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11TH
INTERNATIONAL
SCIENTIFIC
CONFERENCE
METHODOLOGY & ARCHAEOLOGY
Zagreb, 7th – 8th December 2023

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and the Croatian Archaeological Society

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eBook of abstracts

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The scientific conference *Methodology and Archaeometry* is being organised by the Department of Archaeology, Faculty of Humanities and Social Sciences since 2013. The goal of the conference is to entice interdisciplinarity, critical thinking, new insights and approaches as well as new theoretical frameworks in contemporary archaeological science.

Coverage of a wide spectrum of themes and scientific disciplines has resulted in papers and discussions that promote scientific issues in the fields of methodology, documentation and interpretation of archaeological data.

The interdisciplinary character of the conference brings together archaeologists and researchers from other scientific disciplines with whom archaeologists collaborate closely; and who – through their work, projects and ideas – promote new insights about Interpretation of the human life in the past. Coverage of a wide spectrum of themes and scientific disciplines has resulted in papers and discussions that promote scientific issues in the fields of methodology, documentation and interpretation of archaeological data.

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Section Methodology

Obtaining and collecting data is an essential part of the archaeological research process. How we collect and interpret data defines the validity of our interpretation. We use different techniques, approaches and tools which help us to reconstruct past processes and to give a more objective and comprehensive picture of the past. Contemporary interpretation tools alleviate and speed the data collection and also provide us with countless possibilities for the interpretation, protection and presentation of archaeological sites and the landscapes encompassing them.

Section Archaeometry

Having in mind the limited information we obtain from archaeological excavations and from the classification of archaeological material, cooperation with other scientific disciplines becomes necessary, to obtain as much information as possible on the conditions and the way in which humans lived in the past. Contemporary archaeology is a very heterogeneous discipline encompassing interest groups focussed on various periods, regions, theoretical frameworks and methodological techniques. Aside from the description of mechanical and physical features of a specific artefact or material, various archaeological analyses help us to direct our scientific focus to questions regarding the ways and features included in the social and cultural life of people who made, used, exchanged and discarded those objects. Cooperation with the natural sciences provides answers to many questions, but it also demands an additional level of caution when selecting adequate scientific analysis for a specific archaeological problem. It also demands continuous cooperation of a specific expert and an archaeologist from sample collection to the final interpretation.

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PROGRAMME



Thursday, 7th of December

10:00 – 10:15

Conference opening

Keynote lecture:

Chair: Ina Miloglav

10:15 – 10:55

Mario Novak

Novel analytical methods in (bio)archaeology - some examples from Croatia

11:00 – 11:30

Coffe break

Session 01

Chair: Jacqueline Balen

11:30 – 11:45

Zoran Čučković

Introducing the total mobility field: an algorithmic solution for the analysis of prehistoric mobility practices

11:50 – 12:05

Dimitrij Mlekuž Vrhovnik

Assesing human impact and past land use patterns on Kras using airborne laser scanning data

12:10 – 12:25

Miroslav Vuković, Janja Mavrović Mokos & Franka Ovčarić

Prehistoric sites on LiDAR data in the region of Prigorje



12:30 – 12:45

Martin Bažoka, Filomena Sirovica, Mario Bodružić & Lujana Paraman

Field survey methodology and lithic scatters in Dinaric karst landscapes – a case study from Bristivica in the Trogir hinterland

12:50 – 13:10

Coffe break

Session 02

Chair: Miroslav Vuković

13:10 – 13:25

Nikolina Nikolova

Identifying phases of construction, maintaining and refilling of ditch enclosures. Case studies from the Early Neolithic of Upper Thrace

13:30 – 13:45

Saša Kovačević

Building materials and the constructional sequence of the burial mound Gomila in Jalžabet

13:50 – 14:05

Luka Gruškovnjak, Agni Prijatelj, Petra Vojaković, Jaka Burja, Barbara Šetina Batič, Manca Vinazza, Borut Toškan, Tjaša Tolar, Rok Brajkovič, Helena Grčman & Matija Črešnar

The floor of a smithy under the microscope

14:10 – 14:25

Selena Vitezović

Rabbit holes of bone technology: production and the use wear of perforations on bones, shells and teeth

14:30 – 15:30

Lunch break

Session 03

Chair: Filomena Sirovica

15:30 – 15:45

Predrag Đerković

The use of 3D photogrammetry in analysing the Roman epigraphic monuments: a case study from Kremna village

15:50 – 16:05

Domagoj Perkić & Miroslav Vuković

Image-based 3D models of late medieval tombstones – Stećci

16:10 – 16:25

Andrej Bašić, Tina Bareša, Ana Curić, Željana Bašić, Ivan Jerković & Ivana Kružić

Creating a physical 3D atlas of cranial morphological traits: a pilot study

16:30 – 16:45

Predrag Novaković

On Epistemic Relationship between Academia and Practice

16:50 – 17:00

Coffe break

Session 04

Poster presentation

17:00 – 17:30

Valentina Lončarić, Mafalda Costa, Hrvoje Potreblica & Degryse Patrick

Archaeometric investigations of Iron Age amphora-shaped glass beads from Gradac near Pleternica (Croatia)

Sara Igljić & Šime Vrkić

The fortified site of Babin grad, Croatia

Petra Nikšić & Jana Škrgulja

Interpretation of the northern part of the late antique hilltop settlement in Lobar, northwestern Croatia, based on the spatial distribution of pottery finds

Gil Vilarinho

Seeing the Unseen: Assessing the scope and limitations of remote sensing data for the study of Iron Age hillforts in northern Portugal



Friday, 8th of December

Session 05

Chair: Selena Vitezović

10:00 – 10:15

Dijana Škorić, Renata Šoštarić, Olivera Maksimović Carvalho Ferreira, Lana Vogrinec, Jurica Bezak & Denis Kutnjak

Do antique olives have antique viruses and how do we investigate that?

10:20 – 10:35

Petra Petković, Sara Essert & Mladen Pešić

Archaeobotanical research of the Roman port Barbir in Sukošan (Croatia)

10:40 – 10:55

Ilaria Calgaro, Miljana Radivojević, Mark Altaweel, Paula Doumani-Dupuy & Antonina Yermolayeva

Metal production in the Eurasian Steppe Bronze Age Case studies from the 2nd millennium BC sites of Taldysai, Myrzhik and Koken (Kazakhstan)

11:00 – 11:30

Coffe break

Session 06

Chair: Jasna Vuković

11:30 – 11:45

István Fórizs, Kata Dévai & Friderika Horváth

Glass vessels from the fortress of Ságvár (Pannonia): Preliminary results

11:50 – 12:05

Jurica Bezak & Stefano Nisi

The provenance of the Roman lead ingots cargo from the Pupak shallows shipwreck site in the Adriatic Sea

12:10 – 12:25

Mirja Jarak & Andreja Sironić

Building phases of the triconch church complex at Bilice with regard to mortar dating

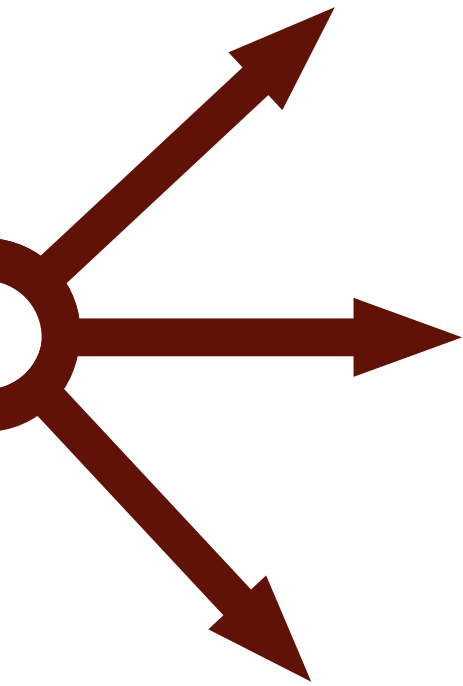
12:30 – 12:45

**Andreja Sironić, Alexander Cherkinsky, Damir Borković, Jadranka Barešić, Anita Rajtarić
& Ines Krajcjar Bronić**

Experience of the Zagreb Radiocarbon Laboratory in mortar dating

12:50

Closing



The floor of a smithy under the microscope

At the proto-urban hillfort of Pungrt above Ig, located in the vicinity of the Slovenian capital of Ljubljana, we are employing various geoarchaeological and micro-archaeological analytical techniques to study the lifeways and technologies in the Iron Age. Micro-refuse analysis in one of the buildings under investigation, Building 24, has revealed a blacksmith's workshop dating to the Late Hallstatt Period. Since our first presentation of these preliminary results at the 10th MetArh, we have further studied the smithys' floor deposits, and micro-debris trampled into the floor at the microscopic level. The micromorphological, petrographic, metallographic and scanning electron microscope analyses have provided detailed insights into various technologies and practices in the Hallstatt Period, some previously unknown. These include the first clear evidence for the use of flux in iron welding during the Early Iron Age, and the use of lime technology recognised for the first time in the Hallstatt Period in Slovenia. They also provide insights into floor maintenance practices, grease rendering, bread baking and numerous other activities. The combined data allows for a detailed reconstruction of activities in the Early Iron Age smithy that could never be garnered through excavation data alone.

Selena Vitezović

Institute of Archaeology, Belgrade, Serbia

Rabbit holes of bone technology: production and the use wear of perforations on bones, shells and teeth

Animal bones, teeth and mollusc shells were widely used for the production of diverse artefacts, including ornaments. Some of the everyday tools, as well as some of the ornaments, needed to be suspended or attached to something, and usually perforations, were made. Technology of making perforations through rather thick and resilient materials such as animal hard tissues without breaking them was rather demanding, and several technological procedures were used in prehistoric times. These included incising, drilling with a chipped stone artefact, drilling with a bow drill, usually with sand added, while larger holes were made by larger, hollow instruments and with sand added. Sometimes, unfinished perforations served as an ornament. There are also examples of naturally pierced mollusc shells that were collected and subsequently used as ornaments.

Use wear on perforations may provide information on how long the item was in use, and whether it was suspended, or it was attached to something, for example, some ornaments were most likely attached to the clothes. On ornaments worn for a very long time, for example, may be noticed that after the perforation was broken, another one was made. Bracelets made from mollusc shells were occasionally recycled into pendants, by adding a perforation and other modifications. In this paper will be presented major techniques for the production of perforations used in the Neolithic and Chalcolithic periods in the Balkans, as well as some of the interesting examples of the intensive use wear traces.



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