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■ ABSTRACT BOOK

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**30<sup>TH</sup> EAA ANNUAL MEETING  
ROME, ITALY  
28<sup>TH</sup> - 31<sup>ST</sup> AUGUST 2024**

#### 4 LITHIPHES: A NEW SPACE TO SAFEGUARD AND CONSULT GEOLOGICAL SAMPLES AT IPHES-CERCA (TARRAGONA, SPAIN)

Brià, Judit (Institut Català de Paleoeologia Humana i Evolució Social (IPHES)) - Gómez de Soler, Bruno (Institut Català de Paleoeologia Humana i Evolució Social (IPHES))

With the passage of time, collections expand with materials from outcrops and archaeological settlements thanks to researchers and institutions developing their research projects. This process implies an enormous quantity of information and materials that if are not processed and stored correctly run the risk of being lost forever. As a solution, at the IPHES-CERCA research Institute we present LithIPHES, our state of the art lithotheque designed to organize geological samples, currently focused on chert, and cater to the needs of IPHES-CERCA researchers following the FAIR principles.

LithIPHES consists of three main parts: the data base, the core of the lithotheque, where all information available is stored; the physical sample collection categorized according to the data base; and finally, a map collection with the geographical information of all registered samples. As a live project, we are working on improving the existing elements while developing new tools to expand LithIPHES and make it a reference for other lithotheques thanks to new technologies such as 3D printing, an online visor and open science projects.

With these tools at our disposal, our desire is to help researchers with an easy and fast way to access the materials, to facilitate interdisciplinary research with other institutions, and to guarantee the preservation of the geological samples from IPHES-CERCA projects for the future.

#### 5 ARQUEOLIT - AN OPEN ACCESS LITHOTHEQUE IN PORTUGAL

Jordão, Patricia (UNIARQ-FLUL) - Soares, Sofia (LNEG) - Pena, Teresa (LNEG)

The establishment of a rock database used as raw material throughout human history is highly important in encouraging the systematic realization of provenance studies in archaeology. This will shorten the first stages of the Petroarchaeological Protocol – sample collection and description – speeding up the process of correlating archaeological and geological samples, and simplifying the provenance study itself.

In Portugal, as a result of the provenance studies of siliceous raw materials carried out since the last decade of the 20th century, many samples were collected. However, these remained attached to each research project, with partial publication of the petrographic, mineralogical, and geochemical characterization.

This paper intends to present the joint efforts of LNEG - Portuguese National Laboratory of Energy and Geology and UNIARQ - Centre for Archaeology of University of Lisbon to build an archaeological lithotheque - ARQUEOLIT.

LNEG, as a National Geological Service, already has a Litoteca that compiles core samples obtained during years of geological surveys and mineral exploration, although this collection is not focused on archaeological raw materials, particularly flint, which was a key resource in prehistoric times.

The LNEG's experience with the UNIARQ's specialization in the study of siliceous resources led to the creation of a raw materials lithotheque, beginning mainly with flint samples as an outcome of research projects carried out in the past years, to support archaeological research and to contribute to the understanding of how siliceous raw materials were obtained and managed in Prehistory.

The ARQUEOLIT aims to adopt a harmonized protocol at different stages of the data treatment, from collection to online publication, in accordance with FAIR principles, arguing that open access platforms are a crucial tool in the future of archaeological sciences. Thus, the ARQUEOLIT will be linked to the existing European Cartosilex database cartographic platform for consulting georeferenced data.

#### 6 THE OPENLIT PROJECT: A FIRST STEP FOR AN OPEN ACCESS LITHOTHEQUE OF ITALIAN KNAPPABLE ROCKS

Lo Vetro, Domenico (Dipartimento SAGAS, Università di Firenze; Museo e Istituto Fiorentino di Preistoria) - Bertola, Stefano (Dipartimento SAGAS, Università di Firenze) - Carletti, Elena (Dipartimento di Scienze dell'Antichità, Sapienza Università di Roma) - Conforti, Jacopo (Dipartimento di Scienze della Terra e Geoambientali, Università di Bari Aldo Moro) - Ferrero, Arianna (Dipartimento SAGAS, Università di Firenze) - Moscone, Daniele (Institute of Pre- and Protohistoric Archaeology, Kiel University) - Pizzolo, Giovanna (Dipartimento di Scienze Storiche e dei beni culturali, Università di Siena) - Santo, Alba (Dipartimento di Scienze della Terra, Università di Firenze) - Sappaluto, Luigi (Dipartimento di Scienze della Terra e Geoambientali, Università di Bari Aldo Moro) - Eramo, Giacomo (Dipartimento di Scienze della Terra e Geoambientali, Università di Bari Aldo Moro)

A few regional projects in various European countries have recently been launched for the characterization of lithic resources including the creation of geo-referenced lithotheques that have been designed according to shared scientific

protocols. Italy is still lacking such tools for systematizing research in the field and enhancing our knowledge of knappable materials.

OPENLIT research project aims to build up the core of the first Italian open access lithotheque, a reference collection of knappable rocks based on a multi-parametric GIS-based database. The goal of this project is to develop a standard analytical descriptive system for defining knappable rocks, based on laboratory testing, and to make it available to the scientific community through an open access repository aimed at data sharing and dissemination.

The first step in achieving this goal consists in organizing a large set of information on knappable rocks available to prehistoric communities in Italy. Various lithotheques of knappable rocks from different Italian regions are currently stored in Italian University labs. These lithotheques have been assembled over time by several researchers with different methodological approaches and are not always accessible to scholars and students.

Starting from cherts, OPENLIT will provide the scientific community with a powerful, open and implementable research tool aimed at depicting the availability of knappable rocks in some key-territories in Italy. The open access repository will host the shared lithotheque and the geo-samples mapping as part of a WebGIS platform. For the first time data will be analysed at a national level with a shared approach combining different methodologies. Macroscopic, petrographic and compositional characterization of selected geological chert will provide target values to establish reference groups for further comparisons with prehistoric collections from both the Italian peninsula and neighbouring territories.

#### 7 SHARING CHERTS: THE LAEX-UAM PILOT EXCHANGING EXPERIENCE

Soto, Maria (Universidad Autónoma de Madrid) - Castañeda, Nuria (Universidad Autónoma de Madrid) - Torres Navas, Conchi (Instituto de Historia - CSIC) - Baena, Javier (Universidad Autónoma de Madrid)

Lithic raw materials analyses in Prehistory encompasses multidisciplinary approaches ranging from prospecting, sampling, petrographic and geochemical characterization requiring open, accessible, and transparent initiatives to avoid research duplicity and ensure reproducibility and replicability practices.

The Experimental Archaeology Laboratory (LAEX-UAM) is a teaching and research facility focused on promoting the knowledge of hunter-gatherer's technologies and lifeways. The involvement in different international projects, experimental networks, and transference programs boosts our compromise with inter-operability initiatives and FAIR principles.

The LAEX-UAM also hosts a relevant collection of knappable materials from geological outcrops exploited since the Lower and Middle Palaeolithic in the central region of the Iberian Peninsula. Outcrops and chert petrographic characterization have been developed through different research projects (AEI and FEDER funding), and a pioneering national exchanging initiative has been launched to enhance the recognition of these lithologies within a regional and large-distance ranges.

This pilot exchanging program with 30 universities and research institutes is based on the shipment of: 1) centimetric cortical hand samples of different lithologies and provenances; 2) uncovered petrographic thin sections; 3) the corresponding petrographic characterization; and 4) an institutional letter explaining the scope of this novel initiative.

Our plan was to explore the recognition of these lithologies through macroscopic and mineralogical characterization, aiming at launching a collaborative procedure through enlarging institutional reference collections, and establishing a collaborative network that facilitates the detection, classification and assignment of these materials and their possible exploitation exceeding traditional knowledge and geographic niches.

The program is presented as a successful tool, and the positive received responses exhibit the need of systematic recording, shared workflows, accessible data and exchanging programs of hand samples. With this aim, the team is involved in a recent national Research Network project to promote digital tools and effective collaboration that optimize efforts and resources on lithic raw materials research.

#### 8 LITHIC RAW MATERIAL DEPOSITS IN ISTRIA, CROATIA - A LITHOTHEQUE IN THE MAKING

Šprem, Katarina (Independent researcher)

Istrian peninsula, the westernmost part of Croatia, is mostly made up of carbonate surface deposits with siliceous rocks cropping up in several places throughout the peninsula. For the purposes of the provenance analysis of lithic raw materials in prehistory of the Istrian peninsula, we surveyed known chert deposits and sampled them to create a micro-petrographic database. The Istrian chert is diagenetic, meaning the limestone has been silicified into chert, which can be seen by ghosts of the primary structure observed during petrographic analyses. The problem with Istrian chert is that it appears along a line of Cretaceous (mostly Cenomanian) limestone and its visual characteristic are mostly the same, with a few exceptions. There are also secondary deposits of chert with unknown parent rock, but also diagenetic in nature. How to differentiate visually similar but geographically different cherts? Some geochemical analyses we conducted show interesting geochemical footprints of two deposits and the potential of this kind of analysis in differentiating between them. This presentation will explain the logistical steps behind the project to create the lithotheque,