

## 3<sup>rd</sup> September

### **Raw Material Choice and Ornaments: Aesthetics, Availability, Social Value and Manufacturing Considerations**

#### **Papers**

1. Finding a common band-width: Causes of convergence and diversity in Paleolithic beads
2. Attachment technique of European elk (*Alces alces*) tooth pendants and kinships at the Late Mesolithic cemetery Yuzhniy Oleniy Ostrov (Lake Onega, Russia)
3. Zooarcheological contributions to the study of the Çatalhöyük figurines: Choice and modification of horse phalanges
4. Call of the wild? Animal teeth as ornaments in Neolithic Anatolia
5. The odd bone out? Exploring the zigzag motif on bone tools from prehistoric western Anatolia and beyond
6. The Question of the Social Relevance of Bell Beaker Beads and Buttons in Central Iberia
7. Raw material choices for ornaments in the Bronze Age Maros culture
8. Crafts combined. An archaeometric study on Early Bronze Age ornamented pins from Poland
9. Off the Rack: Elaborated antler production in Middle Bronze Age Hungary
10. Mass bone-working industry during the Western Zhou dynasty (1046-771BC)
11. Bone tools from Chengsijiazi (Liao and Jin dynasties), China
12. The mystery of the boar tusks
13. Perforated bone spoons: exploring a unique Romano-British artefact
14. Music in Bone: Middle Horizon Period (AD700 to 1050) Whistles and Flutes from La Real, Arequipa, Peru
15. How many deer does it take to decorate a floor= Decorative use of animal bones in an 18<sup>th</sup> c bathhouse floor at Wrest Park, Bedfordshire, UK

#### **Posters**

1. A Group of Bone Ornaments from Prehistoric Samsun Region, Black Sea, Turkey

### **Identifying and interpreting food taboos: a zooarchaeological approach**

#### **Papers**

1. Food as a cultural marker in archaeology
2. Was pork off the menu? Meat consumption in Sicily in Muslim times (9th-11th century AD)

3. Pig tales: swine consumption in Medieval Iberia
4. Defining the meat pattern consumption in the Nasrid period (13th - 15th centuries). Initial conclusions
5. "I could eat a horse!" – on the taboo of horse meat consumption
6. Following the Rule? Freshwater fish consumption and dietary restrictions in monastic diet in Medieval England
7. Reassessing Zooarchaeology's Approach to the Biblical Foodways and Taboos
8. To eat or not to eat, a mollusc food taboo in Phoenicia?
9. Keeping Kosher at the medieval settlement of Mota del Castrillo, Castrojeriz (Burgos, Spain)
10. Finding the Displaced Tendon. The search for traces of the Jewish butchery in zooarchaeology
11. The foodways of Ashkenazi and Sephardi Jews in post-medieval Amsterdam
12. No seafood and no beef: Food taboos in the Cyprus Neolithic
13. Archaeology of meat eating taboo in Japan: revealing unwritten history
14. Ethnoarchaeological investigation of rational food taboo decisions among Savanna Pumé hunter-gatherers of Venezuela
15. Dietary Taboos and Totemic Systems of the Akans of Ghana: Indirect Cultural Practices for Conserving Fauna Species

## **Exploitation of animal resources in the prehistory of the South-East Europe**

### **Papers**

1. Late Neandertal subsistence in Dalmatia: new data from Mujina Cave (Croatia)
2. An inquiry into the "missing" Central Balkans Mesolithic: faunal remains from Bukovac cave, Serbia
3. Zooarchaeological evidence for the earliest records of Holocene cetaceans in the northern Black Sea
4. Animal bones in the soot: the Zooarchaeology of Neolithic western Macedonia
5. The human-suid relations in Early Neolithic Europe : A case study of the Bulgarian site Dzuljunica-Smardeš
6. Diachronic perspective on animal husbandry of the Late Neolithic settlement at Drenovac, Serbia
7. The economy of the first shepherds in the eastern Adriatic
8. Where are we now? Archaeozoological investigations of Prehistoric contexts from the South-Easter Alpine region - an overview
9. Exploitation of animal resources at the prehistoric site of Ordacsehi–Bugaszeg in Western Hungary
10. Animal husbandry in the Late Bronze Age site of Taraclia-Gaidabul (Republic of Moldova)
11. Exploitation of Fish Resources at Tanais, Southern Russia

12. Bartering for Bambi: Commodification of red deer antler in Middle Bronze Age Hungary
13. Methodologic and Terminologic Problems of Worked Bone Researches in Turkey – Aşağı Pınar as a case study
14. Bone Spoons: A case of Barcın Höyük in North-Western Turkey
15. Use of animal skeletal elements as raw materials in the Early Eneolithic period in the central Balkans

### Posters

1. Exploitation of freshwater mussels in the late prehistory of Southeast Europe: Case study of an Early Bronze Age settlement in Kostolac (Eastern Serbia)
2. New numerous finds of *Dama dama* (L.) from the Neolithic of Bulgaria support the hypothesis of the autochthonous origin of the early Holocene Balkan population of the fallow deer

## Conservative, consistent and comparative: Papers in Zooarchaeology honoring Richard H. Meadow

### Papers

1. The Transition from hunting to herding in the Pre-Pottery Neolithic of southern Jordan
2. Examining the Process of Early Pig Management and Morphological Change in the Tigris River Valley
3. Recording and counting the "nonidentifiable:" revisiting a fundamental methodological issue in zooarchaeology
4. Counting Sheep (and Counting them Again)
5. Domesticatory Practices in Early Caprine Herding: Çatalhöyük and Mehrgarh
6. Subsistence Economy and Husbandry Practices during the Bronze Age at Beycesultan Höyük
7. Provisioning Bronze Age Cities: The role of wild animals at Acemhöyük, Turkey
8. Reviving ancient taste: Rediscovering the Red Sea parrotfish as a delicacy of Byzantine cuisine
9. Feeding the Fathers: Faunal Remains from the Monastery of John the Little, Wadi Natrun, Egypt
10. In search of the origins of domesticated water buffalo in China
11. Cattle and water buffalo domestication and exploitation in South and East Asia
12. Animal sacrifice from tombs at Eastern Zhou cemetery of Songzhuang in Qi County, Henan Province, China
13. Matching dentition-based and post-cranial fusion age profiles in *Sus scrofa* using large samples of pig sacrifices from archaeological sites in early Bronze Age China

## **Animal Domestication and Biotic Exchange in East and Central Asia**

### **Papers**

1. Tappeh Sang-e Chakhmaq (NE Iran) and the Neolithic diffusion to Central Asia
2. To the East: Recent zooarchaeological studies concerning the spread of domesticated animals into Southern Caucasus and Central Asia
3. Subsistence strategies in the Ganqing Region, China across the third and second millennia BCE
4. Earliest millet farming in Inner Asia supported pastoralist livestock amid initial east-west agricultural transmissions
5. Companion or Commensal? An articulated feline skeleton as evidence for adoption of *Felis* sp. at Dzhankent, Kazakhstan
6. Tracing the emergence of horse exchange along the ancient Silk Road through 3D geometric morphometrics
7. Ancient horse DNA reveals the transition of human subsistence strategy from the Neolithic period to the Bronze Age in Nenjiang River Basin, Northeast China
8. Mitochondrial genome analysis of horse remains from Jartai Pass, Xinjiang
9. Horse Exploitation by Nomadic People in the Early Iron Age—the Zooarchaeological Case Study of Tomb 15 in Kalasu Cemetery, Xinjiang
10. Paleopathology and Early Horseback Riding along the Proto-Silk Road: Evidence from the Early Iron Age Sites of Shirenzigou and Xigou, Xinjiang, China
11. Animal remains from Xiongnu satellite burials at Gol Mod 2 cemetery, Mongolia
12. The oldest domestic poultry in East Asia? Immature goose bones from Neolithic Tianluoshan, China
13. Ancient bird remains from Houtaomuga, Da'an City, Jilin (China)

# 4<sup>th</sup> September

## **Zooarchaeology in Turkey: contributions to understanding human-animal relationships at the crossroads of the Old World**

### **Papers**

1. Predomestic caprine exploitation in late Pleistocene Turkey
2. Before the Revolution: Zooarchaeological Insights into the Pleistocene-Holocene Transition in Anatolia
3. Applying Geometric Morphometrics to Regional Questions on the Early Management of Pigs in Central Anatolia: Preliminary Results from Boncuklu Hoyuk
4. Human-animal relations at the Neolithic village of Boncuklu Hoyuk, central Anatolia.
5. Forager-herder trade off, from broad spectrum hunting to sheep management at Aşıklı Höyük, Turkey
6. Avian resource exploitation in Neolithic Hasankeyf Höyük, Turkey: Bustards for feather and pheasants for meat
7. Disentangling human decision-making in early Neolithic Anatolian communities based on ruminant body part distributions
8. From hunting to herding – horses in ancient Anatolia
9. Subsistence strategies and use of the natural environment at late Neolithic Çatalhöyük, Turkey
10. Sorting the sheep from the sheep/goats: identification biases, ZooMS, and changing husbandry practices at Neolithic-Chalcolithic Çatalhöyük, central Anatolia
11. Arslantepe: The day after – EBAI (3000-2750 BC) faunal preliminary report
12. Funerary meals at Tatika: An EBAI-II graveyard in Southeast Anatolia
13. Pastoral economy in Southeastern Anatolia from the Middle Bronze to the Iron Ages. A zooarchaeological assessment
14. An evaluation of zooarchaeological finds in Turkey from Late Antiquity to Seljuk times
15. Between Southeast Europe and Central Anatolia: Zooarchaeology of Western Anatolia
16. The Cultural History of the Anatolian Fallow Deer: 20k BP – present

### **Posters**

1. The Last Elephants of the Euphrates. Elephant bones with cut marks from Early Iron Age levels at Karkemish, Turkey
2. Meat for the feast? The animal bones from the West Sanctuary at Troy (Turkey)

## High-resolution analyses of dental remains: broadening horizons

### Papers

1. Contribution of ecometric methods to describe local environments: the case of the Middle Pleistocene site of Lunel-Viel (Hérault, France)
2. Teeth osteometry as a tool: evaluating white-tailed deer hunting sustainability, at Nueva Esperanza site (Colombia)
3. From pannage to sty keeping: a Geometric Morphometrics study of tooth size and shape differences between Medieval and Post-Medieval English pig populations
4. The use of dental morphology and stable isotopes to distinguish between indigenous sheep and goat breeds in Southern Africa
5. Caution required when using oxygen isotope ratios derived from sequentially sampled bovid teeth to establish mobility
6. Unlocking the dietary history of Late Pleistocene red deer individual from tooth enamel
7. Creating an experimental reference collection to study domestic ovine herds' diet based on dental microwear
8. Behind deer teeth: A microwear and mesowear analysis of Panamanian pre-Columbian archaeological sites
9. Ecological niches of Neanderthal ungulates preys in the Iberian Mediterranean region: are there any variation through the latitudinal gradient?
10. Bear in mind: The last diets of the cave bear (*Ursus spelaeus*) from the Late Pleistocene in the northeast of the Iberian Peninsula
11. Estimating the age and season-at-death of ungulates from the analysis of archaeological dental cementum: recent improvements and perspectives from the CemeNTAA project
12. Determination of the death season by dental cementum analysis of horses *Equus ferus* (Boddaert, 1785) from the Upper Paleolithic site Kostenki 14 (Markina gora) (Voronezh region, Russia)
13. Chemical characterization of cattle dental cementum from Late Neolithic Jarlshof (Scotland, United Kingdom)

### Posters:

1. Rare earth analysis applied to Columbian mammoths (Proboscidea, *Mammuthus columbi*) from Tocuila, México
2. The usefulness and precision of computed tomography (CT) for *Canis lupus familiaris* dental morphometry – its application to a Mesolithic Iberian dog
3. A new program with modern sheep “Ripollesa” breeds: building microwear, stable isotopes and coprolites referents for the Iberian Peninsula

## **The diversity of exploitation and ritual use of animal in ancient East Asia**

### **Papers**

1. Faunal remains analysis of Majiabang site, Jiaxing County, Zhejiang Province
2. The animal utilization and livestock raising strategy in late Neolithic Age along the middle Huai River- a case study of Houjiazhai site
3. Wetland exploitation in the Central Plain: zooarchaeological perspectives
4. Animal use in Guandimiao: a case study of a village site in the Chinese Bronze Age (ca. 1250–1100 BCE)
5. Beyond Oracle Bones: What Else can Turtles from Archaeological Sites in China Tell us about the Ancient Past?
6. The Intercultural Exchange of Horse Sacrifice in the Agricultural-Pastoral Contact Zone during the Spring and Autumn Period and the Warring States Period, China
7. The ancient horse ritual in Japan

## **Paleoecology of the Quaternary using Microvertebrate records**

### **Papers**

1. Investigating the paleoecological context of the earliest hominin settlement in Western Europe using small vertebrates
2. Climatic and environmental impact of Pleistocene-Holocene transition in southern Caspian Sea. Study of microfaunal remains from Ali-Tappeh cave, Iran
3. Of Mice and (Neanderthal) Men: a taxonomic and taphonomic analysis of the small mammal assemblages from Hohle Fels and Geißenklösterle caves in the Ach Valley, Germany
4. A weighted Averaging Partial Least Squares model for paleoenvironmental reconstruction: a case study from Upper Paleolithic Manot Cave, Israel
5. Studies of modern and archaeological microvertebrates in the Ongamira Valley. Taphonomy, taxonomy, paleoenvironmental conditions and models of human occupation in the north of the Córdoba province (Central Argentina)
6. Post-glacial recolonization of Europe by *Microtus arvalis* – Evidence from ancient DNA
7. The tortoise, hare, mole rate, and legless lizard: A contextual approach to testing the broad spectrum hypothesis in the south Levantine Natufian culture
8. Big vs. Small: New Evidence on Human Site Use and Preservation Bias from Tabun Cave Fauna (Layer C; middle Middle Paleolithic), Mount Carmel, Israel

## **Excuse me, there is a hare in my soup! Taphonomic studies on small vertebrates**

### **Papers**

1. Looking at the small picture: How does the taphonomy of small vertebrates complement the research on human subsistence practices and lifestyle?
2. Tortoise soup: staple or supplement food in the Portuguese Middle Palaeolithic
3. Marsupial manipulators: Preliminary taphonomic signatures for the Tasmanian devil (*Sarcophilus harrisii*) and further analysis of the spotted-tailed quoll (*Dasyurus maculatus*)
4. Experimental results with an untested small carnivore, the Honey Badger (*Mellivora capensis*)
5. The land of plenty. Culinary privileges of smelters at the Copper Age pile-dwelling site of Stare gmajne (Slovenia)

## **Understanding cattle-human interactions: interdisciplinary approaches to an ancient relationship**

### **Papers**

1. Near Eastern ancient genomics and insights into cattle prehistory
2. Comparing Neolithic cattle kill-off patterns in Anatolia, Eastern and Northwestern Europe; a contribution to the study of dairying
3. The genetic diversity of the southwest Asian aurochs and its evolution during domestication
4. Cattle for the Ancestors at Neolithic Çatalhöyük, Turkey
5. Cow milk exploitation and calf weaning in the Early Neolithic Balkans: insights from intra-tooth variations in nitrogen isotope ratios
6. Multi-disciplinary perspectives on Linearbandkeramik cattle and their primary and secondary product exploitation
7. Modelling the arrival and spread of domesticated cattle into Neolithic Britain
8. Mobility of cattle herds in the Late Neolithic: a case study from southern Britain
9. A multidisciplinary approach to cattle management strategies in the Iberian Peninsula: understanding selective signatures and cattle use in cave sites during middle Neolithic
10. Bovid (cattle and yak) riding and traction in Mongolia and interior Eurasia
11. The aurochs deposit from the Chalcolithic ditched enclosure of Camino de las Yeseras (Madrid, Spain)
12. The emergence and intensification of cattle traction in China
13. Initiation and intensification of cattle husbandry in the southern Levant
14. Interactions between human and cattle during the Early Iron Age in Anuradhapura, Sri Lanka
15. Size of cattle as a proxy of the social and economic environment

16. The late Roman to early Anglo-Saxon transition in Britain: the evidence from cattle husbandry
17. Cattle improvement in the cities of Roman Lusitania
18. An archaeogenetical study of cattle bones from 17th century Carnide, Lisbon, Portugal

### **Posters**

1. Economic change and agricultural identity in Iron Age and Roman Europe. The case of cattle breeding in Britain
2. Food for Thought: An investigation into South Shields as a major supply base in North-East England during the 3rd century AD.

# 5<sup>th</sup> September

## **Archaeozoology beyond the bones: future and prospects of biomolecular and physico-chemical analyses**

### **Papers**

1. Wild boar or domestic pig? Bronze Age suid mandibles deposit in northern Azerbaijan, Iran, investigated through morphometric and stable isotope analyses.
2. Combining archaeozoological record and stable isotopes in human bones to understand meat consumption in the Western Mexican Highlands
3. Stable Isotope analysis of food waste: creating a better understanding of Amsterdam's animal supply during the 17th and 18th century AD
4. Feeding practices among early domestic cattle in the Iberian Peninsula during the Early Neolithic: an isotopic approach
5. From fish, bones and sea: Assessing coincidences between sclerochronology and isotope ecology of ichthyofauna with other paleoecological proxies for the late Holocene of the Strait of Magellan (south-Patagonia), Chile
6. Cautionary case studies: Comments on the use of isotope analysis in zooarchaeology
7. Animal husbandry biomarkers in pastoral nomadic winter campsites in Eastern Mongolia. Carbon isotope ratios of plant n-alkanes in dung deposits
8. When chickens colonised Europe: dispersal routes, phenotypes and patterns of admixture based on ancient and modern genomes
9. Archaeogenomics of Viking Age Sheep in the North Atlantic
10. Paleogenomics, its power and its caveats: a case study of the evolutionary history and population dynamics of bison in Europe and its adaptation to climatic fluctuations

## **Zooarchaeology in the Pacific**

### **Papers**

1. Evidence of Maori–kuri (*Canis familiaris*) interactions from a pre-European Maori cemetery at Auckland, New Zealand
2. The pinnacle of satisfaction': archaeological evidence for hakari (feasting) in pre-European Maori society
3. Marine resource use and maritime tradition in the atolls of Micronesia: Pingelap Atoll (Pohnpei State) as a case study

## **Putting the humor back into zooarchaeology**

### **Papers**

1. Let's get humorous...
2. Searching for humors in dark places
3. Healing the body, healing the soul: Dietary practises within Medieval leprosy hospitals
4. Some advice for 'phlegmatic men': a humoral assessment of the faunal remains from Woking Palace
5. Food, identity and humoral theory in early modern England: a case study from Leicestershire

## **Mobile pastoralism through the interdisciplinary lens**

### **Papers**

1. Horse Sacrifice and Butchery Practices in Late Bronze Age Mongolia
2. Companions in Life and Death: Pastoralism in Middle to Late Bronze Age Naxçıvan, Azerbaijan
3. Who saw the potential? Early Pastoral Production in the Arid Margins
4. Pastoral economy in the Bronze Age Anatolia and Aegean

### **Poster**

1. The Embodied Sheep: an interdisciplinary review of faunal assemblages in the British pastoral landscape

## **Bone refits in faunal analyses: case studies and applications in archaeological assemblages**

### **Papers**

1. Bridging gaps – surface discontinuities in mechanical bone refits
2. Using Differential Geometric Methods to Improve Zooarchaeological Methods for Refitting Fragmented Faunal Remains
3. Bone refits in faunal assemblages' K and M Levels of Abric Romaní site (Capellades, Spain)

4. Space, time and movements: how bone refits can be used to reconstruct Neanderthal's occupational models: the case of Abric Romani (Barcelona, Spain) and Riparo Tagliente (Verona)

## **TEETH: to know, to eat, to use**

### **Papers**

1. Preliminary taphonomic results about dental wear analysis
2. Taphonomical studies of teeth as possible raw material: human use and modifications at Cova Eirós Cave (Galicia, Spain)
3. Teeth pathologies of early medieval horses from excavations in Poland
4. Who ate whom? Carnivore tooth marks on animal bone remains

### **Posters**

1. Carnivore tooth marks on bones in a natural karst trap (Cava a Filo, Croara, Bologna, northern Italy)
2. Human tooth marks: An experimental approach to Helmeted Guinea fowl (*Numida meleagris*)
3. Supernumerary cheek tooth in a Byzantine horse from Turkey
4. Upper Paleolithic teeth ornamental objects in north-eastern Italy: Aurignacian vs Gravettian, comparing of processing techniques
5. Elephant or Mammoth Ivory? Distinguishing the species on a Bronze Age ivory artefact by measuring Schrenken angles

# 6<sup>th</sup> September

## **The archaeology of human impact on faunas: between historical and biological sciences**

1. The tale of Père David's deer: zooarchaeological records and conservation
2. Marine turtle consumption in the Mediterranean: From ancient taboo to conservation management
3. Exploitation of terrestrial herpetofauna in Guadeloupe islands by Amerindian Pre-Columbian populations
4. Reflexion toward the southern expansion of the wild turkey and the reality of the South Mexican subspecies: How can we differentiate natural range from human-mediated dispersion?
5. Morphological diversity of modern and past domestic equids: complete skeletons as a marker of function and cultural practices
6. Sus 100: Osteological morphological variation in pigs associated with the development of industrialised pork production in twentieth century Germany
7. DOMEXP: towards new morphometric markers of the domestication process

## **Zooarchaeology for Global Challenges**

### **Papers**

1. Investigating the environmental impact of domesticated animals on Northern and Central European forests during the early Neolithic
2. “Herding this camel or leaving this land?”: interim assessment of a small-scale archaeological animal culture project in western Turkey
3. Knowing the past to empower the present in herding communities of Antofagasta de la Sierra (Southern Argentine Puna)
4. Peripheral Palaeoanthropocenes: Integrating Livestock and Landscapes in Iceland
5. Lessons from the Past: Zooarchaeological Analysis of Broad Spectrum Diet (BSD) and Sustainability at Prehistoric Kumeyaay Village Sites in Coastal San Diego, California
6. Fair Game: exploring the dynamics, perception and environmental impact of wild foods
7. Tracking ancient animals to provide an archaeological perspective on wild mammal management, conservation and ‘rewilding’
8. Policymakers should rethink ‘wildness’ as a principal criterion for conservation in the light of new zooarchaeological and ancient genomic perspectives: the Przewalski horse case study
9. Neglected zoonotic diseases ancient and modern: brucellosis and human-animal relationships in long-term perspective

10. Tackling human health and wealth in the Horn of Africa through archaeogenetics and epidemiology of faunal remains: An Introduction to the HORN project

## **From Macroscopic to Molecular Methods and Techniques: A Discussion on Tools for the Study of Archaeofaunal Remains**

### **Papers**

1. Preliminary report of strontium isotopic values for six herbivorous species from Cedral, San Luis Potosí, México
2. Creation of an Osteological Cetacean Reference Manual
3. The FINDER Project: Using high-throughput ZooMS to identify fragmented bones at Denisova, Cave and Strashnaya Cave
4. Sample now or save later? Destructive sampling of archaeological animal remains
5. Carbon, nitrogen and oxygen stable isotope compositions of South American camelid bones from the archaeological site of Hornillos, 2 (Dry Puna, Argentina)
6. Analysing bone microstructure as a marker of animal use and exploitation of first domesticates
7. An overview of zooarchaeological research in Brazil: Multiproxy analyses

## **Commensal vertebrates as bioproxies for human processes**

### **Papers**

1. Reconsidering concepts of cultural selection in early domestication with an appeal to the commensal model
2. Fox Overabundance and Early Sedentism in the Near East
3. Outfoxed: Exploring the phenomenon of the ‘urban fox’
4. Teaching Old Data New Tricks: Phenotype affinity among canidae skulls
5. The arrival of domestic cats to the UK and Ireland: an ancient DNA study
6. Reviewing the rat: *Rattus rattus* and the archaeology of trade, urbanism, and disease in historic Europe
7. Micromammals, humans and environments – long-term perspectives on human-micromammal relationships on Orkney, Scotland: preliminary interpretations

## **Animal remains and built space – contribution to the taphonomy of buildings**

### **Papers**

1. Inside Göbekli Tepe – Dissecting a Layer Cake
2. Butchery, consumption and disposal at Bronze Age Çukuriçi Höyük in Western Anatolia
3. Pottery and bones, foundations for good relations
4. To believe or not to believe? The reliability of the animal remains as whisperers of the social stratification in the Bronze Age Monkodonja (Istria, Croatia)
5. Architecture and Consumption in the Terrace House 2 in Ephesos

## **Teaching and outreach in zooarchaeology**

### **Papers**

1. A Pint of Science, please! Talking of animal bones and teeth in pubs
2. Outreach at the margins of science and humanities: a tweet tweet tweet experience
3. STEM engagement, primary education and zooarchaeology in the UK
4. Digital media in support of teaching and outreach in zooarchaeology: 3-D imaging in the classroom
5. Teaching zooarchaeology: bottom-up or top-down?
6. Training archaeologists in 21st century Spain: the role of Zooarchaeology in higher education
7. Actions teach louder than words: a multi-faceted approach to zooarchaeology teaching at Sheffield
8. Rethinking how we teach zooarchaeology and building a teaching collection for faunal analysis
9. Let's get digital: teaching and sharing zooarchaeological methods using virtual and augmented reality
10. Is this the future? Using 3D models to teach zooarchaeology virtually

# 7<sup>th</sup> September

## **Animal introduction, adaptation and exploitation around the Baltic and beyond**

### **Papers**

1. Radiocarbon dated fauna on the Early Settlements in Northern Sweden
2. The food-economy of northern Norway in the Younger Stone Age based on animal remains from archaeological sites in the Varangerfjord area
3. Tiptoeing around the marrow pot: Marrow fracturing in Neolithic European elk in northern Sweden
4. Tracking venison: skeletal element weight distributions in large cervids in Scandinavia
5. Of Sea and of Land: Diverse animal exploitation strategies used by Neolithic Pitted Ware groups along the southwestern Baltic coast
6. Dog associated bone groups in Liv cemeteries of the Late Iron Age in present-day Latvia
7. Cut marks on bones, traces of ritual through animal remains at Helgö, Sweden
8. Through a magnifying-glass, and what we found there about bird exploitation on a Baltic island during the Bronze Age (and a little beyond)
9. Bird exploitation in Viljandi (Estonia) from the Late Iron Age to the Early Modern Period (850–1700)
10. Detecting medieval foodways in the eastern Baltic through provenance analyses
11. Utilization of oxen in the Baltic Sea Region
12. Investigating the morphometrics of sheep in north-eastern Europe from the Early Neolithic Period to modern native breeds

## **Long term temporal trends in animal use**

### **Papers**

1. Animal presence in archaeological record along the cultural sequence of Arica Highlands, in south central Andes: From Hunter Gathers to Colonial times
2. Use of camelids and processes of change in the south central Andes from the Early Holocene to the Inca expansion (ca. 10000-500 years BP): Contributions from the Puna of Salta, Argentina
3. Changes in the exploitation of animal resources at Punta Teatinos, Semi-arid coast of Chile (29 ° 55'S - 71 ° 15'W). A crossing of malacological, ichthyofaunal evidences and terrestrial and marine vertebrates from 3,500 BC until 1450 AD
4. The care of lama herds in Quebrada de Humahuaca, Jujuy, Argentina. A journey throughout time 900 years ago

5. Camelid introduction to the Pacific coasts analyzed through behavioral ecology framework
6. Temporal trends in faunal exploitation by hunter-gatherers in the central pampean dune fields of Argentina
7. A Biometrical Study of the Evolution of Pig Domestication in Italy
8. Economy, Diet and Animal Resources Exploitation Trends in Prehistoric Sardinia (3rd-2nd millennium BC). New Archaeozoological Data from Neolithic Puisteris and Chalcolithic-Nuragic Cuccurada (Mogoro, Italy)
9. Exeter from Fort to City - an urban case study
10. From the Early Neolithic to the Medieval period - archaeozoological studies of the animal remains discovered at the multicultural site Miechów 3 (Lesser Poland)
11. The grass is always greener? Change and continuity in husbandry strategies and landscape organisation in the late medieval and early post-medieval English countryside
12. Testing the 'Broad Spectrum Revolution': Assessing temporal trends in faunal exploitation in the southern Levantine Natufian and PPNA (15,000 - 10,500 cal. BP)
13. The domination of terrestrial snails "albino" in the prehistoric sites of Tunisia during the Holocene: a human strategy?
14. Livestock through the ages -Long-term trends in animal husbandry in two regions of Sweden from Bronze Age to the Middle Ages

## **Social Networks and Animal Ageing and Sexing**

### **Papers**

1. Introduction: Ageing and Sexing Animal Remains: Social Insights from ancient Greece and Peru
2. Rock Hyraxes (*Procavia capensis*) from Middle Stone Age Levels at Blombos Cave, South Africa
3. A Neolithic feast: new evidence for consumption of wild boar in the central Zagros, Iran
4. Camelids and Social Interaction in Middle Horizon Cusco: Assessing Herd Profiles at Ak'awillay, Peru
5. Sheep castration in the medieval and modern periods in Europe: modalities, demographics and archeological evidence
6. Application of Osteological Measurements and Nonmetric Traits to Assess the Ontological Age of White-tailed Deer (*Odocoileus virginianus*) in Archaeological Assemblages
7. Understanding caprines perinatal mortality at the early Neolithic site of Els Trocs cave (Bisaurri, Huesca, Spain)
8. No teeth, no age? A proposal for chicks ageing
9. "...of everything that is male they offer nine heads...": Age and sex of animals in Old Norse ritual practice reflected in written sources and ritual bone depictions
10. Age estimation of horse teeth

## **Posters**

1. Age Estimation on Patagonian Penguins (*Spheniscus Magellanicus*) from Modern Skeletal Remains

## **Contextual Taphonomy in Theory and Practice**

### **Papers**

1. From meat to meals to middens: Intra-site analysis of faunal refuse management at Neolithic Kfar HaHoresh
2. Hare bones, structured deposition, and ritual in a Neolithic court tomb at Parknabinnia, Ireland
3. Shacks and Scraps: Understanding Middle Epipaleolithic Site Structure in the Southern Levant through Taphonomic Analysis of Faunal Refuse
4. Site organization and waste disposal at the beginning of the transition to agriculture: Insights from Nahal Ein Gev II, Israel
5. Bones around Town: Depositional Patterns at Azoria, Crete
6. Disentangling taphonomic histories at Old Uppsala, a Late Iron Age central place in Sweden, using Multiple Correspondence Analysis (MCA)
7. Characterising intra-site variability in the early Neolithic of central Europe using bone fracture and fragmentation analysis
8. Stories of bones and animals: Taphonomic studies on archaeozoological record of Hunter-Gatherers contexts in Tignamar basin, foothills of northern Chile
9. From intra-site variation to inter-site comparison in medieval and post-medieval Finnish bone assemblages
10. A Cow's Tale: Understanding Post depositional Processes through Contextual Taphonomy at the Site of Ein Zippori, Galilee, Israel (9th to the 4th millennia BCE)

## **Animal Health in Archaeology: Integrating Landscapes, Populations, and Individuals**

### **Papers**

1. Palaeopathological perspectives on wild animal captivity: informing practice through understanding the past
2. Oxygen isotope time series in ancient caprine teeth from Inner Asia reveal winter occurrence of enamel hypoplasias
3. "Of mastives and mungrels that manie we see, a number of thousands too manie there be": trauma, abuse and population control of dogs in medieval Fosses-Saint-Ursin (Calvados, France)

4. The Lives and Care of Dogs in Coclé Chiefdoms: Insights from Tomb Apparel from Sitio Conte, Panama
5. Poor pooch, healthy human? Dog remains from Umm el-Marra, northern Syria
6. "Whatever thing dieth, go bury or burn": epizootic disease and the disposal of animal carcasses from Roman times to the late Modern Period
7. If you pay peanuts, you get monkeys. Health conditions of the non-native animals of ancient Egypt

### **Posters**

1. To be kept or not to be kept, a pork question, a zooarchaeological answer?
2. "It's a Dog's Life"? Utilising pathology as part of a bioarchaeological study investigating British (post)medieval domestic dog populations, and their relationship to humans.

## **Zooarchaeology and stable isotope analysis in arid and semi-arid environments**

### **Papers**

1. Stable isotopes and animal domestication in China
2. Are the hippopotami victims of climate change in India?
3. Refinement of the nitrogen isotopic analyses of mammal herbivores in Anatolia and Levant by collagen and amino acids
4. Preliminary report on the stable isotopes study for the paleomammal fauna from Rancho Córdoba, San Luis Potosí, México
5. Carbon and nitrogen stable isotope compositions of South American camelids in the South-Central Andes: towards a frame of reference at the supra-regional scale
6. Discussion: Zooarchaeology and stable isotope analysis in arid and semi-arid environments

### **Posters**

1. The role of carbon and nitrogen stable isotopes for understanding the dynamics of hunter-gatherer populations in southern Patagonia during late Holocene

## **Shells of molluscs as archaeological and environmental records**

### **Papers**

1. Is one shell enough? Isotope study of recent mollusc shells and its application in palaeoenvironmental reconstructions
2. Archaeomalacological evidence of the site formation processes in the Central Europe

3. An aquatic palaeoecology study on Plio-Pleistocene marine mollusc assemblages of Sangiran Dome, Central Java, Indonesia
4. Paleoenvironment and paleoseasonality at Çatalhöyük revealed from mollusc shells
5. Archaeomalacology at Neolithic Çatalhöyük (Konya Plain, Turkey): results from the 2009-2017 excavations
6. A string of marine shell beads from the Neolithic site of Vršnik (Ovce polje, Republic of Macedonia)
7. Shell Ornaments Distributional Patterns in the Aegean and Eastern Mediterranean Bronze Age as Indicators of Identity and Connectivity
8. Shells at death – The use of shells in Neolithic mortuary contexts
9. Neolithic Exchange Networks of Marine Shell Ornaments in the East Jordan Desert Area
10. Shrimp remains (Crustacea decapoda) in the Roman harbour of Ratiatum (Rezé, Loire Atlantique, France): species identification and biometry
11. Exploitation of molluscs in Alexandria (Egypt) during the Antiquity: an overview of usages
12. The exploitation of marine invertebrates along the French Atlantic Coast during the Middle Ages and the early modern period
13. Diachronic exploitation of molluscs prior to and contemporaneous Ephesos
14. International and long-distance trade of fresh molluscs and shells: a view from the Byzantine Negev
15. Making archaeomalacology accessible within archaeology: opening the discussion

## **Posters**

1. Application of carbon ( $^{13}\text{C}$ ) and oxygen ( $^{18}\text{O}$ ) stable isotope analysis to determine the origin of shells used to produce ornaments from Neolithic burial sites in central Poland
2. Evidence of crayfish in several medieval and post-medieval sites in the East of France
3. Investigating the Size of Aquatic Catchments through the Reconstruction of Freshwater Mussel Habitats in Mississippi and Alabama, USA
4. Shades beyond purple: Examining other uses of molluscs in the Iron Age Levant