

“ Is there Palaeoart  
before Modern Humans ?  
did Neanderthals  
or other early Humans create 'Art'? ”

# NeanderART2018

## International Conference

will be held at the Campus "Luigi Einaudi" University of Turin, Italy  
by Centro Studi e Museo d'Arte Preistorica (CeSMAP)  
from 22 to 26 August 2018

ACADEMIC SESSIONS will be from 22 to 24 August 2018  
followed by FIELD TRIPS TO NEANDERTHAL SITES on 25 and 26 August 2018  
(Fumane Cave, Verona, Italy and Ciota Ciara Cave, Borgosesia, Italy)

### THE THREE SESSIONS:

1. Changes in environment and human adaptations
2. Changes in the utilitarian and non-utilitarian productions  
in two million years of human history
3. The dawn of art-like productions and behaviours  
3a. On colorful stones and animal bones: Human selection, collection  
and use of exceptional materials for tool making in the Palaeolithic



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Neanderthal Man | Painting by Mauro Cutrone | Courtesy by Marco Peresani, University of Ferrara | Composition: Mary ETIENNE



UNIVERSITÀ  
DEGLI STUDI  
DI TORINO



# NeanderART 2018

*Is there palaeoart before modern humans?  
Did Neanderthals or other early humans create 'art'?"*

*22-26 August 2018  
International Conference under the aegis of UISPP and the auspices of  
IFRAO*

CeSMAP  
Centro Studi e Museo d'Arte Preistorica



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CLE - Campus Luigi Einaudi - Torino University

Cover composition: Mary Étienne, University of Liege. Neanderthal man, painting by Mauro Cutrona. Courtesy by Marco Peresani, Ferrara University.

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*Dreaming Neanderthal*, Etching by Tere Grindatto, 1968



# NeanderART 2018

Dear Colleagues,

CeSMAP (Centro Studi e Museo d'Arte Preistorica) is pleased to announce that NeanderART 2018 – International Conference will be held in Turin, Italy, from August, 22 to August 26, 2018. The aim of this conference is to stimulate the debate concerning prehistoric art preceding the Upper Paleolithic and even the advent of *Homo sapiens*, a topic that is rapidly developing in recent years. In particular, we will investigate the claim concerning the existence of Neanderthal's art, but also the possibility that other species belonging to the family *Homo* had an artistic behavior. The debate will surely be enhanced by the recent (2018) discovery of Neanderthal cave art in Europe. A delegation of CeSMAP had been present at the XVIII° UISPP International Congress (3 to 9 of June, Paris) in order to anticipate and formalize these new paradigms concerning prehistoric art.

For what concerns the program, the first three days of the conference (22 to 24 of August) will be dedicated to the presentation of communications and posters, while the remaining two days (25 and 26 of August) will be dedicated to Field trips. Thus, NeanderART 2018 Conference will offer a unique opportunity to meet and exchange scientific knowledge with colleagues working on new archeological avenues concerning pre-sapiens' art. Scholars that have published books related to the beginning of art, and in particular Neanderthal's art, are given the possibility to leave a copy of the manuscript for public consultation at the registration desk during the three days of the conference.

This conference will also offer the chance to visit Italy, starting from the futuristic university campus (Luigi Einaudi) where the conference will be held in Turin. Furthermore, the Field Trips planned for the conference participants will offer the rare opportunity to visit two important Neanderthal sites in Europe (Fumane and Ciota Ciara) and discuss their interpretation with the specialists studying them.

# The three sessions framing NeanderART 2018 conference:

**Session 1.** Changes in environment and human adaptations. Chairpersons: José Luis Arsuaga, Hipolito Collado, David Frayer.

**Session 2.** Changes in the utilitarian and non-utilitarian productions in two million years of human history. Chairpersons: Henry de Lumley, Giacomo Giacobini.

**Session 3.** The dawn of art-like productions and behaviours. Chairpersons: Robert Bednarik, Marco Peresani, Marcel Otte.

**Sub-Session 3.a** On colorful stones and animal bones: Human selection, collection and use of exceptional materials for tool making in the Palaeolithic  
Chairpersons: Ella Assaf, Francesca Romagnoli.

*For more information, please visit the official website of NeanderART 2018 International Conference: [www.homoneanderthalensis.org/](http://www.homoneanderthalensis.org/)*

Our work will form a bridge for the aims and achievements of future researches, studies, conservations and improvements of this matter; today we debate yesterday's knowledge in order to project that of tomorrow.

We look forward to seeing you in Turin, Italy !

Dario Seglie and Piero Ricchiardi  
(CeSMAP – IFRAO-UNESCO Liaison Office)

“**NeanderART 2018**” – International Conference is organized under the aegis of UISPP (The International Union of Prehistoric and Protohistoric Sciences) and the auspices of IFRAO (The International Federation of Rock Art Organisations);

**Under the Patronage of:** Ministero degli Affari Esteri, Università degli Studi di Torino, Università del Piemonte Orientale, Regione Piemonte, Torino Metropoli – Città Metropolitana di Torino, Città di Torino, Città di Pinerolo.

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This International Conference is promoted and organized by Centro Studi e Museo d'Arte Preistorica (CeSMAP), Pinerolo.

The International Conference will be held at the Turin University, Campus “Luigi Einaudi”, Lungo Dora Siena, 100 A, 10153 Torino, Italy.



# Acknowledgements

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## UISPP

### **The International Union of Prehistoric and Protohistoric Sciences**

The International Union of Prehistoric and Protohistoric Sciences (Union Internationale des Sciences Préhistoriques et Protohistoriques – UISPP) was founded on May 28th, 1931, in Berne, and integrates all sciences related to prehistoric and protohistoric development: archaeology, anthropology, palaeontology, geology, zoology, botany, environment, physics, chemistry, geography, history, numismatics, epigraphy, mathematics and other.

Research on adaptation mechanisms and human societies' behaviour dynamics are at the centre of the scientific interest of UISPP. For this aim, UISPP periodically organises a world congress of prehistoric and protohistoric sciences, on which occasion the progress of knowledge is presented and common research goals are set. For these, UISPP creates scientific commissions devoted to specialised research themes.

UISPP is a member of the Unesco associate International Council of Philosophy and Human Sciences, since September 29th, 1955. As an international association of scholars, its aim is the collaboration of scholars from all countries through initiatives that may contribute for the advancement of prehistoric and protohistoric sciences, based on full academic freedom and refusing any sort of discrimination based on race, philosophical or ideological judgement, ethnic or geographic affiliation, nationality, sex, language or other, since discrimination is, by definition, the negation of the scientific approach. It also rejects any attempts of fictional rewriting of the past or of negationism, and it doesn't exclude any bona fide scholar from its scientific activities.

Luiz Oosterbeek  
Secretary General UISPP

### **International Federation of Rock Art Organisations (IFRAO)**

IFRAO was formed in Darwin, Australia, on 3 September 1988, during the first major international academic conference dedicated entirely to the study of palaeoart. Nine rock art organisations decided to form an international federation of independent national or regional bodies. At the founding meeting it was decided that IFRAO should

be a common forum and initiator of policies, projecting or representing the common interests of member organisations without interfering in their autonomy. It would operate as a democratic advisory body in which each member organisation would hold one vote, exercised by an official representative. International meetings would be held by nominating suitable rock art conferences as official IFRAO congresses at regular intervals.

Since then the number of affiliate members has increased more than sixfold to fifty-eight and the current members of IFRAO cover most of the world. The combined memberships of these organisations include practically all such specialists in the world.

One of IFRAO's initial principal concerns is the standardisation of those aspects of the discipline that are essential for effective communication and collaboration: methodology, terminology, ethics and the technical standards used in analysis and recording. These subjects were addressed through extensive consultation of specialists and, where appropriate, the deliberations of appointed sub-committees. The IFRAO members produce about twenty specialist periodicals, whose flagship is *Rock Art Research*, the official organ of the federation. IFRAO has been particularly effective in the area of rock art protection and preservation, achieving sometimes spectacular successes, such as the electoral defeat of recalcitrant governments. The federation has become the principal international body pursuing the conservation of rock art effectively.

Robert G. Bednarik,  
Convener of IFRAO

## **CeSMAP**

### **Study Centre and Museum of Prehistoric Art, Pinerolo, Italy**

CeSMAP, the Study Centre and Museum of Prehistoric Art, was established in 1964 in Pinerolo, Italy, and it is one of the most important institutions in Europe and in the world.

Research led by CeSMAP has considered two different fields: the pre-historic spiritual sphere throughout the millennia, as expressed in rock art, and the evolution of pre- and proto-historic culture in the archaeological, climatic and environmental context of the European Western Alps, as a result of surveys and excavations, from the Upper Palaeolithic Age to the Historic Time.

The rock art Missions of the CeSMAP cover all the continents and the international rock art collections of the Museum of Prehistoric Art of Pinerolo, Italy, are unique in the world in representing this phenomenon. The specialized library of the CeSMAP, open for scholars and students and on line, owns over 15,000 volumes.

The CeSMAP also organizes temporary exhibitions and cultural events realized in the seventeenth-century Church of St. Augustine and in the medieval Palace of the Senate in Pinerolo. At the Rock Art Centre tridimensional casts have been added to

the archaeological collections of the territory, a paleoanthropological section that presents the physical and cultural evolution of humans, from Australopithecus to Homo Sapiens Sapiens. In addition, a Didactical Laboratory allows schools to all types and levels to perform activities led by museum educators.

The commitment of CeSMAP, Museum of Archaeology and Anthropology in Pine-  
rolo, as well as in the field of Rock Art, culminates in the systematic research and territorial excavations.

From 2002 to 2012, the CeSMAP – under the aegis of the Italian Ministry of Foreign Affairs and of the Moroccan Ministry of Culture – implemented Missions in Africa for the establishment of the National Park of Jbel Sarhro between Atlas and Sahara. From 2014, work in progress has centred on Ecuador, in cooperation with the Ecuadorian Cultural Heritage Authorities.

CeSMAP received the EU-European Union Culture Award 1991 for its long scientific and cultural commitment. It promotes congresses, exhibitions on rock art and on archaeology, anthropology, didactic aids, educational and museum events.

CeSMAP is a founding member of IFRAO, International Federation of Rock Art Organizations, is the IFRAO Italian Representative and IFRAO-ICOM-UNESCO Liaison Office; CeSMAP is member of UISPP, the International Union of Pre and Proto-historic Science.

Dario Seglie,  
Director General of the CeSMAP – IFRAO-UNESCO Liaison Officer

## **The Turin University**

The Turin University is located in the city of Turin in the Piedmont region of North-Western Italy. It is one of the oldest universities in Europe, it was founded in 1404, and continues to play an important role in research and training.

The Campus Luigi Einaudi is located along the banks of the Dora River not far from the famous Mole Antonelliana, symbol of the city.

Designed by Norman Foster, one of the most important contemporary architects, it has been included among the 10 most spectacular university buildings in the world. The CLE - Campus Luigi Einaudi houses the headquarters of the Schools of Laws, Politics and Economics and related departments.

The campus has modern classrooms, computer and language labs, study rooms and reading rooms, a cafeteria and spacious common areas, a university residence and a canteen in the immediate vicinity. The Campus is home for conferences, exhibitions and national and international meetings; it is made up of seven buildings -surrounded by greenery- that overlook a large internal circular square, and has been designed with particular attention to energy savings issues.

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## Session 1.

### CHANGES IN ENVIRONMENT AND HUMAN ADAPTATIONS.

1. BLACKWELL Bonnie A.B.<sup>1</sup> - TURK Ivan – TURK Matija - TURK Janez - BLICK-STEIN Joel I.B. - SKINNER Anne R. - **Using ESR to date Neandethal art: An example from Divje Babe I to understand Slovenia's Late Pleistocene.**

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Electron spin resonance (ESR) dating can date many materials, including enamel and some fish scales, corals, molluscs, travertine, and quartz from ash, marine, or fluvial sediment, which have many potential applications in many Quaternary settings. ESR dating uses ESR signals created by radiation in crystalline solids. Ages are calculated by comparing the accumulated dose in the dating sample with the internal and external radiation dose rates produced by natural radiation in and around the sample. When tested against other dating techniques, age agreement has been excellent. Using a more complex modelling technique to calculate the cosmic dose rates and more detailed modelling techniques for dealing with variable external dose rates has improved precision and accuracy. New applications include using the signals in barnacles, benthic foraminifera, coralline algae, and bryozoans for dating fossils or their associated sediment or archaeological materials. Mollusc and coral signals have recently been used to date archaeological deposits, to determine uplift rates for tectonically active coastlines and local sealevel curves to test for hominin habitability, and to test water availability in the Sahara. Signals in quartz have also been used to determine the temperatures to which hominid artefacts have been heated.

At Divje Babe I, Slovenia's oldest archaeological site, the thick archaeological sequence housed Mousterian artefacts, including hearths, a perforated ursid femur flute, Mousterian lithic and bone tools. Eleven archaeological layers were dated by 44 independent standard ESR analyses. Volumetrically averaged external dose rates were calculated from 146 sedimentary component samples analyzed by NAA. Dates



couple with sedimentary features, including cryoturbation, cryoclasts, éboulis, secondary aggregate cementation, show that strong Late Pleistocene climatic fluctuations affected Divje Babe I, making the longest Balkan paleoclimatic record. By combining sedimentological, geomorphological, paleontological, and archaeological records allow extremely detailed paleoenvironmental records that provide context for cultural advancements and hominin adaptations.

## **2. TASKIRAN Harun<sup>1</sup> - OZCELIK Kadriye<sup>2</sup> - A new discovery of Neanderthal settlements in Turkey: Sürmecik open-air camp site in Western Anatolia.**

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Western Anatolia is the poorest region in terms of Turkey's Palaeolithic finds. In the past years only a few Paleolithic artefacts were known from the surface in the provinces of İzmir, Manisa, Kütahya and Afyonkarahisar in western Anatolia. After the fossil *Homo erectus* skull fragment was found in the traverten deposits in Kocabaş (Denizli) in 2002, the importance of the region increased. After this important discovery, Dr. Kadriye Özçelik started a Paleolithic survey in Denizli and found a large number of chipped stone tools from the Lower and Middle Palaeolithic periods. Nevertheless, the last important Paleolithic discovery in the region was made in Sürmecik (Banaz-Uşak) in 2015. This is an open-air camp site belonging to the Middle Palaeolithic period. Here is also a mining area where a mining operation is conducted.

The chipped stone artifacts of the Sürmecik Paleolithic open-air camp site come from a clay layer between hematite and limonite deposits under a travertine layer of about 4.5-5 meters in thickness. Faunal remains are mostly represented by equus species. All stages of Mousterian culture are clearly visible in this open-air camp site. Sürmecik is the richest Middle Paleolithic open-air camp site in Turkey. A total of 83.002 lithic pieces were collected in the excavations carried out in 2016 and 2017. It is thought that this number will be 100.000 pieces in 2018. The group of bifacial leaf points in this collection are seen in Turkey for the first time. Three master thesis studies started on the lithic material of Sürmecik. Samples will be taken for dating analyses during the year 2018 excavation season.

## Session 2.

### CHANGES IN THE UTILITARIAN AND NON-UTILITARIAN PRODUCTIONS IN TWO MILLION YEARS OF HUMAN HISTORY.

#### 1. ASSAF Ella - **The colorful world of the Qesem cave inhabitants: on flint pebbles and their significance in the Levantine Lower Paleolithic.**

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For over two million years, early humans were noticing, collecting and bringing “home” various non-utilitarian objects with aesthetic visible characteristics, in what seems to reflect a basic human trait. Archaeological findings suggest that as early as the Lower Paleolithic, prehistoric humans were also guided by considerations other than economic, cost-benefit ones. Such is the case at Middle Pleistocene Qesem Cave, Israel (inhabited between 420-200 ka), where dozens of natural, round and colorful flint pebbles (which are non-existent within the rock formation of the cave itself) have been unearthed within the archaeological horizons. Some of the pebbles are much smaller than the smallest pebbles used to produce stone tools on-site. They exhibit noticeable visual characteristics (in terms of color, symmetry and sheen) suggesting that they might have been noticed and brought to the cave mainly for their aesthetic features. Various materials such as animal carcasses, fire-wood and lithic materials were systematically procured and brought to the cave, indicating that the inhabitants must have been well acquainted with different sources of resources. In this light, the presence of the pebbles seems to be the result of conscious, purposeful decisions.

Being an inseparable part of the landscape and of daily life, stones must have had a special significance in the world of prehistoric humans, possibly acting in the cosmological realm as well (as supported by ethnographic and archaeological studies). The colorful pebbles presented here might reveal a fraction of some of the perceptual preferences of the early humans that inhabited Qesem Cave and their rich cultural world.

#### 2. BEDNARIK Robert G. - **Changes in the so-called non-utilitarian production in human history.**

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Rather than speaking of non-utilitarian creations, this presentation addresses the exogrammatic function of certain types of objects in human history. Just as cultures

are epidemics of mental representations that are replicated in other brains, the 'memes' attached to exograms are reconstructed in conspecifics by metarepresentation. In the most recent human history such phenomena have become so ubiquitous that our illusion of reality is almost entirely constructed by them, but since exograms must have been introduced at some point in that history, the most important role of palaeoart research is to explore when and how they became established and how they developed. This paper presents the empirical information currently available on the origins and growing influence of exograms to the point when they began to determine the direction of the evolution of our species and eventually suspended it.

**3. KRISHNA Ram<sup>1</sup> – KUMAR Giriraj<sup>2</sup> -Understanding the technological adaptations and cognitive development of the early humans through the cupule replication project: Perspectives of Daraki-Chattan in Chambal basin, India.**

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The excavations at Daraki-Chattan Cave (DC) in Chambal basin, India have unambiguously established the Lower Palaeolithic antiquity of the cupules. It also endorsed the evidence of the Lower Palaeolithic petroglyphs obtained from the V. S. Wakankar's trench in the Auditorium Cave at Bhimbetka. There are four kinds of cupules in DC namely, 1. Soccer shaped big cupules, 2. big-deep cupules, 3. cupules with conical depth and 4. small cupules with conical depth. We tried to understand the technology adopted for the production of different kinds of cupules by the early humans under the cupule replication project from 2002 to 2012. Through our experiment we came to know that it is very difficult to produce cupules on the hard quartzite rock and different types of technological strategies need to be adopted to produce different kind of cupules in DC. It requires high level of cognitive development progressively to produce different kinds of cupules in DC. The present paper presents our understanding of the technological and cognitive development through the replication project at DC.

#### 4. MUSSI Piero<sup>1</sup> – ROSSI Pietro<sup>2</sup> - **“You snooze, you win”**: perception, dream and symbolization in pre-sapiens evolution.

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Important acquisitions of prehistorical archaeological research document behaviours and productions meeting non-vital needs among pre-sapiens humans. Collections of fossils and “odd” objects, lytic instruments intentionally incorporating fossils and others made of minerals displaying peculiar colours and texture and/or shapes, use of pigments for decorating bodies or other things, pierced objects potential witnesses of pendants, ornamental use of bird's feathers, speleofacts in caves, possible musical instruments made of bone, “patterns” incised on bones or stones, engravings and pigmented “patterns” in caves, likely “proto-figurines” or anthropogenically modified natural stones, care for sick or old individuals, handling and ritual burial of corpses: all these items form the concrete basis in order to formulate some thoughts about the origin and development of mind, communication and art. The multidisciplinary approach involves in synergy archaeology, psychology, neurosciences and physiology.

Every human behaviour is utilitarian: needs and drives modify the “homeostatic” balance, which can be restored through the “reward system”.

Like animals, also human beings do not remember their dreams, except some fragments synchronous with their interruption. Controlling fire provided the possibility of a more relaxed awakening, allowing for more time available for dreams recalling and processing. This promoted the development of shared feelings and emotions: symbolic thinking and the decisional process are the bridges towards self-consciousness.

Perception and communication made the mind evolve towards unconscious reflections, out of which self-consciousness will emerge.

Care for disabled people and for the dead are exclusively human behaviours.

All other behaviours (empathy, courtship, teaching, playing, collecting, producing “artistic” objects, also unusable ones) developed in a parallel fashion along millions of years in many –not only mammal- animal species.

### Session 3.

## THE DAWN OF ART-LIKE PRODUCTIONS AND BEHAVIOURS.

### 1. BEDNARIK Robert G. - **The dawn of exograms.**

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Most of the differences between humans and other animals still endorsed in the 20th century have now been refuted. Even theory of mind, self-awareness, recursion and metarepresentation are losing their eminence as exclusively human variables. This may leave us with just one distinguishing trait: the talent of creating and using memory traces external to the brain. Palaeoart is the principal empirical evidence of this ability from the human past, a corpus that has been misconstrued in various respects. For instance, the discussion of the dawn of art-like productions and the behavioural range they facilitate has been consistently marred by humanistic banalities and lapses. Among the most damaging are to treat such productions as art or as symbols, and to impose commensurate but false taxonomies. Another fatal shortcoming of this debate has been the rejection of exogrammatic evidence on the basis that it is not art. This presentation endeavours to correct some of these misunderstandings.

### 2. BRÜHL Enrico - **A new intentional pattern on a bone from the lower Palaeolithic of Bilzingsleben.**

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In the late 1980s some special finds from the Holsteinian site Steinrinne near Bilzingsleben hit the international research community. Dietrich Mania published several bone fragments with regular cut mark patterns, assuming an intentional character. The fragments became the objects of profound research and intensive and controversial discussions. At the end of this process stood the conclusion, that the cut marks had a non-utilitarian, intentional character. This fact proofed the intentional character of the patterns. In 2014 a new bone fragment with a cut mark pattern was found.

A frontal fragment of a cervid metacarpal shows a symmetric, fan like pattern of five cut-marks. The marks show regular distances between each other. The three marks in the middle of the pattern showing the same length and were placed in the same height at the bone surface. The lateral cuts were placed on a higher level. While the central three cut marks were made by one cut, the lateral ones were made by two cuts. The lateral cuts are completely preserved with length of 7 and 5,5 mm. The central cuts

end on a modern breakage caused by bioturbations. The bone fragment itself shows on the undisturbed edges “green” fractures. The edges of the cut-marks instead showing breakage patterns with exfoliation occurring just on already dried, degreased bone. There was a significant time span between the fracture and the cutting of the pattern. Lasermicroscopic scans show an outstanding similarity of depth, width, and angle of the cut marks, indicating the use of one tool and a pattern production in one working step, a further indication of an intentional character of the pattern. The new find is the most regular in symmetry and design among the engraved bones from Bilzingsleben.

**3. BULLEN Margaret - Homo neanderthalensis beyond marks to images, a possibility or an unanswerable question.**

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There is now very good evidence that Homo sapiens neanderthalensis individuals made intentional marks on cave walls. Guesses at their intentions are just guesses and derived from current perceptions of why modern human individuals make marks on surfaces. It is now tempting to ask what more could they have done and whether they did have the ability to create a physical representation of a remembered image. Our knowledge about the brain of Homo neanderthalensis is derived from the study of endocasts and provides information about the gross anatomy of the brain which can be compared to the gross anatomy of the modern human brain. Our ambition is to know more about the deeper structures of the Neanderthal brain and it is questionable how far the gross anatomy can give an insight to the deeper structures. There is now a greater understanding of the neurological correlates of artistic ability and the challenge is to explore the possibility that Homo neanderthalensis did have that capacity. Neanderthals and Moderns were in contact for many generations and it does not diminish the status of Neanderthals to suggest that they could have learned to create visual images of animals in their world but they would have needed the neurological capacity to do so.

This paper will explore avenues to open these questions; to answer them is another matter.

**4. CAMERON Judith – Palaeoart and Fibre Technology from Blombos Cave, South Africa.**

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Despite observations that more than 90% of artefacts used by hunter-gatherers are made from fibres, the significance of fibre technology has not been fully established in

human evolution primarily because fibres rarely survive in the archaeological record, being the most fragile of all organics. The earliest archaeological evidence for fibres comes from Blombos Cave in South Africa where perforated shells from MSA layers are thought to have been threaded onto cordage to create prehistoric jewellery, implying that anatomically modern humans had knowledge of fibre technology at least c. 78,000 yrs ago. African primates also demonstrate symbolic behaviour and manipulate fibres to weave nests suggesting that fibre technology dates back to our earliest ancestors. This paper examines possible evidence from palaeoart and proposes that fibre technology is also depicted on ochre blocks from the same stratigraphic sequences of Blombos Cave.

#### 5. COLLADO Hipolito – **Neanderthal Rock Art? That is the Question.**

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In recent times we are witnessing an exciting debate about the possibility that Neanderthals had the ability to do rock art. In this paper we want to present a status quo gathering the data that recent research is contributing and, in this way, we will try to answer the question that gives title to this paper.

#### 6. COMBA Enrico - **The Neanderthal Religion hypothesis: reflections from Cultural Anthropology.**

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The new discoveries about Neanderthal capacity to produce works of art pose anew the problem of the possibility that the capacity to conceptualize a religious domain did not come to the fore only with the appearance of *Homo sapiens sapiens*. From the field of the anthropology of religions the concept of “religion” has been subjected to critical scrutiny, showing the need to utilize a loose definition, so that the most different forms and aspects could be included. As a matter of fact, if the creations of Neanderthal are to be included as well, the category has to be still more enlarged, posing the problem of a variability that goes beyond the limits of (actual) humanity. This could be the opportunity to reflect about the concepts which are employed and on the challenges that arise from the confrontation with cultural productions which are at the same time human and other-than-human.

## 7. DE QUIROS Federico Bernaldo - **Evidence for the Origins of Symbolism in the Cantabrian Middle Paleolithic.**

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During the 2001 excavations of Mousterian Unit 21 at El Castillo we uncovered a stone of fine-grained grey quartzite. The stone, approximately 5,7 cm in length, is marked with a straight row of four evenly spaced, incised points which are positioned above a fifth incised dot situated directly in the middle of the upper row. The cultural behavior represented by this decorated stone develops and continues without a gap, through El Castillo's earliest and later Aurignacian levels, where possible evidence for figurative representation is found. Red ochre has been found in various places in both the Mousterian and Aurignacian levels, though its use as a functional or decorative medium is impossible to determine. Here we simply wish to stress the increasing and robust evidence for local roots of symbolic behavior in the local Middle Paleolithic of Cantabria, and to note that the cave of El Castillo illustrates the development without any gaps from the Mousterian through to its Upper Paleolithic levels. If, as many researchers have proposed, such symbolic behavior is linked, at least in part, to greater desires for inter- and intra-group communication, spurred by demographic pressure or by shifts in social morphology, then this small pebble from Level 21a provides elegant evidence of the elaboration of such social expression by Neanderthals in the Cantabrian Middle Paleolithic. This development of social expression must also be reflected in the settlement dynamics of the Cantabrian Middle Paleolithic.

## 8. DISSANAYAKE Ellen - **Let's Look for Evidence of Mark-Making, Not a Chimera, "Art".**

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The question of our conference begs another question: What is "art"? Western philosophers have spent three centuries fruitlessly trying to define this chimerical, polyvalent term. Does the earliest palaeoart require Beauty? Skill? Symbolism? Imagination? Originality? Adornment? Creativity?

What we are looking for is right in front of our eyes: a universal human activity called mark-making. Let us jettison the confusing assumptions and irrelevant value judgments inherent in the Eurocentric word "art." Mark-making itself is one manifestation of an even more inclusive universal behavioral predisposition that I have called "artifying": making the ordinary extra-ordinary. Artification also includes dance, song, body decoration, performance, and other "art-like" activities. Making marks



has survived in some instances (on stone, ivory, bone, shell) but not in others (human skin, animal skin, wood, sand, other perishable materials). To date, its first glimmers are evident in a zigzag engraving on a 500 thousand-year-old shell found at Trinil, Java.

#### 9. DUBAL Léo - **Did Homo neanderthalensis exploit frontal approach for copulation ?**

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In “The Human Revolution”, C.H. Hockett & R. Ascher (1964) and in “Le paradigme perdu: La nature humaine” E. Morin (1973) claimed: the frontal approach for copulation must have first become possible and it was doubtless immediately exploited. Homo neanderthalensis, too, is doubtless included here. What are the evidences supporting or... contradicting Ascher & Hockett’s bold guesswork? As Serge Wunsch phrases it, traditional societies have sexual practices influenced by the cultural norms. But before the emergence of cultural norms, was homo neanderthalensis left with the sole mimetic desire? In absence of direct answers, a review will be presented of the most relevant artefacts from early Mediterranean, south-American and oriental cultures, as well from Palaeolithic and Neolithic Rock art, without forgetting today’s well studied sexual behaviour of the nearest species of early human, the pan paniscus.

#### 10. HUGHSON Donald – **“Neanderthal Symbolism: Neanderthal Religion?”**

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The paper is in search of Neanderthal religion in whatever mode it may exist. An interdisciplinary question arises from the fact of visible Neanderthal symbolism of several sorts (Rodriguez et al., 2014, Radovich et al., 2015, Jaubert, 2016, Marris, 2018). Paleoanthropologists take account of rock art, hand prints, burial practices, ornaments, and red ochre to compare such symbolism to modern-human cognitive capacity and behavior. An interpretation from the perspectives of religious studies and theology seeks a possible religious or spiritual dimension in Neanderthal symbolism. The interdisciplinary question is, do Neanderthal symbols belong to “art-like productions and behaviors” (NeanderArt 2018 website) that arguably express directly or indirectly a prehistoric “spiritual sphere” (CeSMAP website)?

First, theological reflection toward an answer has to consider theologian J. Wentzel van Huyssteen’s *Alone in the World? Human Uniqueness in Science and Theology* (2006) along with subsequent interrogation of his work. His landmark contribution

focuses on Cro-Magnons and their cave paintings. They but not, he argues, Neanderthals and predecessors to *H. sapiens sapiens*, exemplify the full humanity defined in the biblical phrase, 'image of God' that he associates with *H. sapiens*. This erroneous over-determination of what it means to be human does not nullify other elements in his analysis of prehistoric cave paintings possessed of an undifferentiated sacral unity prior to division between 'art' and 'religion'.

Second, I will correct, adjust, and apply van Huyssteen's analysis to Neanderthal symbolism. That task involves calling into doubt the standard paleoanthropological division between utilitarian tools and aesthetic symbolism. A carefully shaped Mousterian hand-axe not to mention red ochre dots, rock art, pierced shells suited to ornamental use, and interment of the dead all precede our conceptual divisions among use/symbol/sacred. I prefer recognizing that undefined prior unity to imposing modern preconceptions. Still, as a theologian I will venture upon the task of exploring that unity in reference to the prehistoric spiritual or sacred sphere. My interpretation conceives Neanderthal symbolism, including what we separate as tools, as having a sacred, spiritual, or religious dimension. It is not mistaken for paleoanthropologists to interpret the circular structure of piled stalagmites in Bruniquel cave as ritual in purpose.

Third, from a theological perspective Neanderthal symbols, including tools, rock art, rituals, and burial of the dead, express something spiritual, sacred, or religious. In light of both van Huyssteen and theologian Bernard Lonergan's *Method in Theology*, Neanderthal symbols can be construed as indicating a way of being in the world with a primordial, inchoate religious experience or sense of the sacred.

#### **11. KUMAR Giriraj – Lower Palaeolithic non-utilitarian creative traditions in India.**

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Throughout the world iconic palaeoart is preceded by non-iconic one. India produced the earliest evidence of the production of non-iconic petroglyphs from Daraki-Chattan Cave (DC) in Chambal basin and Auditorium Cave in the Vindhya in central India both in the Lower Palaeolithic period. In the early phase the cupules are either solitary or arranged in pseudo-patterns. Besides, used haematite pigment, mobiliary art objects and quartz crystals collected for their fascinating qualities have also been obtained from Achuelian strata in India. All these evidences will be discussed from the perspective of technical skill and cognitive development and cultural behaviour of their authors. The paper also explores the continuity of this creative tradition in the succeeding periods.

12. **LANGLEY Michelle - Products of art and products of children: How do we tell the difference and does it matter?**

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Recent research has identified a significant interpretive issue for Prehistoric archaeology: distinguishing adult ritual actions from the activities of children in the archaeological record\*. Given the extensive cross-over between items hunter-gatherer children collect and produce in the course of everyday play and artefacts archaeologists regularly identify as evidence for 'ritual' or 'aesthetic' behaviours amongst the adults of the population, this issue is particularly consequential for the archaeology of art origins. This paper will outline this complication and discuss ways forward for investigating the earliest instances of symbolic behaviour in hominin groups.

\*Langley, M.C. and M. Litster (in press). Is it ritual? Or is it children? Distinguishing consequences of play from ritual actions in the Palaeolithic archaeological record. *Current Anthropology*.

13. **MACCIARDI Fabio - Did Neanderthals dream of painted walls ?**

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Recent findings and the progressive re-evaluation of Neanderthal's (HN) behavior are suggesting that they may have had a rather sophisticated cognition, despite probably different from that of Anatomically Modern Humans (AMH). The development of high cognitive functions – like art, broadly defined here as the symbolic representation of the world, or language – requires that a neural machinery be in place that can support these functions. Evidence from archeological investigations showing that Neanderthals had a complex behavior indirectly support the hypothesis of their cognitive abilities, but we are also growing our knowledge of their possible neural structure.

Past paleoneurological investigations have shown that Neanderthal's brains were different from AMHs' in their shape and regional architecture, despite a similar global size and volume. AMHs present with a globular rather than an elongated brain, probably due to a marked bulging of the frontal lobes and expanded cerebellar interconnections with prefrontal, premotor, and superior-posterior parietal cortices, which also project densely to the putamen of the basal ganglia. These local adaptations suggest a marked reorganization of the neural architecture in regions that are relevant for cognitive abilities. Integrating evidence from paleoanthropology, comparative genomics, epigenetics and neuroimaging we set out to identify genes associated with such

a specific brain evolution and we found that non-coding, regulatory RNA genes rather than protein-coding gene variants are the most important genomic elements that are implicated in these anatomical and possibly functional differences between Neanderthals and AMHs.

Our results, however, suggest a more complex pattern, where Neanderthals and AMHs share a very high proportion of cognitively-related genomic elements while only a small set of them appear AMH specific, supporting the hypothesis that Neanderthals already had a cognitively ready brain. These shared genomic elements may then be a common feature of hominins, setting the origin of a symbolic thought deeper in time.

#### 14. OTTE Marcel - **Arts and Cognition during Neanderthal periods.**

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Full abilities were at disposal of Neanderthal, only differences appear in realisations.

#### 15. RODRIGUEZ-HIDALGO Antonio - **A Châtelperronian cut-marked raptor phalange from Cova Foradada (Calafell, Spain).**

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The use of personal ornaments by Neanderthals is one of the archaeological evidences recognized such a direct expression of their symbolic behaviour. The recently published data indicate that ornamental traditions could be the result of a convergent behavior independently developed by both Modern Humans and Neanderthals. By other side, talons of large diurnal raptors discovered in several pre-Aurignacian sites have been interpreted to be used as pendants recovered, processed, modified and used by Neanderthals presumably in analogous way than Modern Humans did. Considering the broad range and time scale of Neanderthals distribution across Eurasia, this phenomenon seems to be concentrated in a very specific area of Southwestern and Mediterranean Europe during a span of circa 50 kyr. Here we present the analysis of one pedal phalange of Iberian imperial eagle (*Aquila adalberti*) recovered in Cova Foradada layer IV, a Châtelperronian occupation older than 40 kyr cal BP bearing conspicuous cut marks. The general taphonomic results indicate their anthropogenic manipulation, discarding its alimentary use. In addition, the scarcity of raptor bones in the assemblage and their anatomical bias suggest an odd taphonomic history for this element. The analogy with 23 other phalanges from 10 Middle Palaeolithic sites, the

interpretation of the same elements in Upper Paleolithic contexts and ethnographic parallelism, point to a symbolic use of raptor talons in the site.

This case expands geographically and temporally one of the most common evidences of symbolic behaviour among western European Neanderthals being the first occurrence in the Iberian Peninsula. The discovery of Cova Foradada case gives us the opportunity to review this phenomenon and their significance in a wider context.

## 16. SAMANIEGO Blanca - **Referential behavior in the dawn of visual language.**

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The archaeological record of the Middle Paleolithic relative to engraved objects and the treatment of the body, from which the beginning of symbolic behavior is inferred, here it's revised by semiotic categories without attribution of meaning. This act requires training because, in our capacity as speaking beings, we always try to make sense of things. We propose to reflect on the difference between semiosis and semiotics, between the subjctual interpretation and a theoretical model of categories of signs.

The first question is whether the evidence allows inferring the practice of a visual language, and if they witness changes in social behavior, what is the dominant character? The second is to delve into the complexity of the symbolic phenomenon, to abandon the dichotomous model of qualification "symbolic or non-symbolic". The semiotic keys are shown with current examples to test the temporal significance in the visual language. Next we apply them to objects and human remains that span more than 100 thousand years, from European sites (Oldisleben, Tata, Temnata, Bacho Kiro, Chapell-aux-Saints, Grotte du Renne, La Ferrassie, Los Aviones, Cueva Anton), from Near East (Qazfeh, Tabun, Skhul, Shanidar, Quneitra), from Africa (Blombos Cave, Diepkloof Rock Shelter), and the Trinil (Java) and Bilzingsleben (Germany) as chronological precedents.

To the question, what kind of behavior is inferred from the Neanderthal record? We say that the sign production (or art-like productions) in Neanderthals and modern humans of the Middle Paleolithic is equivalent in semiotic terms. But that in no case it was able to develop a full symbolic statute but it remains in a preferential referential and indexical character. It is not so much about elevating the Neanderthal capacities to those of modern humans, but to diminish those of the latter before the experience of the symbolic efficacy that happens with self-representation, for the moment in the Upper Paleolithic.

17. SCARDOVELLI Matteo – **Are MSA South African engravings the dawn of art? No, if we distinguish visual amusement from “art”.**

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Art is not a “thing”. Rather, it is a process imbued with a powerful social function. Art is communication through matter, where “communication” is not a mere passage of information between two individuals but has to be considered as a complex social practice permitting a human group to share certain meanings embodied in a material form, be it sound, shape, color, spatial extension, literary images or any other medium. Contrary to this perspective, many scholars (i.e. Henshilwood et al. 2009) consider that the creation of more or less regular lines realized on sparse and different materials (ochre, eggshells, etc.) is sufficient to proclaim the existence of a generalized “symbolically mediated behavior” as if decoration, art and cognitive modernity were synonymous. In my talk, I will criticize this perspective, deepening a twofold investigation. On the one hand, I will show that a proper consideration of art forbids us to include in this domain any artefact that only reflects a certain pleasure of the senses (such as the “engravings” considered by Henshilwood et al. 2009). On the other, I will specifically analyze the well-known Blombos cave’s “engraved” ochre (SAM-AA 8938), pinpointing two major facts. First, it is very important to consider the archaeological context in which the piece had been found: an ancient ochre mine containing hundreds of similar pieces having been incised with the evident sole purpose of checking the color of the piece itself (an activity which stands poles apart from any kind of art-like production). Secondly, I will show that the realization of this graphic pattern can also, more easily, be explained by taking into account the pleasure that the visual brain experiences by the perception of intersecting lines (chimpanzees’ drawings reflect the same preference). In conclusion, I suggest that a simple neurological pleasure is not sufficient to prove the existence of an artistic tradition, nor the beginning of Modern Human Behaviour.

18. STEINER George F. - **Calibrating vs. Ideating Reality: A Cognitive Assessment of Paleolithic Abstractions and Illustrations.**

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The steady growth of hominin cranial capacity during the Lower and Middle Paleolithic (L/MP) supported the emergence of controlled vocalizations, orchestrated mimetic techniques, deductive tracking skills and exogrammatic information storage. ‘Exograms’ are defined as memory traces stored outside the brain as consciously sequenced information packages meant to stabilize causal calibrations of reality. Their

adaptive advantage lies in the potentiality to model, predict and 'outwit' animal/con-specific behavior and environmental change, based on cost-effective indexical referencing. Although the ability to produce them is a biological development, the transmission of exogrammatic meaning becomes culturally conditioned. As all the faculties listed above were in place long before the Aurignacian, the Upper Paleolithic (UP) 'revolution' – unlike the L/MP transition – cannot be attributed to changes in the size or shape of the cranium. The period was rather characterized by accelerated cognitive specialization to deterministically predictable cultural niches constructed in unreliable environments. By adapting to their calibrated models of reality – and backed by neotenous propensities – archaic populations underwent rapid physiological/psychological transformations. It is contended that the UP 'creative explosion' epitomizes the attempt to counter cognitive losses inherent in cumulative cultural evolution and incipient self-domestication. While L/MP paleoart records a biologically developed cognitive aptitude, UP 'art' was restricted to creativity, a culturally acquired technique. Creativity assembles ideated information packages based on alternative – but biased – associative possibilities in the re-sequencing of memory traces. As the abstract patterns of L/MP paleoart became superseded by the spectacular paintings of the UP, communal ritual has also become a solitary endeavor performed by 'creative' ritual specialists. While L/MP paleoart documents the universal emergence of a species-specific objective state of consciousness, isolated UP art-like productions illustrate an obsession with subjective states of consciousness and ideated perceptions of reality.

**19. TORKAMANDI Shirin – Analyses of Neanderthal burials based on ethnology and archaeology data.**

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Human's burial on earth, with all complexities and details observed in different tribes is the most common form of death rites in different nations and tribes around the world. Human behavior with their deceased is directly related to perspectives and beliefs concerning the world after death.

Since Carl Jung's theory about the collective unconscious archetype and inheriting it from modern human has been published, so far it is inspiring many mythologists and anthropologists to interpret the myths and common beliefs among different nations.

In the writings of Mircea Eliade what he calls Mother- Earth that we can see mother-earth's concept is widespread everywhere. It means that human is born from earth and after death buried in the earth, and the earth gives the dead a new life.

Take into account to Jung and Elaide's theory, we can get a better understanding of why Neandertals buried in earth and why they laid plant on their deceased in Sha-

nidar's Cave in Iraq. Therefore, we will close Neanderthals' beliefs and worldviews in relation to Mother-Earth perspective.

This research will focus on burial methods among Neandertals, Neolithic period in Europe, and primitive tribes such as Sun and Bushman in South Africa and Alor and Iban in Indonesia.

According to Jung and Mircea Elaide's theory, this paper attempts to present a new concept called Guiding Plant. More, this paper seeks to show although variety of religions and beliefs have been formed in different parts of the world related to the fate and life after death, but all different forms of burial are originated by one archetype related to life, earth, and world after death.

## **20. TURK Matija - Arguments on the Material Evidence for Neanderthal Musical Behaviour: Musical Instrument from the Divje Babe I cave (Slovenia).**

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In 1995, an unusually perforated femur of a juvenile cave bear was found in the Divje babe I Palaeolithic cave site in Slovenia. The supposition that it could be a flute led to heated debates. According to its archaeological context and chronostratigraphic position, if made by humans, it could only be attributed to Neanderthals. The crucial question was related to the origin of the holes. These could only have been made either by a carnivore or by human intervention. Results of experimental testing of both hypotheses do not support a carnivore origin of the holes. Furthermore, the method of artificial creation of the holes, which left no conventional traces of manufacture, was defined. Computed tomography revealed traces which could be the result of human agency and called into serious question the origin of some features previously declared to be solely of carnivore origin. Recent musical experiments performed on a replica of the reconstructed musical instrument revealed its great musical capability. In comparison to the oldest Upper Palaeolithic wind instruments made on long bird bones and ivory, it has a larger tonal range, wider colour spectrum, richer dynamic possibilities and execution in all tonalities. The instrument has a range of 3.5 octaves. Four holes, their size, and distance between them, together with the notch on the distal end and blowing edge, comprise a system that enables a wide variety of sonority and melodic movement. Such a system could not have emerged accidentally. At present, the musical instrument from Divje babe I, which is dated to 50 ka, firmly supported with a Mousterian context and chronology, remains the strongest material evidence for Neanderthal musical behaviour.



**Sub-Session 3.a**  
**ON COLORFUL STONES AND ANIMAL BONES:**  
**HUMAN SELECTION, COLLECTION**  
**AND USE OF EXCEPTIONAL MATERIALS**  
**FOR TOOL MAKING IN THE PALAEOLITHIC**

1. **ARTHUR Kathryn - Colorful Stones, Quality, Community Identity, and Apprenticeship.**

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What encouraged Paleolithic people to select colorful stones for flaked tool production? In southern Ethiopia live some of the few people in the world, who may be able to provide at least one possible answer to that very question, based on their knowledge of daily flaked stone tool production. In this paper, I will present Ethiopia's Boreda lithic practitioners' perceptions of knapping stone as a living vital being and how it informs their selection of stones and transmission of knowledge to apprentices. In particular, lithic practitioners select stones whose being are perceived to exhibit evidence of their vitality and chose particular colors of stone for their symbolic association with transformation and community identity. Furthermore, elders use these attributes of stone to assist apprenticing knappers in learning to identify good quality raw material ensuring longevity of a tool's life.

2. **BARKAI Ran - On elephants and handaxes: the significance of the non-utilitarian production of handaxes made from elephant bones in Middle Pleistocene Asia, Africa and Europe.**

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Pre-Neanderthals and Neanderthals in the Old World were producing handaxes and consuming elephants and mammoth (most probably by using stone handaxes) over very long time periods during the Middle Pleistocene. One of the most interesting hallmarks of these early human groups is the production of "replicas" of the stone handaxes from elephant bones. This phenomenon was mostly overlooked in the past, or simply interpreted as either reflecting shortage in stone or as the production of non-utilitarian items for an unknown reason. Following our recent discussion and interpretation of the significance of the use of elephant remains for the production of the iconic handaxes (Zutovski and Barkai 2016), I would like to push the argu-

ment forward and to put it within the framework of current anthropological thinking and some perspectives adopted from studies of human-animal interaction spheres. Shortly put, I will argue here that the production of these extraordinary non-utilitarian objects made of selected animal bones, usually perceived as tokens of “art” or “symbolism”, could actually be viewed as reflecting the ontology and cosmology of Palaeolithic Hunter-Gatherer groups sharing the world with other-than-human-persons and acting under the premise of the-gift-of-the-animal worldview. More specifically, and mostly based on the theory of perspectivism and Amerindian and Polar ontologies, I will suggest that the special relationships between early humans and elephants are reflected in the production of handaxes from elephant bones and provides us with a window into the nature of the interactions between early humans and the world they lived in.

### **3. EFRATI Bar - Found Objects before the Readymade: Selecting and Collecting Fully Patinated Colorful Blanks for Scraper Shaping at Lower Palaeolithic Qesem Cave, Israel.**

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Found objects (*objets trouvés*) and ready-made are two concepts known from the world of modern art. They describe art created from fully formed, but often modified objects that are not normally considered materials from which art is made; often because they already have a non-art function (i.e. a mass produced object, a utilitarian item, a natural object). In the essence of the term “found object”, the finder, the artist, recognizes such a find as an aesthetic object and displays it for appreciation by others as he would a work of art. Ready-made as a mode of art embraces the idea that the ‘inner self’ as an expressive self is no longer the only truth. Thus, the artist is no longer seen only as a ‘creator’, but also as a ‘synthesizer’ and ‘manipulator’ of extant signs and objects. Thus, ready-made as a mode of art has possibly more than a technical role only.

A ready-made object presents a very different relationship between the eye and hand of the artist. The artist’s hand is able to act on decisions in a qualitatively different kind of way. The hand moves not only in response to representation of an external or internal objects or ideas, but also in the way a craftsman might solve a set of functional and corporeal problems. The hand and eye become linked through the selection and arrangement of existent materials and objects. In that sense, ready-made as an object is an agent between humans, aesthetics, technology and technique. Prehistoric humans were also aware of objects and things in their surroundings. Thus, it is only reasonable that they were also aware of older objects made by man. Although both found objects and ready-made are considered twentieth-century modes of art bearing more of a modern political connotations, there are much earlier known artifacts in the world that may be considered as representing similar concepts.

Here we present the case of flint side-scrapers, made on fully patinated flaked items, from the Acheulo-Yabrudian (420-200 kyr ago) site of Qesem Cave, Israel. Flaked Flint items bearing patina are found in all lithic assemblages at the site, throughout the 200,000 years of its occupation (n=4,552, from selected assemblages). Other than them being representatives of lithic recycling, they are also noticeable for their exceptional colors, textures and patterns, which attract our eye here and now (at present), and probably had done so in the past to the inhabitants of the cave. Side scrapers made on fully patinated flaked items are items that were collected and modified again, but only to some extent since it is done considering the shape of the selected patinated blank, in order to give the object its new function. As a result, the new modification is usually only the retouch of the scrapers' active edge, since the size and morphology of the selected patinated blank already show the desirable qualities. This manner of modification almost fully preserves the morphology of the original patinated flaked item, leaving the varying colors, textures and patterns of the patina, including its original modification signs made by past humans visible and dominant.

It will be claimed that the Paleolithic case presented here may be considered a very early example of a concept similar to the one of ready-made. The selection of the fully patinated flaked items, their collection and specific modification for the making of side-scrapers was clearly aimed at achieving a functional tool, yet being an 'old' and colorful item may have had additional significance too (cosmological or other). The selection and recycling of the old patinated flaked items in that manner may represent appreciation and enchantment towards such man-made objects. It may also raise memories related to the creation of previous past humans, as well as reflect appreciation for the colors and textures of these items. It may also indicate for possible sentiments to the biography and history of the items. As such, side-scrapers made in that manner are agents mediating human action in the functional sphere, and cosmological meanings in a way similar to the ready-made and found objects concept in modern art. This subject will be discussed based on ready-made art theories, and sociological-anthropological theories about objects as active agents.

#### **4. FRAYER David W.<sup>1</sup> – JAPUNDŽIĆ Dražen, OROSSRŠEN Ankica, RADOVČIĆ Jakov, RADOVČIĆ Davorka<sup>2</sup> - A unique rock from Krapina.**

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<sup>2</sup> Curator, Croatian Natural History Museum.  
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The Krapina sandstone rock shelter, excavated by Gorjanović-Kramberger between 1899 and 1905, is dated to MIS-5e or about 130,000 years ago. It precedes the arrival of Homo sapiens in the region by thousands of years, so any cultural remains from the site is strictly done by Neanderthals. Besides the eight white-tailed eagle talons and phalanx, another item seems to indicate that Neanderthals had some aesthetic

appreciation. Among the >1000 lithic items, Davorka Radovčić identified a unique cobble in 2013. This is a mostly unmodified brownish, flat piece of micritic limestone (mudstone) bearing an array of black dendritic forms on both sides. It is unique at the site, differing from other tools, cores and flakes, which are dominated by volcanic tuffs, silica tuffs and chert (~88%). The rock is unmodified and the margins show no edge wear, so the rock was never collected as raw material for further reduction or used as a tool. This rock is unique at Krapina and seems to have been collected for its distinctive appearance, suggesting that Krapina Neanderthals had some kind of aesthetic curiosity.

#### **5. HISCOCK Peter – Constructing the exceptional: artefact making, signalling, and the production of meaning.**

Tom Austen Brown Professor, University of Sydney, Australia.  
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Modern humans habitually employ distinctive objects as cues within signalling systems. How long has this practice been part of hominid behaviour? Answering this question is not a simple task. The meaning of cues must be able to be understood by both sender and receiver, and the cues must be sufficiently distinctive that they can be recognized. This paper argues that while selection of naturally occurring materials can provide effective cues in some contexts, the construction of artifacts provides for refined control over and magnification of the signalling process. Manufactured cues may have been clearly distinguished by both senders and receivers but archaeologists often struggle to identify them. However it will sometimes be possible to identify cues and to comprehend elements of meaning and operation. This paper presents a case study of the identification and explication of cues in public signalling systems involving lithic artifacts in Holocene Australia.

#### **6. LANGLEY Michelle - Kangaroos, Quills, and Quolls: Selection of Hard Animal Materials in Aboriginal Australia.**

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Current research into the selection, use, and importance of hard animal materials in Aboriginal Australia is uncovering both new osseous artefacts dating to the earliest communities of Sahul (the combined Pleistocene landmass of Australia and New Guinea), and new understandings of what these items meant to the people who produced them. This paper will outline our current knowledge of how the unique fauna of Sahul

was integrated into the material culture of its first peoples, and what this data can contribute to wider global debates regarding the colonisation of new places and the construction of social landscapes.

7. RADOVČIĆ Davorka <sup>1</sup> - OROS SRŠEN Ankica – BIRARDA Giovanni – VACCARI Lisa, RADOVČIĆ Jakov – FRAYER David <sup>2</sup> – **Surface analysis of Krapina white-tailed eagle talons.**

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Eight white-tailed eagle talons, together with a foot phalanx, were found at the Krapina Neanderthal site between 1899 and 1905, dating to around 130.000 BP. They represent an early example of Neanderthal ornaments, with evidence of cut marks, polished areas and two densely compacted areas. These seem to indicate that the talons were worn as an item of jewelry. Further inspection of the talon surfaces revealed concentrated traces of black coating, occasional spots of red pigment and a fiber adhering to the surface within a wide cut mark on the talon 386.1. For this talon, we investigated small portions of pigmented areas and the fiber by non-invasive infra-red beam SISSI at the Elettra Sincrotrone facility (Trieste, Italy). Spectrometric analysis confirmed that the red pigments in two isolated areas appear to be ochre. The area around the fiber is characterized by aluminum and calcium phosphate composition. Four different areas (we acquired 4 single point spectra each from an area of 50x50 microns and two IR images with a 64x64 pixels detector, each over an area of 150x150 microns) along the fiber were targeted, revealing the protein nature of the fiber, that can be tentatively identified as a collagen-based fiber. Targeted areas within the fiber give the signal of the  $\beta$ -sheet aggregation, evidencing collagen losing its  $\alpha$ -helix conformation as a consequence of diagenetic aging and thus confirming the antiquity of the fiber. Due to the antiquity and particular location of the fiber within the cut mark, it is possible that the fiber is a remnant of the leather or sinew string binding the talons together. Further general surface elemental mapping can answer whether the pigments reveal intentional application or presence due to diagenetic processes. Location of the fiber within the cut mark and its visible twisting along with other physical changes on the talons fits the hypothesis that these talons were strung together as an ornament.

8. ROMAGNOLI Francesca - **The use of marine shells in pre-Sapiens: Between aesthetics and operational, symbolism and technological innovation.**

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Human adaptation to coastal environment has long been considered a specificity of Anatomical Modern Humans, and has been used as proxy for migration routes and complex behaviour. In the last years, the consumption of marine resources has been in the forefront of Neanderthal studies as proxy for coastal adaptation. As well as being part of pre-Sapiens subsistence strategies, marine shells have been also exploited as raw material: rarely for symbolic artefacts and more frequently to obtain functional tools. The use of marine resources to obtain tools has been recently identified in several archaeological contexts around the world since Lower Palaeolithic. From a technological point of view, a shell has different chemical and physical properties than a stone. That implies that different knowledge and specific technical gestures are needed to modify it into a functional tool and that is why shell technology offers a privileged way to approach the understanding of mechanisms of technological innovation. Being the shell a resource that commonly reflects symbolic behaviours, it is interesting to ask if shell tools could have been part of a personal “aesthetic” gear describing the identity and/or the membership of the user to his/her specific social group. In this paper, the author will present an excursus about current knowledge of archaeological exploitation of marine resources for non-alimentary purposes in pre-Sapiens communities. The chronological and spatial distributions of these evidences and the analysis of the economic value of such technological behaviour will be investigated to reflect on the possible socio-cultural value of marine shell exploitation in ancient Prehistory.

9. SINITSYN Andrei - **Exotic material and fossils in the Kostenki Paleolithic: some thoughts on their aesthetics and value.**

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The Kostenki group comprises 27 Upper Palaeolithic sites, half of which are multilayered, with up to nine cultural layers. They are thought to represent almost 60 settlements dating to ~46-25 cal kBP.

One major question is what attracted Palaeolithic people to this relatively small area taking into account the apparent absence of raw material sources closer than 150 km away. Large majority of the lithic raw material at Kostenki is exotic. We can also note single examples of rhinestone (rock-crystal) and obsidian in Kostenki 8-II\* (earliest Gravettian ~31.8-33.0 cal kBP). One distinctive feature of two Early Upper

Paleolithic assemblages found beneath CI tephra (and thus predating 40 cal kBP) is personal adornments on exotic materials:

- Kostenki 17-II (Spitsyean) (~39.5-42.6 cal kBP) provided a series of pendants with holes for suspension made on fossils (belemnites, Devonian shells and corals). Transparent and shiny surfaces of two belemnites led to suggest chemical treatment (urine?) for aesthetic reason;

- Kostenki 14-IVw (~41.3-42.0 cal kBP) yielded numerous beads made from Black Sea shells (*Diodora graeca*, *Patella* sp., *Nassarius nitidus*, etc.), exotic for the Kostenki locality, which lies at least 800 km from the Black Sea coast.

- Unique for Palaeolithic sites appears plesiosaur fossils (vertebrae and egg shells) at Kostenki 18 (Kostenkian: ~28.0-28.5 cal kBP), often found in Senonian sediments at Kostenki but unknown at other sites. Collecting of fossils may be explained as an evidence of cultural values because is manifested at single cultural unities only, including the most ancient Upper Palaeolithic.

\* The site is denoted by arabic numerals; the cultural layer by Roman numerals.

# Posters

## 1. CLAGGETT Sandra A.B. - **What archaeological evidence is there to there to suggest that Neanderthals exhibited complex symbolic behaviour ?**

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Symbolic behaviour is the ability for abstract thought where some action or object may represent something else. The ability to think abstractly can also involve symbolic behaviour such as language.

Symbolic behaviour or abstract thought can be evidenced by deliberate burial, grave goods, use of ornamentation, ochre and early use of art. Are we judging the Neanderthal unfairly because we use our own criteria to decide what we feel demonstrates cognitive and symbolic ability and these criteria were not important to the Neanderthal?

## 2. ROMANO Eleonora - **Neanderthals from Eurasia: archaeological approach to the artistic and communicative expression in funerary contexts.**

Independent researcher, University of Rome Tor Vergata, Italy.  
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Some Eurasian sites have been identified as possible burials of *Homo neanderthalensis* with artifacts and ecofacts interpreted as “deliberate grave offerings and/or burial goods”. The debate on Neanderthal burial intentionality is compelling for some archaeological sites because of the complex nature of human depositions associated ecofacts, artifacts and spatial funeral arrangements. Deposition in river environment, botanical finds, mounds and hearths, pit structures made of animal horns and rocks, engraved animal bones and rocks, presence of natural pigments and lithic tools without cut-marks make some Neanderthal sites an unicum for Middle Palaeolithic.

In light of new Spanish and French evidences (e.g., Bruniquel, La Pasiega, Maltravieso,

Ardales, Cueva de los Aviones) that could support the hypothesis of Neanderthal artistic expression, the above-mentioned archaeological finds could be considered a



further confirmation of symbolic and communicative intentionality of pre-Sapiens human groups.

The purpose of this study is to analyse Neanderthal artistic and communicative expression in funerary areas. The analysis is based on the use of a database set on archaeological and anthropological parameters. The database is elaborated to distinguish the Neanderthal depositions which present a reliable burial setting from the uncertain. It has also been developed with the aim of using trustworthy Neanderthal burials as references for future developments of archaeological research on the funeral symbolism of *Homo neanderthalensis*. The analysed archaeological sites have shown how Neanderthal behaviour can not be generalised and standardised, but must be chronologically and geographically contextualised.

“NeanderART 2018”

22-26 August 2018  
International Conference  
under the aegis of UISPP  
and the auspices of IFRAO  
University of Turin, Italy  
Campus Luigi Einaudi

PROGRAM OF ACADEMIC SESSIONS  
WORK SCHEDULE

# 22th August 2018

- h. 9.00 Conference Registration (Main Hall)  
 h. 9.45 Official welcome from the organizers and authorities  
 (Room: Aula Magna)  
 Conference Opening, prof. dr. Hipolito Collado Giraldo,  
 IFRAO President (Room: Aula Magna)

## ROOM: AULA 1

## ROOM: AULA 2

### Session 3

### Session 1

- |          |   |  |
|----------|---|--|
| h. 11.15 | <i>Chairs Introduction</i><br>*Chairmen: Robert Bednarik,<br>Marcel Otte, Marco Peresani. | <i>Chairs Introduction</i><br>*Chairmen: José Luis Arsuaga,<br>Hipolito Collado, David Frayer. |
| h. 11.30 | Brühl (p. 20)   | Blackwell (p. 15)  |
| h. 12.00 | Bullen (p. 21)  | Taskiran - Ozcelik (p. 16)   |
| h. 12.30 | Cameron (p. 21)   |  |

## h. 13.00 Lunch

### Session 3

### Session 2

- |          |                     |  |
|----------|---------------------|--|
| h. 14.00 | De Quiros (p. 22)   | <i>Chairs Introduction</i><br>*Chairmen: Henry de Lumley,<br>Giacomo Giacobini |
| h. 14.30 | Dissanayake (p. 23) | Krishna (p. 18)  |
| h. 15.00 | Dubal (p. 24)       | Rossi – Mussi (p. 19)  |
| h. 15.30 | Hughson (p. 24)     | Assaf (p. 17)  |
| h. 16.00 | Kumar (p. 25)       | Bednarik (p. 17)   |
| h. 16.30 | Otte (p. 27)        |  |

# 23th August 2018

## ROOM: AULA 1

## ROOM: AULA 2

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### Session 3

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### Session 3a

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h. 9.30 Langley (p. 26)  
h. 10.00 Macciardi (p. 26)  
h. 10.30 Rodriguez-Hidalgo (p. 27)

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### **h. 11.00 Coffee Break**

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h. 11.30 Samaniego (p. 28)  
h. 12.00 Scardovelli (p. 29)

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### **h. 13.00 Lunch**

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h. 14.00 Steiner (p. 29)  
h. 14.30 Torkamandi (p. 30)  
h. 15.00 Turk (p. 31)

*Chairs Introduction*  
\*Chairmen: Ella Assaf,  
Francesca Romagnoli  
Arthur (p. 32)  
Barkai (p. 32)  
Efrati (p. 33)

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h. 15.30 Comba (p. 22)  
h. 16.00 Collado (p. 25)  
h. 16.30 Bednarik (p. 20)

# 24th August 2018

## ROOM: AULA 1

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### Session 3a

- h. 9.30 Hiscock (p. 35)  
h. 10.00 Langley (p. 35)  
h. 10.30 Radovic (p. 36)
- 

### **h. 11.00 Coffee Break**

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- h. 11.30 Sinitsyn (p. 37)  
h. 12.30 Romagnoli (p. 37)
- 

### **h. 13.00 Lunch**

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- h. 14.00 Frayer (p. 34)
- 

## ROOM: AULA MAGNA

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- h. 14.30 Francesca Garanzini (Ciota Ciara cave, Field Trip presentation)  
h. 15.00 Marco Peresani (Fumane cave, Field Trip presentation)  
h. 15.30 Conference Closing prof. dr. Henry de Lumley, NeanderArt2018  
International Conference President
- 

## Farewell Dinner

On Friday, August 24, at the end of Academic Sessions, a Farewell Dinner is organized in a typical Turin restaurant, h. 19:30. Information: Secretariat desk.

Price: 50 € (cocktail, starter, main and second course, dessert, typical Italian wine)

# Field trips

## Field trip 1 – Fumane Cave (Verona) – August 25, 2018

Archaeological excavations directed by Prof. Marco Peresani (Ferrara University).  
**Fee:** 50€ (excluding lunch)

### Program

7:00 | Meeting in Turin and departure by bus.

11:00 | Arrival in Fumane.

Visit of the cave led by Prof. Marco Peresani, director of excavations.

Transfer by bus from Fumane to Sant'Anna d'Alfaedo.

13:30 | Lunch in Sant'Anna d'Alfaedo.

15:00 | Visit of the Paleontological and Prehistoric Museum of Sant'Anna d'Alfaedo.

16:30 | Departure for Turin.

20:30 | Arrival in Turin.

### Fumane Cave

Grotta di Fumane (Fumane cave), located a few kilometers north of the town of Fumane (Verona), is one of the major prehistoric archaeological sites in Europe and an exceptional document of the lifestyles of both Neandertal man and early Modern humans. This cave has been studied since 1988 by the Regional Authority (Soprintendenza del Veneto).

If you want to have more details, visit the website [www.grottadifumane.eu](http://www.grottadifumane.eu)

### History

A few miles north of the town of Fumane (Verona), in the 1960s archaeologist G. Solinas discovered what is now called Grotta di Fumane (Fumane cave), one of the most highly regarded monuments of ancient prehistory. This site is extremely important for understanding the significant biological and cultural change in human evolution which occurred around 40,000 years ago.

The rich evidence preserved in the deposits filling the cave has been studied since 1988 by the Regional Authority (Soprintendenza del Veneto) for Archaeological Heritage, by the University of Ferrara, the University of Milan and the Natural History Museum of Verona, and is an exceptional document of the lifestyles of both Neandertal man and early Modern humans.

This site is essential for studying the way of life, the economy, technology and spirituality of the ancient humans that frequented the Valpolicella area for over 50,000 years, and also for our understanding of the mechanisms that led, around 40,000 years ago, to the affirmation of Modern Man in Europe.

Since 2005 the cave has been accessible to visitors of the Lessinia Park. The traces of Palaeolithic living spaces revealed throughout the stratigraphic sections are an evocative journey through the past.

## **Field trip 2**

### **Borgosesia (Vercelli) – Ciota Ciara Cave August 26, 2018**

Field trip to “Carlo Conti” Museum of Borgosesia and visit of **Ciota Ciara cave**; archaeological excavations are directed by Prof. Marta Arzarello (Ferrara University – Deputy Secretary-General of UISPP – UNESCO)

**Fee** : 35€ (including lunch)

### **Program**

7:30 | Meeting in Turin and departure by bus.

10:00 | Arrival in Borgosesia; tour guide of the “Archaeological and Paleoethological Museum Carlo Conti”, led by Prof. Marta Arzarello.

Inside the Museum it will be possible to see the Paleoethnological and archaeological remains coming from the Monte Fenera Mountain from the Middle Paleolithic to the Roman Age.

12:00 | Transfer by bus and then walk about 40 minutes to reach the cave.

13:00 | Lunch near the cave.

14:00 | Visit of the Ciota Ciara Cave and of the major other caves of the mountain, led by Prof. Marta Arzarello, director of excavations.

Return to the bus.

16:00 | Departure to Turin. Possibility of direct transfer to the airport.

### **The Museum**

The Museum of Archaeology and Palaeontology “Carlo Conti” is dedicated to Carlo Conti, sculptor, archaeologist and Honorary Inspector of Antiquity, who dealt with Archaeology since 1930s in Valsesia. In particular, he studied and detected many petroglyphs of Bronze Age on Monte Bego, France.

The Museum exhibits osseous remains of Neanderthal, unique case of discovery in Piedmont, discovered in the Cave of Ciota Ciara.

### **The cave of Ciota Ciara**

The cave of Ciota Ciara (670 m a.s.l.) is located on the western slope of Mount Fenera, at the mouth of the Val Sesia; it is part of the complex of caves which to date has provided the most important and complete evidence of the Piedmont Palaeolithic. It is an active karstic cave with a development of c. 80 m along the main branch which has two accesses: a south-west triangular inlet and a west secondary opening stemming from the collapse of a portion of the cave’s wall.



After years of interruption, the research and excavations started again in 2009 by the University of Ferrara that has allowed to highlight a stratigraphic sequence with an output of about 1.60 m in the atrial area of the cave.

The whole fauna is dominated by *Ursus spelaeus*, while *Ursus arctos* is more abundant in the upper layers and becomes less represented in the lower ones. Other carnivores found at the site are *Panthera leo*, *Panthera pardus*, *Lynx lynx*, *Canis lupus*, *Vulpes vulpes*, *Meles meles*, *Martes martes*. The ungulates are less represented and show a slight increase in the number of the remains down towards the deeper layers. Among the species present are: *Rupicapra rupicapra*, *Cervus elaphus*, *Stephanorhinus* sp. and *Bos* sp.

The analysis of small mammals has allowed to attribute the central levels of the sequence to a temperate period. The radiometric dates attribute the same levels to about 300,000 years ago.

The stone tools are mainly made with local medium quality raw materials: flint, spongolite and quartz. The reduction sequences are short, in relation to the mediocre quality of raw materials, but show all the typical characteristics of a Middle Paleolithic assemblage. The lithic assemblage is dominated by an opportunistic method, followed by discoid and Levallois methods. The retouched blanks are not very frequent and consist mainly of scrapers, notches and denticulates.

## **Visits to Museums during the days of the Conference**

### **Scheduled visits:**

**Museum of Man and Human Anatomy**, Corso Massimo d'Azeglio 52, 10126 Torino, Reservation is required at tel. 011.6708195 (from Monday to Saturday, 9 am-5pm). Free entry presenting the NeanderART2018 badge.

**Other Museums:** Today Turin and its surroundings offer to visitors and tourists more than fifty attractions including museums, cultural heritage, castles, residences and exhibition centres which, as a whole, represent an international cultural offer.

Infopiemonte - Torinocultura - Via Garibaldi ang. Piazza Castello

Everyday from 10.00 AM to 6.00 PM - Toll-free number: 800.329.329

## Helpful Information

**Registration Desk:** The Registration Desk is situated on the ground floor of the CLE-Campus Luigi Einaudi. All conference Delegates are requested to collect their bags and badges at the Registration Desk.

**Badges:** Badges should be worn at all time during the Conference as they serve as admittance identification for academic sessions.

**Field Trips:** During the Conference, there will be a Field Trips Information desk, at the Information Desk. The operators will be available for consultation and booking concerning field trips.

**Farewell Dinner:** for information and registrations, please contact the Information Desk.

**Academic Sessions:** The four academic sessions will be divided into two parallel sessions, that will take place in the Aula Magna and in the classrooms of the University CLE-Campus Luigi Einaudi.

Papers are 20 minutes long and will be followed by 10 minutes of debate or question time.

**Breakfast, Coffee-break and Lunch:** A bar/restaurant will be available on the ground floor of the University CLE-Campus.

### Emergency numbers

It is active - since March 21, 2018 in Turin and in the province - the **unique emergency number 112**. The service is free and multilingual, allowing the immediate location of users who telephone.

011.4606060: Emergency service Torino City Police

### Taxi

Taxi in Turin: tel. 011 5730 and 011 5737. The operators respond 24 hours a day, 365 days a year, with competence and professionalism.

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