**Laboratories of Applied Critical Archaeology and Heritage (english curriculum) a.y. 2023/24**

**I laboratori sono aperti, secondo la disponibilità dei posti, agli studenti del curriculum in italiano, previo accertamento della conoscenza della lingua inglese.**

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| **Quantifying Survey material** | **Pottery digitization** | **Documenting stone materials** | **Survey in Archaeology** | **Digital Archaeology** | **Experimental Archaeology** | **Writing grant applications** |

* **Experimental Archaeology (2 cfu)**

Scientific directors: Claudio Cavazzuti

Period: **May 2024, 23rd-24th (lesson times to be defined)**

Type: in presence

Place: Bronze Age Archaeological site of Solarolo (RA) or Bronze Age site of Monte della Croce (BO)

Admitted students: 8

Mail: [claudio.cavazzuti3@unibo.it](mailto:claudio.cavazzuti3@unibo.it)

**Aims**: The laboratory introduces the subject of experimental archaeology and the potential of this approach for understanding prehistoric technologies, or aspects of territorial organization and mobility.

**Program**: The module include 2h of theoretical introduction, and two practical session, which will take place at the Bronze Age site of Solarolo (Ravenna) or at the Bronze Age site of Monte della Croce (Bologna), where student will be trained in performing the various phases of the *chaîne opératoire* related to Bronze Age technologies and the documentation protocol commonly used in archaeological experiments. In addition, the laboratory includes 30h of individual activities, to be programmed with the lab director.

**Suggested readings:**

Barbieri, Monia; Cavazzuti, Claudio; Pellegrini, Luca; Scacchetti, Federico (2015). Experiencing Visible and Invisible Metal Casting Techniques in Bronze Age Italy, *Exarc Online Journal*, <https://exarc.net/issue-2015-3/ea/experiencing-visible-and-invisible-metal-casting-techniques-bronze-age-italy>

Coles, John Morton (1979), *Experimental archaeology*, London: Academic Press

La Torre, Andrea; Mannino, Giulia; Zurzolo, Alice (2019). Fine Pottery Chaîne Opératoire from the Bronze Age site of Via Ordiere, Solarolo (RA, IT): Experiments on the Relationship between Surface Treatments and Function, *Exarc Online Journal*, <https://exarc.net/issue-2020-1/ea/fine-pottery-chaine-operatoire>

Mathieu, James R. (editor), (2002), *Experimental archaeology, replicating past objects, behaviors and processes*, BAR International Series 1035, Oxford

Paardekoper, Roeland, Reeves, Jody (2014*). Experiments past. Histories of Experimental Archaeology*, Sidestone Press.

* **Quantifying Survey material (2 cfu)**

Scientific Coordinator: Francesco Iacono, with the collaboration of Giovanna Agostini and Francesca Porta

Period: **January-June 2024 (lesson times to be defined)**

Type: Both remote and in presence

Place: Department of History and cultures, Piazza S. Giovanni in Monte 2, Bologna

N. of admitted students: 8

Mail: [francesco.iacono5@unibo.it](mailto:francesco.iacono5@unibo.it);[giovanna.agostini3@unibo.it](mailto:giovanna.agostini3@unibo.it)[;](mailto:alessandra.magri4@unibo.it)[francesca.porta5@unibo.it](mailto:francesca.porta5@unibo.it)

**Aims:** Archaeological survey (in Italian, *ricognizione*) represents one of the most important tools for exploring past landscapes, which crucially complements other forms of investigation such as excavation, but which, even by itself, is capable of producing valuable information for the reconstruction of the deep history of landscapes.  
Through the analysis of the material from the hinterland of the important Bronze Age site of Roca Vecchia, collected as part of the Roca Archaeological Survey project (<https://site.unibo.it/paesaggi-mob-mem/it>) , this laboratory, is aimed at teaching how to collect, quantify and interpret material data produced by archaeological surveys.

**Program:** The laboratory will be organized in a number of introductory theoretical lessons, some of which delivered remotely, which will precede an activity of primary material processing, to be carried out in person at the headquarters of S. Giovanni in Monte

Students attending the laboratory will learn how to recognize different types of materials on the ground (mainly pottery but not only) dating from prehistoric times to the recent past.

**Suggested readings:**

Banning, E.B., 2002. *Archaeological Survey* (Manuals in archaeological method, theory, and technique). New York: Kluwer Academic/Plenum Publishers. (Chapter IX)

Iacono, F., V. Spagnolo, W. De Neef& L. Coluccia, 2020. Roca ArchaeologicalSurvey: Inquadramento e primissimi risultati, *FOLD&R ArchaeologicalSurvey Series* 2020(13), 1–14. ([www.fastionline.org/docs/FOLDER-sur-2020-13.pdf](http://www.fastionline.org/docs/FOLDER-sur-2020-13.pdf))

* **Pottery Digitization (2 cfu)**

Scientific director: Nicolò Marchetti, in collaboration with Dr. Gabriele Giacosa and Valentina Gallerani

Period: **January 2024, 18th, 19th, 24th, 25th, 26th (h 9-13); February 2024, 26th (h 9-14)**

Place: Department of History and cultures, Piazza S. Giovanni in Monte 2, Bologna, Aula Morandi

Admitted students: 10

Mail: [nicolo.marchetti@unibo.it](mailto:nicolo.marchetti@unibo.it); [gabriele.giacosa3@unibo.it](mailto:gabriele.giacosa3@unibo.it); [gallerani.vale@gmail.com](mailto:gallerani.vale@gmail.com).

**Aims:** The aims of the pottery digitization laboratory consist in: 1) Defining the entire process of pottery analysis applied in the Near East, from the excavation to the publication; 2) Providing a comprehensive overview of the archaeological approaches to the study of pottery; 3) Introducing students to the Middle Bronze Age (2000-1600 BC) to the Hellenistic and Roman period (330 BC-250 AD) ceramic horizons from the Middle Euphrates valley; 4) Providing the students with an excellent command of the open source software Inkscape for the pottery digitization.

**Program:** The laboratory consists c.ca 25 hours of frontal lessons including theoretical and practical activities and c.ca 25 hours of individual activities which will allow the students to apply the methodology of pottery digitization learned and preliminarily tested during the frontal lessons.

Theoretical module: This module is included in the 25 hours of frontal lessons and it will be carried out during the first half of each lesson. Student will be provided with a comprehensive overview of chrono-typological, functional and chemical analyses of the pottery. The middle Euphrates valley from the Middle Bronze Age (2000-1600 BC) up to the Hellenistic and Roman period (330 BC-250 AD) will be considered as a case study.

Practical module: This module in included in the 25 hours of frontal lessons and it will be carried out during the second half of each lesson. In addition, this module also includes the 25 hours of individual activity. During the lesson, participants will be introduced to the use of the open source software Inkscape for the digitization of pottery fragments and complete shapes. Then, the following 25 hours of individual activity will consist in the digitization of 65 ceramic fragments per participant.

At the end of the laboratory, students will have the aims and methodologies for the study archaeological ceramics. In addition, they will have acquired a substantial overview of the pottery assemblages from the middle Euphrates valley and an in-depth knowledge of the open source software Inkscape for the digitization of ceramic designs.

By learning how to digitize pottery fragments and complete shapes, students will acquire an important professional skill which is nowadays highly requested in the field of archaeological research, especially for scientific and editorial purposes.

**Suggested readings:**

ORTON, C., HUGHES, M., 1993. *Pottery in Archaeology*, Cambridge, University Press.

RICE, P., 1987. *Pottery Analysis. A Sourcebook*, Chicago, University Press.

HAUSLEITER, A., REICHE, E., (eds.) 1999. *Iron Age Pottery in Northern Mesopotamia, Northern Syria and South-Eastern Anatolia* (AVO 10), Münster, Ugarit-Verlaag.

HAYES, J.W. 1985. Sigillata Orientale A. In AA.VV. (eds.), *Enciclopedia dell’Arte Antica Atlante, Vol. 2.2, Atlante delle forme ceramiche II. Ceramica fine romana nel bacino mediterraneo (tardo ellenismo e primo impero),* Treccani,Roma, 9-48.

* **Documenting stone materials (2 cfu)**

Scientific Director: Isabella Baldini and Giulia Marsili, with the collaboration of prof. G. Bargossi and dr. C. Lamanna

Period: **December 2023, 18th-22nd h. 9.30-13.30**

Type: in presence

Place: Department of History and cultures, Piazza S. Giovanni in Monte 2, Bologna; BIGEA, Piazza porta san Donato.

Admitted students: 10

Mail: [isabella.baldini@unibo.it](mailto:isabella.baldini@unibo.it); [giulia.marsili2@unibo.it](mailto:giulia.marsili2@unibo.it)

**Aims**: in this lab students will tackle the methods and techniques of documenting Late Antique stone materials both from an archaeological and petrographic perspective. In practical trainings, students will handle archaeological findings from the excavation of via d’Azeglio, Ravenna.

**Program**: The laboratory consists c.ca 20 hours of frontal lessons including theoretical and practical activities and c.ca 30 hours of individual activities which will allow the students to apply the methodology of stone materials analysis learned and preliminarily tested during the frontal lessons.

Lab frontal lessons are divided into two main parts, which include theoretical and practical modules each. In the first section, thanks to the cooperation of prof. G. Bargossi (BiGeA), stone materials will be analyzed according to their petrographic features. Students will gain skills about petrographic characterization of stones and the main scientific analyses applied to stone findings for their lithotype identification. In the practical module, student will be able to inspect thin sections from via d’Azeglio stone findings. In the second part of the lab, stone materials will be analyzed according to their archaeological features. Students will acquire knowledge about working techniques of stone materials in antiquity and craftsmanship from quarries to building sites. Student will be also layed out with the main chrono-typological classifications of architectural and liturgical stone items from the Early Roman to the Late Antique period. Digital materials will be exploited to illustrate working tools and artisanal practices applied in antiquity. In the practical module of this section, students will be trained in recognizing lithotypes and drawing architectural stone material. They will also acquire skills in digital drawing and photography techniques for archaeological stone materials.

**Suggested readings:**

Gnoli R., *Marmora romana*, Roma 1989.

Borghini G. (a cura di), *Marmi Antichi I*, Roma 1989.

Pensabene P., *Marmi antichi II: cave e tecnica di lavorazione, provenienze e distribuzione*, Roma 1998.

De Nuccio M., Ungaro L., Pensabene P., Lazzarini L. (a cura di), *I marmi colorati della Roma imperiale*, Venezia 2002.

Del Bufalo D., *Marmi colorati: le pietre e l'architettura dall'antico al barocco*, Roma 2003.

Lazzarini L., *Pietre e marmi antichi: natura, caratterizzazione, origine, storia d'uso, diffusione, collezionismo*, Padova 2004.

Lazzarini L., Pisa 2007.*PoikiloiLithoi, Versiculores Maculae. I marmi colorati della Grecia antica: storia, uso, diffusione, cave, geologia.*

* **Survey in Archaeology (2 cfu)**

Scientific director: Cristiano Putzolu

Period: **May 2024, 13th-17th h. 9 AM – 1 PM**

Type: frontal lesson

Place: Laboratorio di Topografia, Department of History and cultures, Piazza S. Giovanni in Monte 2, Bologna

Admitted students: 12

Email: [cristiano.putzolu@unibo.it](mailto:cristiano.putzolu@unibo.it)

**Aims:** the workshop is aimed at training basic skills in topographic and archaeological surveying. It offers theoretical knowledge on the main surveying operations and intends to develop practical skills on the techniques of traditional direct surveying, the use of technical instrumentation (optical level and total station), and provides the first rudiments on the techniques of photo-modeling, photo-rectification and graphic processing.

**Program:** The laboratory consists of about 20 hours of practical activities carried out collectively in the Topography Laboratory (for processing) and *en plein air* inside the Department (for exercises) through which students will acquire the following practical skills:

1. direct surveying and drawing (eidotype drawing, measurements by trilateration, graphic scales, return of measurements);
2. instrumental survey (construction of a simple polygonal network; setting up the instrument; taking measurements; calculation procedures and restitution);
3. photogrammetric survey (how to create a set of two-dimensional digital images, image processing in the three separate and successive stages, scaling of the obtained model).

The educational course will be completed with an additional 5 hours of individual activity that can also be carried out remotely assisted or in the Topography Laboratory itself. At the end of the lab, students will have acquired the knowledge of the basic methodology in direct surveying (trilateration and manual surveying, drawing of wall structures), instrumental surveying (topographic surveying with the total station and the use of the optical level) and photogrammetric surveying.

**Suggested readings**

G. Lock, Using Computers in Archaeology. Towards virtual pasts, London and New York, 2003

expecially:

Chapter 2 Survey and prospection

Chapter 3 Excavation and computers

* **Digital Archaeology (2 cfu)**

Scientific director: Cristiano Putzolu

Period: **15th January – 3rd  May 2024**

Type: frontal lesson

Place: Laboratorio di Topografia, Department of History and cultures, Piazza S. Giovanni in Monte 2, Bologna

Admitted students:

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**Aims:** DiSCi has several field investigation projects (excavations and fieldwalking surveys) that involve the use of survey methodologies or data analysis typical of digital archaeology, which for various reasons (to optimise data acquisition work in the field, for the impossibility of bringing the necessary hardware on the mission, for lack of time to train students in post-excavation data processing procedures, etc.) often do not see the post-processing phase directly on the ground.

Operations such as the processing of photogrammetric surveys, the vectorialisation of orthophotomodels in a GIS environment, and data-entry in databases therefore often become operations that are postponed to a later date before leaving for a new campaign.

The aim of the digital archaeology workshop is the digital training of the DiSCi students who participate in the excavation or survey activities promoted by colleagues in the Department by processing the data they themselves have helped to collect in the field (learning by doing).

At the same time, it is aimed at those who need to use digital archaeology methodologies for their thesis work.

In order to meet the diverse needs of the different participants, the workshop will not have a programme but will take the form of an open space (on Tuesdays from 9 a.m. to 6 p.m.) in which everyone knows they have a space where they can bring their case study and proceed with their thesis work or they can experience post-processing techniques on what they have helped to collect during the survey campaigns.

An attendance register will help keep track of the number of hours accumulated by each student so that the certificate of attendance can then be issued.

**Program:** at the end of the workshop, each participant will have had direct experience of the contribution of digital archaeology to the knowledge production process in an archaeological project and will at the same time have made progress in their thesis work or contributed to the implementation of the project in which they were involved in the fieldwork phase.

**Suggested readings:**

Dell’Unto N., Landeschi G. 2022, *Geographical information systems in archaeology*, in Dell’Unto N., Landeschi G. - Archaeological 3D GIS, pp. 5-17

Wheatley D., Gillings M. 2002, Spatial Technology and Archaeology. The archaeological applications of GIS, Chapters 1-3, pp. 1-78.

Qgis User Guide: <https://docs.qgis.org/3.22/en/docs/user_manual/>

* **Writing grant applications (2 cfu)**

Scientific supervisor: Prof. Laura Demeter

Period: dates to be defined

Delivery mode: on line

Admitted students: 10

e-mail: [laura.demeter@unibo.it](mailto:laura.demeter@unibo.it)

**Aims**: the labaims at introducing students to current existing schemes for funding cultural projects and academic research. The focus will be on identifying the appropriate schemes for funding at the EU level (H2020, COST Action, CoE) and how to prepare such applications.

**Program:** The course will provide an overview of the necessary steps for developing your proposal, how to conduct research, how to keep informed about grant opportunities, how to search for hosting institutions, and on the important steps of writing the application.

The course consists of a series of short lectures and exercises, focused on the following main objectives: **Grant writing basics, How to write a grant proposal, Searching for Funding.**

**Outcomes**:

Learn basic principles of effective grant writing;

Explore how to conduct internet research;

Identify potential funding schemes for future career development.