numerous large sites with ditches, changed the frame of reference in which the fortified settlements where located. The participants in this session will discuss the issue of dynamics, meanings and interpretations of the first earth and stone walls in the prehistory of Iberia over the remaining archaeological records, particularly in the villages and sites with ditches.

In this session will be included different perspectives on the theme of earth and walls:

1. short monographic studies on monuments and sites;
2. architectures;
3. different fillings: the structures of everyday life;
4. structures of exception;
5. relative and absolute chronologies;
6. ditches and fortifications: networks of settlement;
7. modes of use: theoretical models;

In this session, these concepts will be discussed openly, including the various interpretive perspectives.

This session will be primarily directed at the scale of the Iberian Peninsula with, if necessary, a broader scope.

B45-Chronological methods for Palaeolithic sites: New approaches to old problems

(**L. Arnold** lee.arnold@cenieh.es, M. Duval, D. Hoffmann & J.M. Pares)

Dating Paleolithic occupations is crucial in archaeology, as it provides the temporal dimension which is essential to position a site in a global framework. The application of chronometric techniques has significantly affected our understanding of the Palaeolithic record, and increasingly better-defined age estimates based on chronological methods are indispensable to any interpretation of the archaeological record.

This session is open to geochronologists, specialists and practitioners of dating methods such as Uranium series, Luminescence, Argon-Argon, Palaeomagnetism, Electron Spin Resonance, Radiocarbon, Terrestrial Cosmogenic Nuclides, Amino acid racemization, Fission track, Biochronology, etc. Contributions may be either focused on recent advances and potential of new techniques, or case studies. New developments of established techniques,

or novel approaches, as well as intercomparison studies between independent chronometric methods are particularly welcome.

B46-Iron Age communities in Western-central Europe: new approaches to landscape and identity

(**Gonzalo Ruiz Zapatero** gonzalor@ghis.ucm.es & Manuel Fernández-Götz)

The aim of this session is to explore new approaches to the protohistoric societies in Western-Central Europe, from Bohemia in the east to the Iberian Peninsula in the west. The first millennium B.C. was a milestone in the development of communities at the end of the prehistory, and witnessed a range of new phenomena with profound socio-historic implications: the development of the first townships, the expansion of trade networks, migration and hybridization, growing social hierarchies, the first minted coins, progressive spread of writing, etc.. The theme of the session will be two of the research areas that have burgeoned most in recent years: landscape archaeology and the analysis of identity in its different aspects.

B47-Star images in the art of the Celts and their ancestors

(**Venceslas Kruta** vkruta@sfr.fr)

The stars, described poetically in the Rig-Veda as the "eyes of the Night", have intrigued humanity since time immemorial. The first references to the earliest calendars date back to the Palaeolithic, but even they are undoubtedly the result of thousands of years of observation and previous memorization of information.

Tens of thousands of years later, the Celts possessed a highly evolved system of identifying the stars and their movements, which they interrelated to the major annual astronomical events. This knowledge was transposed pictorially in many different -and more or less easily identifiable- forms. The most eloquent set, from the early 3rd century BC, shows the ritual pitcher of Brno, one of the most representative works of Celtic art. Its design clearly shows that it was designed on the basis of coherent, highly elaborate scientific data, and that its roots must therefore be sought in earlier periods.

The identification of constellations using animals, primarily the Zodiac, is extremely old in Europe. Experts suggest that it originated in Palaeolithic paleoastronomy in the case of the Big Dipper, but was probably mostly developed in the Neolithic.

A parade of twelve animals, clearly divided into two parts, winter and summer -now presented in the form of a ram-, has been known since the 7th century BC. This exceptional sequence shows that elements of an Asian origin are related to animals that were unknown in the zodiac of this origin. The ancient existence of a probable European zodiac sequence thus opens up new perspectives for the interpretation of images from ancient European sources prior to the use of writing.

B48-"To come, to go, to stay": ancient DNA and C/N and Sr isotopes analyses as indicators of human relationships during the Holocene

(**Manuel Ángel Rojo Guerra** marojo@fyl.uva.es, Rafael Garrido Pena & Kurt W. Alt)

The development of analytical techniques of ancient DNA and C/N and Sr isotopes is giving abundant and very interesting information, especially in the last years. They are showing evidences about the relationship between different populations in ample geographical and temporal frameworks. This is particularly important when studying crucial and widespread archaeological phenomena such as, for instance, the Neolithisation or the Bell Beakers in the Copper Age of western Europe.

Mitochondrial DNA studies produce insights on the general dynamics of populations during ample chronological periods and huge geographical areas, C/N isotopes inform about basic dietary aspects of past societies and individuals, and finally Sr isotopes help detecting displacements of certain individuals during their lifetime. The application of all these techniques together gives very interesting data about both the demographic dynamics of groups and the personal biographies of certain individuals.

The recent development of international research projects made it possible to analyze very important amounts of samples from different chronological periods of the Holocene prehistory. All this together brings new possibilities to contrast and compare the results and hypotheses obtained from the archaeological analysis of material culture. Important aspects can be understand in this new light such as the actual demographic significance of the Neolithisation versus the role of the Mesolithic indigenous groups, the relationship between Bell Beakers extension and the movement of populations/individuals (travels, marriage exchanges, etc.).

The session aims to gather the most recent and innovative works amongst the ancient DNA and C/N and Sr isotopes analyses made on human bones, and compare and contrast them with those coming from archaeological analyses of the material culture to produce holistic, coherent and rigorous scientific discourses about important problems of the Holocene prehistory.

Goals:

- Debate on the actual validity and reach of ancient DNA and C/N and Sr isotopes analyses to determine the movement of groups and individuals.
- Propose adequate methodologies (type of samples, their quality and amount) to offer interpretative conclusions with true scientific significance.
- Present the most recent works about mitochondrial ancient genetics and isotopes studies on Holocene samples.

B49-Mediterranean Island occupation during the Pleistocene

(**Nellie Phoca-Cosmetatou** nehp100@cam.ac.uk & Ryan Rabett)

Islands constitute major evolutionary and ecological forces in human evolution. They provide an ideal setting to explore the dynamics of hominin behavioural adaptation, not least through the interplay between their geographical isolation and cultural connections. The ability to exploit islands has been the subject of considerable recent attention as it involves technological advancements, a widening of subsistence habitats, scheduling and demographic expansion. Moreover, island occupation, maritime activities and the origin of seafaring have often been closely tied to the emergence of modern human behaviour (e.g. colonisation of Sahul).

Although the Mediterranean is one of the most archaeologically studied areas of the world, there is still great uncertainty surrounding the extent and nature of human presence on

islands during the Pleistocene. The exploration of a pre-Neolithic human presence on Mediterranean islands has only recently begun to emerge as a field of enquiry, through a theoretical shift in research priorities, and a methodological re-orientation towards ecologically- and geologically-informed models for survey and site identification. This shift has led to successfully identifying both a Mesolithic island prehistory, as well as some of the most compelling Palaeolithic evidence to date (including Cyprus and Crete), which few anticipated existed in the Mediterranean.

This session aims to bring together scholars working across the Mediterranean islands to discuss both theoretical expectations and methodological advances. We would like to invite contributions that may focus on new finds, significant case studies, new techniques and models, as well insights from taphonomy, ecology and genetics.

B50-Paleoenvironment and early cultural dynamics in the Maya area

(**Marcos Noé Pool Cab** marcos.pool@uady.mx)

The Maya area has been regarded as one of the world's most important cultural regions. The greatness of cities such as Chichén Itzá, Uxmal, Tikal and Calakmul, to name just a few, make this one of the regions with the greatest political and cultural development in the Americas in pre-Hispanic times.

For many years, traditional historians placed the beginnings of the Maya culture in the Middle Preclassic or Formative period (800-400 BC). However, a large amount of archaeological research over the last 20 years has led to the conclusion that a sufficiently consolidated and advanced culture already existed before this period, suggesting another initial period. If an established civilization was already in the Maya area around 800-400 B.C., what happened in that area previously?

This symposium aims to open a framework for discussion amongst specialists interested in Pre-Maya times, which could be considered as the Palaeo-Indian (40,000 BC to 10,000 BC) and Archaic (10,000 BC-2500 BC) periods.

In this symposium, we will try to arrange, understand and discuss various archaeological, palaeontological and palaeoenvironmental aspects of the Maya region and South-eastern Meso-America prior to the vigorous upsurge of the Mayan civilization. Discussion will therefore be open to issues concerning technology, food, worldviews, resource exploitation and a wide range of cultural aspects related to the environment and the climate changes that took place in this region before the Maya culture appeared and developed to the extent known today.

B51-Reconstructing human mobility in the Palaeolithic: building new frameworks

(**Rebecca Wragg Sykes** rebecca.wraggsykes@u-bordeaux1.fr & Julien Riel-Salvatore)

Despite the fact that mobility is a central concern in our reconstructions of human behaviour in the Palaeolithic, there has been remarkably little critical discussion of what we mean by this concept, how we identify it and how to develop robust frameworks of knowledge we can use in the process. This session aims to assess the current state of knowledge and practice, as a step to building coherent and robust structures for enquiry. We hope to stimulate debate and strengthen inter-disciplinary networks that will enable us to integrate and more productively

deal with new forms of data becoming available, from stable isotope analysis of human movements to ever-more detailed lithic sourcing.
We welcome submissions on the three following themes, either as case studies of on-going research approaches, or as more theoretical considerations of these questions:

1. What frameworks and proxies are researchers currently using to analyse and measure past human mobility? Have we developed any further than a traditional 'logistical/residential mobility' dichotomy? How can we distinguish exchange vs. mobility in the Palaeolithic?
2. To what extent and how are ethnographic data and faunal models appropriate frames of reference for the Pleistocene? Or is the Palaeolithic genuinely non-analogue? Where does that leave us?
3. Why is understanding Palaeolithic mobility important? What non-trivial dimensions of prehistoric life does it allow us to explore? What models are being built to propose social networks/cognition based on mobility, and what are their empirical bases? What does "local" mean, and why is it often implicitly considered as evidence of more limited cognitive capacities?

In order to ensure that discussion does not focus primarily on the lithic record, we especially welcome contributions from colleagues working in faunal, stable isotope, aDNA, ethnographic and anatomical fields of research from both Old and New World contexts.

B52-How far is it possible to compare Europe and continental Asia? Focus on Middle Pleistocene. Track record and perspectives.

(**Amélie Vialet** vialet@mnhn.fr, Sophie Grégoire & Christophe Falguères)

In Europe, the long sequences spread on Middle Pleistocene, as the Arago cave in Tautavel and the Gran Dolina site in Atapuerca, provide with the possibility to study the continuity of settlement of a territory, the variability of the technical behaviors and the climatic and environmental changes. In Asia, except in the Zhoukoudian cave, due to geographical, geological reasons and because of the history of the researches, the stratigraphic records are often shorter corresponding to more sporadic information. However, everywhere, discoveries have increased and scientific exchanges are now more dynamic between the East and the West of this huge area.

What can we say now on prehistoric data available on each side of the so-called Movius line? Which are the connections between Europe and Asia identified in the main Middle Pleistocene sites based on the migrations of fauna, the technical behaviors and the cultural traditions? Can the cultures with handaxes, known within the Old World, be used as a guide-line to better understand the Prehistory of Eurasia? How can Asia contribute to the debate on *Homo heidelbergensis*, which is more often limited to Europe and Africa? On a more restricted area, can we assess continuity and discontinuity in the Eurasian settlement?

As many questions for which original contributions are expected, from different disciplines (geochronology, paleontology, paleo-anthropology, prehistory…), carrying out diachronic approaches within a site or comparisons between sites in order to draw up a review of our knowledge and to define scientific orientations for the future.

B53-The archaeology of early fire use

(**Mareike C. Stahlschmidt** mareike.stahlschmidt@uni-tuebingen.de & Christopher E. Miller)

The beginning of the use and control of fire is one of the central and most debated topics in archaeology. Fire making, and its use and control would have provided early humans with a range of crucial advantages: a light and heating source; a hunting aid; protection from predators; improvement of tool technology; increase of food range, its nutritional value, and preservation; and cleaning of occupation surfaces. Fire therefore plays an important role in technology, social organization, subsistence, manipulation of the environment and would have shaped human behavior and possibly even human morphology. Claims for the first use and control of fire were made from the Lower Paleolithic at such important sites as Chesowanja, Koobi Fora, Schöningen, Swartkrans and Zhoukoudian among others. James and colleagues (James, S.R., *et al*., 1989. Hominid Use of Fire in the Lower and Middle Pleistocene: A Review of the Evidence. *Current Anthropology* 30, 1-26) questioned and rejected most of these claims through a critical evaluation of the archaeological record. Since then many new claims have been made for the earliest evidence of the use, control and making of fire and many new methods have been introduced to field to answer this question.

This session is aimed at a reevaluation of the archaeological record of early fire. 25 years after James' call for a critical evaluation of the archaeological record of early fire, we ask where the research on early fire now stands? What methods are employed? Can these new methods really answer when humans began using, controlling and making fire? What does the present archaeological record of early fire tell us about human behavior?

We invite participant to present novel methods for the investigation of early fire, to present sites from all over the world and to present new theoretical approaches.

B54-Genetic analysis of modern and ancient samples

(**Jaime Lira Garrido** uispp14.genetics@gmail.com & Juan Luis Arsuaga)

Genetics has become one of the areas in the study of human evolution, ancient migratory movements and Prehistory in general. The analysis of modern DNA from human populations and different domestic taxa has contributed to the knowledge of the distribution of current haplogroups, expansions and possible dispersal routes, and the genetic input of some communities into others.

In a similar way, the genetic analyses performed from fossil and ancient samples have greatly increased the understanding about the evolutionary biology of a large number of species, and its subsequent development into different cultural periods.

Recent advances of Next Generation Sequencing (NGS) technologies have increased the amount of genetic information of modern and ancient samples by many orders of magnitude, and have allowed the sequencing of mitochondrial and nuclear genomes from various extant and extinct species. Using NGS, signals of hybridization between our species and other archaic hominins have been identified.

Moreover, the ancient DNA has contributed to the understanding of how faunal communities respond to the environmental changes occurred during the Pleistocene and Holocene.

Studies of human specimens have allowed learning about population dynamics, suggesting for some scenarios a replacement between cultural periods, reshaping the genetic landscape. The analyses of domestic plants and animals have provided novel insights into these anthropogenic impacts, revealing a more complex picture.
This session aims to bring all together contributions related to the following topics:

1. Palaeogenetics and palaeogenomics of *Homo sapiens* and related species.
2. Palaeogenetics and palaeogenomics of any extinct species and their genetic relationships with current species.
3. Archaeogenetics:
    a. Analysis of modern and ancient human samples.
    b. Domestication studies from modern and ancient DNA of faunal and plant remains.
4. Migrations, population dynamics and genetic variability correlated to Pleistocene and Holocene climatic influences.

Thus, to provide the most advanced studies regarding genetic analysis to improve our knowledge of the human prehistory.

For more information, please visit the following home page:
http://www.burgos2014uispp.com/modules.php?name=webstructure&lang=ES&idwebstructure=6

B55-Advances in Archaeological Palimpsest Dissection

Advances in Archaeological Palimpsest Dissection

(**Carolina Mallol** cmallol@ull.es & Cristo M. Hernández)

The remains of human activity from different times are normally found mixed together into single layers of sediment and this means that in many cases, the temporal and spatial source of the high resolution information we obtain is not accurate. This effect, known as the *palimpsest effect*, represents a handicap for both traditional and high-tech approaches to the archaeological record.

For instance, a rich archaeological assemblage may give the wrong impression of belonging to a single period of “intense” human activity while really representing the remains of many independent “weak” human activity events.

As another example, we might end up analyzing a sample of microscopic plant residues such as phytoliths or pollen from sediments spanning thousands of years. In this case, our high resolution data is not sufficiently accurate to identify shifts in climate/vegetation that might have had an influence on humans. This drawback has important repercussions for interpretation of archaeological contexts, particularly when we attempt to understand historical processes.

The goal of this session is to lay out different research strategies that are currently contributing to advance in the dissection of archaeological palimpsests from different time periods. So far, the leading part has been played by archaeostratigraphy using GIS and other spatial analysis techniques and geoarchaeology (through microstratigraphy, using single and multiple techniques). Here we welcome examples from these and any other fields of research.

B56-Time for the tide: New perspectives on hunter-fisher-gatherer exploitation of intertidal resources in Atlantic Europe and Mediterranean regions

(**David Cuenca** david.cuencasolana@gmail.com, Javier Fernández-López de Pablo, Igor Gutiérrez-Zugasti, André Colonese)

In the last decade studies have highlighted the importance of coastal areas on the environmental adaptation and social development of past societies. The Atlantic Europe and Mediterranean regions have traditionally been favourable scenarios since they provide two of the worldwide longest records of exploitation of coastal resources by past hunter-fisher-gatherers societies.

Understanding the different role played by the intertidal amongst different regions is a key issue to gain a better knowledge on the diachronic and geographic patterns in the exploitation of coastal resources by hunter-fisher-gatherer societies, but also on the environment and the biology of marine organisms. Thus, using different methodologies, intertidal resources (molluscs, crustaceans, echinoderms…) can provide a wide range of information on past subsistence strategies, settlement patterns, symbolic activities and palaeoenvironmental conditions.

This session will bring together a wide variety of scholars to discuss the different role of intertidal resources in the Atlantic Europe and Mediterranean regions from the Paleolithic to the Mesolithic periods. It will provide a stimulating forum for discussion of new theoretical and methodological approaches to understanding human uses of coastal resources in its climatic and palaeo-environmental contexts.

B57-Reconsidering the significance of the Acheulian in Human Evolution

(**Sheila Mishra** sheila.mishra@gmail.com, Neetu Agrawal sheila.mishra@gmail.com & Claire Gaillard gaillacl@mnhn.fr)

The Acheulian is the first Stone Age technology to be defined and recognized. It is found in Western Europe, the Middle East, Africa and India. ‘Acheulian-like’ assemblages are also found in Eastern Asia. It is one of the most widely distributed and long lived technologies in the Palaeolithic. It appears in both East and South Africa at around 1.8 myr but almost a million years later in Europe. Recent dating of Acheulian in India to 1.5 myr places the Indian Acheulean as nearly contemporary to the African Acheulian.

Acheulian technology has always been considered to be a very significant technological advance over earlier and contemporary Lower Palaeolithic technologies. However it is now clear that the characterization of this technology has been in relation to European Acheulian and these criteria may not apply to the earlier phases of Acheulian, in Africa, the Near East and India.

In Europe, an early occupation with a “mode 1” technology precedes the Acheulian. It is puzzling why the first migration which occurs after the appearance of Acheulian in Africa is not Acheulian.

In East Africa, which is the only place where the shift from an earlier stone technology to the Acheulian is seen to happen, recent work has refined the chronology of the Acheulian. Besides newer studies of complete assemblages are bringing out important data.

In Eastern and South East Asia more and more assemblages with tools comparable to iconic "handaxes" have been reported. The debate as to the relationship of these "Acheulian like" entities to the European and African Acheulian is a major theme of the palaeolithic archaeology of these regions.

The Acheulian phenomenon, enduring over one million years and three continents requires a global viewpoint to be properly understood. The puzzle of its origins, relationship to non Acheulian entities and its development and change over time are major issues which we hope to discuss in this session.

Master conferences

During the congress there will be five master conferences: an inaugural session on Monday morning and four at the end of the evening sessions (Monday - Friday). One for each continent.

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NOTICE

DEADLINE FOR PROPOSED COMMUNICATIONS AND POSTERS: 30 April 2014
Registrants must indicate which Congress sessions they will attend, before May 31, 2014, to allow the Technical Office to arrange the sessions and lecture rooms on the basis of participant numbers. Registrants who do not do so or do register later, will not be assured of a place in the session, and will be put on a waiting list for which priority will be given to the registration number.

Deadlines

30 April 2014: deadline to propose oral communication and/or posters
31 May 2014: deadline to indicate in which session you want to take part
28 August 2014: deadline for registrations
1-7 September 2014: congress dates

CONGRESS POSTER (next page)

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XVII CONGRESO UISPP 2014

ATAPUERCA

Fecha/Date: 1-7 Septiembre 2014
Lugar/Place: Burgos (España)

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