



SAPIENZA
UNIVERSITÀ DI ROMA

A3TEX
SAPIENZA RESEARCH CENTER
ARCHAEOLOGY & ARCHAEOOMETRY
OF ANCIENT TEXTILE

drml
Direzione
Regionale
Musei
Lazio

MUSEO
NAVI
ROMANE

SUMMER SCHOOL 2026

ARCHAEOOMETRY, CONSERVATION, AND DIGITIZATION OF ARCHAEOLOGICAL TEXTILE



5 ECTS Credits
Sapienza University of Rome, Italy

Contact:
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Application infos:
bit.ly/SummerSchool-2026

June 22 – 27, 2026

Sapienza Campus,
P. Aldo Moro 5, 00185 Rome

INTRODUCTION & PROGRAM

Introduction and Objectives

The A3TEX Archaeology & Archaeometry of Ancient Textile Summer School aims to provide participants with theoretical and practical training in the methodologies for studying, analyzing, and preserving archaeological textile artifacts. The program employs an interdisciplinary approach, bringing together expertise from archaeology, materials science, and advanced diagnostic techniques. In collaboration with the Department of Ancient Sciences, the A3TEX Summer School introduces participants to cutting-edge digital tools and methods for documenting and communicating textile heritage. Through a combination of lectures, laboratory exercises, and direct analysis of diverse textile artifacts, participants will acquire theoretical and practical knowledge in documenting, analysing, and preserving archaeological textile remains.

Emphasis will also be given to conservation protocols and musealization strategies.

The program will also delve into the technical and scientific aspects of textile research, providing critical insights into analytical procedures based on material types and conservation status.

To further enrich the training experience, participants will visit two collections of archaeological textiles preserved in two museums in Rome and the Lazio region (the specific institutions are currently being finalized). They will also attend a one-day seminar and take part in hands-on activities focused on experimental and digital archaeology.

Program

Module 1: Archaeological Study of Ancient Textile Artifacts

- Historical-archaeological introduction to textile production: ancient craftsmanship practices, textile chaîne opératoire, and contexts.
- Analytical protocols based on textile research: approaches and methodologies to address historical and archaeological questions.
- Interdisciplinary approaches: strategies for fostering collaboration between experts from multiple disciplines and research fields to achieve accurate and meaningful results.

Module 2: Enhancement and Communication of Textile Heritage

- Strategies for exhibiting and communicating archaeological textiles in museums.
- Digital technologies: 3D modeling, augmented reality, and other innovative solutions for virtual reconstruction and accessibility. Camera Properties Definition: Learn to optimize camera settings (focal length, aperture, shutter speed, and ISO) for capturing high-quality images, ensuring precision in the 3D digitization process. Data Collection: Engage in hands-on exercises to capture overlapping images from multiple angles, creating a comprehensive dataset essential for robust Structure from Motion processing. 3D Reconstruction: Utilize photogrammetry algorithms to align images, generate dense point clouds, and reconstruct detailed, textured 3D models from real-world textile artifacts.

- Focus on emblematic case studies related to strategies for musealizing and communicating textile artifacts to different audience types.

Module 3: Preventive and Interventive Conservation Techniques

- Assessing the state of preservation of archaeological textiles.
- Techniques for preventive conservation: environmental conditions, support materials, and packaging techniques.
- Development of interventive conservation plans for archaeological textile artifacts.

Module 4: Archaeometric Analysis for research and conservation

- Analytical techniques for characterising textile materials:
- Optical, digital, and scanning electron microscopy.
- FT-IR spectroscopy, Ramans Sers and Raman spectroscopy.
- Liquid chromatography for dye analysis.
- Extraction techniques for proteomic identification.

Module 5: Enhancing Analytical Skills in Laboratory Practice

- Documentation and identification of textiles.
- Analysis and characterization of textile fibers and metal threads.
- Dye extraction and analysis using mass spectrometry.
- Interpretation of spectra obtained from spectroscopy and proteomic analyses for fiber characterization.

Methodology

The program includes theoretical lectures, seminars, case study analysis, and laboratory activities. Participants will integrate theoretical knowledge with hands-on experience while engaging with experts from various disciplines, developing skills applicable to academic, museum, and conservation fields.

Target Audience

The A3TEX Summer School is designed for master's degree students, PhD candidates, post-docs, researchers, and professionals in the cultural heritage sector, including archaeologists, art historians, conservators, museum curators, and specialists in diagnostics, conservation, or restoration of cultural heritage and materials science interested in advanced methodologies for studying archaeological textile heritage.



DAY - BY - DAY PROGRAM

Monday, June 22 | *Foundations*

Morning (9:00–13:00)

Study, Documenting, Sampling, and Analyzing Fibers and Textiles Fundamentals, methods and case studies.

Afternoon (14:00–18:00)

Principles of Diagnostics, Conservation, and Enhancement of Textiles Fundamentals and case studies

Tuesday, June 23 | *Analytical Techniques*

Morning (9:00–13:00)

Spectroscopy as a Non-Destructive Approach
Analysis of textiles, fibers, and dyes

Afternoon (14:00–18:00)

High-Performance Techniques for Fiber and Dye Characterization

Evening

Museum Visit (Rome) - Examination of archaeological textile materials
(specific institution to be confirmed)

Wednesday, June 24 | *Laboratory Sessions I*

Full Day (9:00–13:00 & 14:00–18:00)

Hands-on laboratory work rotating through specialized labs:

- Labs 1-2: Microscopy (Environmental Biology Dept., Aula A);
- Lab 3: Infrared Spectroscopy (Physics Dept., IRS1);
- Lab 4: Mass Spectrometry (Chemistry Dept.).

Thursday, June 25 | *Laboratory Sessions II*

Full Day (9:00–13:00 & 14:00–18:00)

Continued laboratory work with direct analysis of archaeological specimens across all four specialized laboratories

Friday, June 26 | *Synthesis & Specialized Topics*

Morning (9:00–13:00)

Laboratory Activities and Practical Exercises
Seminar of Experimental Archaeology
Overall evaluation of topics and case studies addressed

Afternoon (14:00–19:30)

Archaeology of Ancient Textile: Workshops in Pompeii Faculty: Dr. Giacomo Casa
The chaîne opératoire perspective. Techniques, Methods, and Protocols for Digitization of Textile Heritage Faculty: Dr. Jacopo Conti
Fundamentals and case studies from A3TEX research projects

Saturday, June 27 | *Museum of Roman Ships, Nemi*

Full Day Workshop (9:00–19:30)

Visit to the museum and archaeological deposits (Museum Director Dr. Daniela De Angelis). Laboratory with demonstrations and practical exercises in ancient spinning and weaving techniques (Mr. Ettore Pizzuti, Dr. Federico Di Salvo)
Laboratory with textile digitization exercises (Dr. Jacopo Conti)



LEARN FROM LEADING EXPERTS

Course Directors

Prof. Marco Galli | Course Director

Professor of Classical Archaeology, Sapienza; Founder and Director of A3TEX Research Center; Principal Investigator of TEXTaiLES (HORIZON ECCCH) and ADigText (PRIN) projects. Expert in textile culture of the Roman Empire and Greek-speaking provinces.

Dr. Francesca Coletti | Course Co-Director

Researcher (RTDA), Department of Scienze dell'Antichità, Sapienza; Seal of Excellence awardee (MSCA 2023); Principal Investigator of DIGArTex project. Specialist in textile diagnostics, digitalization, and Vesuvian textile remains. Published seminal research on garment imprints on Pompeii's plaster casts (2025).

Dr. Christina Margariti | Conservation Methods

2021 EUROPEAN HERITAGE AWARD WINNER
Head of Applied Research, Directorate of Conservation, Hellenic Ministry of Culture; Former Marie Skłodowska-Curie Fellow (University of Copenhagen). Pioneer in analytical techniques for mineralized textiles and fiber identification protocols.

Dr. Ilaria Serafini | Archaeometric Analysis

Tenure Track Researcher, Department of Environmental Biology, Sapienza; Marie Skłodowska-Curie Global Fellow (Smithsonian Institution); Co-founder of D-ART srl. Developer of innovative proteomic methodologies for degraded archaeological textiles and LC-MS analytical methods for diagnostic markers.

Dr. Alessandro Ciccola | Spectroscopic Techniques

Researcher (RTDA), Department of Environmental Biology, Sapienza; Co-founder of D-ART srl. Specialist in non-destructive spectroscopic analysis and SERS substrates for museum environment monitoring.

Dr. Vanessa Forte | Experimental Archaeology

Tenure Track Researcher, Department of Scienze dell'Antichità, Sapienza; Marie Skłodowska-Curie Fellow (Cambridge University). Expert in use-wear and residue analysis of textile tools from Neolithic to Roman periods.

Prof. Cristina Lemorini | Functional Analysis & Experimental Methods

Professor of Prehistory and Protohistory, Sapienza; Director of LTFAPA Laboratory. International expert in functional and use-wear analysis and experimental archaeology of ancient craft activities, including textile production technologies.

Dr. Giacomo Casa | Pompeian Textile Archaeology

Archaeologist specializing in archaeology of production; PhD University of Bari. Active researcher in "Cultura Tessile a Pompei" project since 2017, investigating textile workshops through architectural analysis and archaeometric methods.

Dr. Federico Di Salvo | Textile Production in the Greek World

PhD fellow in Classical Archaeology, Sapienza. Specialist in textile archaeology of Ionian Asia Minor, with expertise in loom weights, iconography, and experimental weaving protocols for decorated ancient fabrics.

Dr. Jacopo Conti | Digital Documentation

Assistant Researcher, A3TEX Center. Expert in photogrammetry, 3D reconstruction, and computational geometry for textile heritage documentation. Active in TEXTaiLES European Project (HORIZON ECCCH).

Mr. Ettore Pizzuti | Experimental Textile Technologies

Italian specialist in experimental archaeology. Expert in reconstruction of ancient spinning and weaving techniques, including warp-weighted looms and tablet weaving. Collaborator with major Italian museums and universities.



CONTACT & PRACTICAL INFORMATION

A3TEX Research Center

Sapienza University of Rome
Department of Scienze dell'Antichità
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00185 Rome, Italy

- **General Inquiries:** marco.galli@uniroma1.it
- **Administrative Matters:** flavia.sorato@uniroma1.it
- **Website:** www.a3tex.com
- **Registration Portal:** bit.ly/OffertaFormativaSummerSchool

Partner Institutions

Directorate of Conservation – Hellenic Ministry of Culture, Athens (Greece)
Museo delle Navi Romane di Nemi – Direzione Regionale Musei del Lazio



How to register

Admission Requirements
Master's degree (or equivalent) + CV + Motivation letter
Application Deadline: May 24, 2026

What's Included

- ✓ 52 hours of lectures, seminars, and laboratory sessions
- ✓ Access to advanced analytical equipment
- ✓ Analysis of authentic archaeological specimens
- ✓ All laboratory materials and consumables
- ✓ Course materials and bibliography
- ✓ Certificate of completion with 5 ECTS credits

Accommodation

Limited rooms available at Sapienza Guesthouse
(Via Volturno, 42) with kitchen access at your own expense.
More information: uniroma1.it/foresteria-sapienza

Program Structure

52 hours of intensive training combining:
Lectures on theoretical foundations and case studies;
Laboratory sessions with advanced analytical equipment;
Practical exercises on archaeological textile specimens;
Seminars with international experts;
On-site workshops at archaeological museums.

Important Dates

Application Deadline: May 24, 2026
Course Dates: June 22–27, 2026

Language

All sessions conducted in English.

Course Fee: €800
Includes laboratory materials,
museum visits and transport to Nemi.



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