



ISBA 10: New Horizons in Biomolecular Archaeology

Estonian National Museum, Tartu, Estonia

13th to 16th of September 2023

Programme

Wednesday, 13th September

9.15–9.30	Welcome to ISBA10!					
9.30–10.30	Keynote: Anne Stone – Ancient DNA research since the first ISBA conference					
10.30–11.00	Coffee break					
11.00–12.30	Session 1A: Kinship and social structure			Session 1B: Ancient foodways I		
	KSS-001	Guido Alberto Gneccchi- Ruscone	Ancient DNA-based large pedigrees and haplotype-IBD networks provide unprecedented insights into the social structure of steppe descent Avar period communities	AF-001	Léa Drieu	Widen the perspectives: expanding the range of identifiable content in African pottery
	KSS-002	Frederik Seersholm	An Outbreak of the Stone Age Plague in a Large Extended Family	AF-002	Jasmine Lundy	Investigating the adoption of rice and millet by hunter-gatherer-fishers of central Japan using organic residue analysis
	KSS-003	Éadaoin Harney	The Genetic Legacy of African Americans from Catoclin Furnace	AF-003	Shinya Shoda	Regional differences in stone cooking in the Japanese Palaeolithic as revealed by lipid residues
	KSS-004	Ian Armit	Ancient DNA and kinship analysis at the Iron Age cemetery of Wetwang Slack, East Yorkshire, UK	AF-004	Edward Standall	Investigating the use of broomcorn millet (P. miliaceum) in culinary activities across East Kazakhstan throughout the Bronze Age
	KSS-005	Eirini Skourtanioti	Investigating the population history of present-day Georgia using diachronic archaeogenomic data	AF-005	Rachel Vyukal	From Dates to Hens: Exploring Lipid Biomarkers for Novel Commodities in Roman Britain
12.30–14.00	Lunch					
14.00–15.30	Session 2A: Domestication			Session 2B: Methodological advancements		
	DOM-001	Marcello Mannino	Mixed diets at the Mesolithic-Neolithic transition? Bulk and compound-specific isotope evidence for the interaction between hunter-gatherers and farmers at Grotta dell'Uzzo (Sicily)	MET-001	Nicola Alexandra Vogel	euka – Robust characterisation of eukaryotic taxa from sedimentary ancient DNA with pangenome graphs

DOM-002	Marcela Sandoval-Velasco	Exploring the domestication of Agave – Preliminary results from the Tehuacán Valley Caves in central Mexico	MET-002	Bharath Anila Bhuvanendran Nair	Investigation of protein degradation using LC-MS/MS, MALDI-MS, and Amino Acid Racemization: A case study with Beta-lactoglobulin
DOM-003	Anders Bergström	The genetic identity of Europe's first dogs	MET-003	Théo Cavinato	Using ancient and modern DNA from relatives to reconstruct a missing genome
DOM-004	Áine Halpin	Origins and genomic trajectory of the domestic sheep	MET-004	Irina M. Velsko	Extensive diversity of unnamed Anaerolineaceae taxa in ancient dental calculus revealed through de novo genome assembly
DOM-005	Marco De Martino	Paleogenomics of European wild and domestic cats	MET-005	Katia Bougiouri	Imputation of ancient dog genomes informs on their inbreeding history since the onset of domestication

15.30–16.00

Coffee break

16.00–16.30

Invited talk: **Melanie Roffet Salque** – Advancing the application of lipids in archaeological and palaeoenvironmental reconstruction

16.30–17.00

Invited talk: **Giedrė Motuzaitė Matuzevičiūtė** – A biomolecular approach to millet journey across time and space

17.00–17.30

Flash talks I

CEP-009	Yi Wang	A 14-thousand-year high resolution metagenomic exploration of Lake Constance
METP-019	Femke Reidsma	Fundamental Fire: laboratory-based chemical research into the effect of diagenesis on heated bone and its implications for the study of fire proxies and other biomolecules in the deep past.
DENP-001	Donikë Sejdiu	Herbarium DNA confirms 20th-century presence in Europe of Phytophthora lineage that caused Irish Potato Famine
METP-023	Adrià Breu Barcons	Caution! Contents were hot: experiments exploring the suitability of novel high-temperature lipid biomarkers detected in Mediterranean neolithic pottery
NOVP-005	Nikolay Oskolkov	aMeta: an accurate and memory-efficient ancient Metagenomic profiling workflow
ODAP-007	Jack Sharpen	Assessing Biomolecular Degradation using a multi-omic approach
NOVP-011	Liam T. Lanigan	Multi-omic analyses of palaeofaeces from Viking Age Ribe, Denmark
METP-041	Lucas Anchieri	Assessing ancient DNA sampling strategies for natural selection inference with time-series data
NOVP-017	Isabel Wiltshire	Using a multi-pronged approach to the analysis of absorbed lipid residues to investigate chronological trends in pottery use from the Neolithic to the Iron Age in Saxony
HDP-011	Ian Light	Molecular evolution of Y. pestis using ancient and modern genomes
PLEP-001	Palesa Madupe	Paranthropus robustus first dental enamel proteome

17.30–18.30

Poster session I

18.30–19.30

Annual general meeting for ISBA members

19.30–21.00

Reception at the Estonian National Museum

Thursday, 14th September

9.00–9.30	Invited talk: Benjamin Vernot – Metagenomics Reveals the Past					
9.30–10.00	Invited talk: Beatrice Demarchi – Ancient proteins in archaeology					
10.00–10.30	Coffee break					
10.30–12.00	Session 3A: Community, sustainability & environment I			Session 3B: Ancient fauna		
	CE1-001	Rita Peyroteo Stjerna	Researchers' perspectives on the ethics of human remains research: from tissue to biomolecules	FAU-001	Merlin Szymanski	A systematic evaluation of hominin and faunal DNA preservation in Pleistocene sediments
	CE1-002	James Fellows Yates	Building a community-based consensus for ancient sequencing data metadata reporting with MInAS	FAU-002	Aur�lie Boilard	Reconstructing faunal diversity from the last Glacial period in northern Norway using zooarchaeology and bulk-bone metabarcoding
	CE1-003	Andre Carlo Colonese	Biomolecular archaeology meets ocean conservation in biodiversity hotspots	FAU-003	Courtney Hofman	A Ghost on the Coast: Lessons from the Extinction of the Sea Mink (Neogale macrodon) and Conservation Implications for the American Mink (Neogale vison)
	CE1-004	Oya Inanli	Metagenomic perspectives on traditional beer brewing: New insights from Scandinavian yeast rings	FAU-004	Genevi�ve Pothier-Bouchard	Exploring question-oriented mass sampling strategies to integrate ZooMS into zooarchaeological analyses of prehistoric faunal collections
	CE1-005	Elena Essel	Tracing touch through time: Ancient human DNA recovered from a Palaeolithic pendant	FAU-005	Jorune Sakalauskaite	Spondylus Palaeoproteomics: tracing the iconic shell of prehistory
12.00–13.30	Lunch					
13.30–15.00	Session 4A: Human population genetics I			Session 4B: Health and disease I		
	HG-001	Cosimo Posth	Comparing demographic and cultural histories of Brazilian Sambaqui societies	HD1-001	Iseult Jackson	Contrasting evolutionary and adaptive histories revealed for three oral pathobionts recovered from Bronze Age Irish remains
	HG-002	Yusuf Can �zdemir	Genetic history of the Altai Population 4th–14th centuries	HD1-002	Kay Pr�fer	Down syndrome in ancient societies
	HG-003	Mehmet Somel	In the pursuit of CNVs in palaeogenomes	HD1-003	Kerttu Majander	High-coverage genomic data of ancient treponemal bacteria allow multifaceted analyses on the evolution and adaptations of Treponema pallidum
	HG-004	Luciana G. Sim�es	Northwest African Neolithic ignited by migrants from Iberia and Levant	HD1-004	Richard �gren	Recent increase in allele frequency of the common norovirus-protective FUT2 variant

	HG-005	Javier G. Serrano	The peopling of the Canary Islands	HD1-005	Gunnar Neumann	The evolutionary path of the Salmonella enterica Para C lineage
15.00–15.30	Coffee break					
15.30–17.00	Session 5A: Ancient foodways II			Session 5B: Community, sustainability & environment II		
	AF2-001	Aleksandra Laura Pach	Palaeodietary reconstruction from chewed birch pitch using shotgun metagenomics	CE2-001	Camilla Speller	Mapping long-term changes in the biodiversity of Pacific Herring
	AF2-002	Joannes Dekker	Recovering proteins from foodcrust, biased from the start	CE2-002	Elisabetta Cilli	Historical ecology and species diversity of Mediterranean marine apex predators
	AF2-003	Eleftheria Orfanou	Biomolecular and macro-botanical evidence sheds light on millet consumption in Late Bronze Age Central Germany	CE2-003	Anne Marie Høier Eriksen	Exploring Degradation of Arctic Heritage through metagenomics
	AF2-004	Lindsey Paskulin	Proteomic Insights to Foodways among the Moche of North Coastal Peru	CE2-004	Yvan Moënné-Loccoz	Metabarcoding and metagenomic assessment of microbial stains on the walls of Paleolithic Lascaux Cave
	AF2-005	Rachèl Spros	The make-up of skeletons to make-up a city	CE2-005	Lennart Schreiber	Deciphering climate change impacts on Arctic marine mammals using sedimentary ancient DNA
17.00–17.30	Flash talks II					
	AFP-006	Ester Oras	Farmers hunt: multi-proxy analysis reveals complex subsistence systems at the dawn of early farming in the NE Baltic			
	METP-030	Lei Huang	Exploring allele frequency dependencies of F4-statistics for investigating fine-scale population structure			
	CEP-002	Christina M. Carolus	How the Steppe was Sown: Transcontinental Origins and Local Innovations at Mongolia's Earliest Sites of Indigenous Agriculture (c. 250 BC–150 AD)			
	METP-022	Matthew Williams	The Limits of Ancient DNA Analysis in Resolving Recent Human Genetic History			
	CEP-004	Elisabetta Cilli	Using ancient genomes to investigate responses to climate and anthropogenic impacts in the Atlantic bluefin tuna			
	HDP-018	Daniel Kolbe	Current allele distribution of the human longevity gene APOE in Europe can mainly be explained by ancient admixture			
	FAUP-008	Magdalena Krajcarz	Advances in single amino acid nitrogen isotopic analysis of carnivore trophic position			
	KSSP-004	Ruairidh Macleod	Palaeogenomics of Stone Age Hunter-Gatherers at Lake Baikal			
	METP-010	Yun Chiang	Going de novo? The suitability of de novo sequencing for ancient proteins			
	NOVP-020	Niall Cooke	Complex analyses of ancient soil samples from burial context			
	PLEP-002	Diyendo Massilani	The high-coverage genome of a male Neandertal			
	METP-032	Francesco Montinaro	Assessing ancestry through Principal component analysis			
17.30–18.30	Poster session II					
18.30–19.30	Break / Guided tours at the Estonian National Museum (optional)					
19.30–23.00	Dinner at the University of Tartu Museum (optional)					

Friday, 15th September

9.00–10.00	Keynote: Carl Heron (Feat. Moderators Ian Barnes & Oliver Craig) – Biomolecular archaeology and museums: History, curation and engagement					
10.00–10.30	Coffee break					
10.30–12.00	Session 6A: Diet & environment			Session 6B: Pleistocene		
	DEN-001	Carlo Coccozza	Detection of protein malnutrition using amino acid isotopic tracers	PLE-001	Alba Bossoms Mesa	Fine-scale genetic history of North-Western European Late Neandertals
	DEN-002	Izzy Davis	Towards a more sensitive method for detecting freshwater resource use in archaeological pottery	PLE-002	William Marsh	Using ancient biomolecules to reveal the social structure and behaviours of the Upper Palaeolithic Magdalenian at Gough’s Cave, UK
	DEN-003	Dorothee Drucker	New determination of C, N, O and S stable isotopes Trophic Enrichment Factors in bone collagen and apatite of carnivorous mammals from Białowieża Forest (Poland)	PLE-003	Marco Rosario Capodiferro	Geographical and Chronological patterns of archaic introgression in ancient Human genomes
	DEN-004	Cynthianne Spiteri	The potential of Sequential Thermal Desorption/Pyrolysis-Gas Chromatography-Mass Spectrometry in the analysis of human dental calculus: a case study from the Bronze Age Aegean	PLE-004	Dorothea Mylopotamitaki	Proteomic and mtDNA species identification of archaeological bone remains in cave Ilsenhöhle Ranis (Germany).
	DEN-005	Willemien de Kock	Bioarchaeological record reveals millenia-long use of North African seagrass meadows by endangered green turtles	PLE-005	Arev Pelin Sümer	High coverage genomes of two of the earliest Homo sapiens in central Europe
12.00–13.30	Lunch					
13.30–15.00	Session 7A: Health and disease II			Session 7B: Origins, dating & authentication		
	HD2-001	Arthur Kocher	An ancestral recombination graph for the hepatitis B virus	ODA-001	Marc Dickinson	Advances in amino acid dating of mammalian tooth enamel: testing for endogeneity, and the effects of taxonomy and taphonomic alteration
	HD2-002	Christina Wurst	Atherosclerotic cardiovascular disease in mummies - A polygenic risk score based on a genetic enrichment approach	ODA-002	John Meadows	The collagen, the whole collagen, and nothing but the collagen: testing alternative extraction protocols for dating large numbers of poorly preserved mid-Holocene bones at Vrable, Slovakia
	HD2-003	Bárbara Sousa da Mota	Investigating the ecological suicide (“ecocide”) theory in Rapa Nui with ancient DNA data	ODA-003	Davide Bozzi	Towards predicting the geographical origin of ancient samples with metagenomic data

	HD2-004	Cindy Gilda Santander	Optimising sampling and analysis strategies for detecting epidemic-driven selection: a simulation-based tool.	ODA-004	Victor Yan Kin Lee	An Algorithm for Optimally Partitioning Spatiotemporal Archaeological and Genetic Data
	HD2-005	Aurélie Manin	Ancient chicken remains reveal the origins of virulence in Marek's disease virus	ODA-005	Lisa Briggs	DNA from ancient shipwrecks: where it comes from and why it matters
15.00–15.30	Coffee break					
15.30–17.00	Session 8A: Human population genetics II			Session 8B: Novel Approaches		
	HG2-001	Xavier Roca-Rada	Living on the edge: 5,000 years of human occupation of Portugal	NOV-001	Eleanor Green	Community signatures of past human lifestyles are preserved within faecal concretions
	HG2-002	Michal Feldman	Post-Lapita human genomes provide insights on 2,000-years of genetic history in Fiji	NOV-002	Rowan McLaughlin	New spatiotemporal tools for the meta-analysis of stable isotope measurements from organic tissue
	HG2-003	Harald Ringbauer	Inferring IBD segments in ancient DNA - What next?	NOV-003	Maria Codlin	Palaeoproteomic approaches for identifying avian remains from archaeological sites: current potential and future possibilities
	HG2-004	Kelly Blevins	A test of pretreatment and DNA extraction methods for uncovering endogenous content in Neolithic human remains from the Near East	NOV-004	Zandra Fagernäs	Cleaning the Dead: Decontamination of skeletal elements for palaeoproteomics
	HG2-005	Nada Salem	Genomes from Pastoral Neolithic Sahara reveal ancestral north African lineage	NOV-005	Alexander Hübner	Reconstruction of Middle and Late Paleolithic metagenomes to access natural products
17.00–17.30	Coffee break					
17.30–18.00	Invited talk: Martin Petr – Charting ancient past through modern genomics					
18.00–18.30	Closing of the conference					
18.30–19.30	Guided tours at the Estonian National Museum (optional)					

Saturday, 16th September

9.00–... **Excursions (optional)**

Key contacts:

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