LEIDEN UNIVERSITY–NETHERLANDS INSTITUTE OF ATHENS (NIA)-EPHORATE OF UNDERWATER ANTIQUITIES–NATIONAL RESEARCH CENTRE 'NCSR DEMOKRITOS'

CONSERVATION AND PHYSICOCHEMICAL STUDY OF NISYROS SHIPWRECK POTTERY

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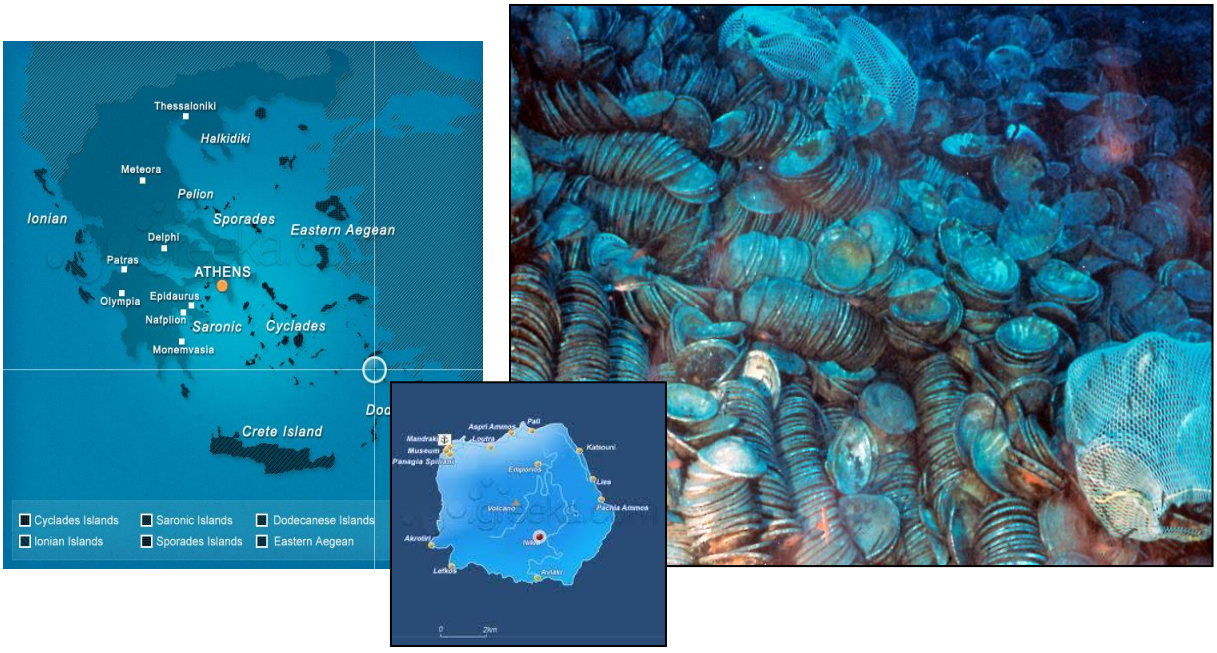
ONLINE CLASSES & WORKSHOP



Online classes: 30 March-6 May 2021

Practical Workshop: 15-27 June 2021

INTRODUCTION

During **30 March-6 May 2021**, online classes will be streamed (live) and during **15-27 June 2021** a practical workshop will take place at Athens in Greece for the **'CONSERVATION AND PHYSICOCHEMICAL STUDY OF NISYROS SHIPWRECK POTTERY'**. The course will be organized by the Faculty of Archaeology, Leiden University (NL), the Netherlands Institute at Athens (NIA), the Ephorate of Underwater Antiquities at Athens, and the Greek Research Center/Laboratory 'NCSR Demokritos' at Athens.

This course provides a unique opportunity for BA, MA, RMA and PhD students to gain more knowledge and a hands-on experience in Byzantine, Medieval and Post-Medieval underwater pottery conservation. It guides the participants through the history and technology of Byzantine, Medieval and Post-Medieval pottery in Greece, and through stages of the study, conservation, restoration and 3D documentation of archaeological artifacts. The practical classes will be based on authentic pottery finds from Nisyros shipwreck (GR). Finally, a first approach of physicochemical analyses will be presented. All teaching will be in English. In Greece, accomodation will be provided by the Netherlands Institute at Athens (NIA) and everything will be carried out with consideration of the acquired social distancing. Please note that the realization of the practical workshop will of course depend on the further development of the current COVID19-pandemic.

By the end of the workshop the participants will:

- learn about ports and maritime routes in the Mediterranean;
- get knowledge on the exchange of goods and the use of pottery;
- obtain knowledge about shipwrecks in the Aegean;
- learn about shapes, types and technology of Byzantine, Medieval and Post-Medieval pottery & improve their knowledge on Byzantine, Medieval and Post-Medieval history and archaeology in Greece;
- get acquainted with the basic methods of documentation for the conservation and restoration of Medieval and Post-Medieval underwater pottery;
- learn about the necessity of physicochemical analyses on underwater pottery;
- 3D scanning techniques in Archaeology (laser scanning, structured-light scanning, photogrammetry).
- meet professionals who not only work in pottery conservation and in Byzantine, Medieval and Post-Medieval Archaeology in Greece, but who also work in physicochemical analyses of Byzantine, Medieval and Post-Medieval pottery.

THE ONLINE CLASSES

30 March-6 May 2021

1º Course: 30 March 2021 (1.5 h)
History of pottery.

2º Course: 1 April 2021 (1.5 h)
Examination of pottery - Identification of glazed ceramics techniques.

3º Course: 6 April 2021 (1.5 h)
Corrosion of underwater pottery.
Why does pottery corrode? Causes of pottery corrosion (Water, Relative humidity, Pollutants and contaminants, Gaseous pollutants, Dust, fingerprints, Salts, Fatty acids, Combined effects of pollutants and contaminants with relative humidity), Other agents of deterioration (Physical forces, Thieves and vandals, Dissociation, Fire, Incorrect temperature and Relative Humidity).

4º Course: 8 April 2021 (1.5 h)
Preventive conservation strategies.
Strategies for protecting against corrosion: the multi-level approach, Strategies for the whole collection, Protect against liquid water, Keep relative humidity levels moderate, Filtration, Dust protection, Safe storage and display products, Contact or proximity with museum objects that produce emissions. Strategies for enhanced protection: Microenvironments, Enclosure materials, Airtightness, Desiccants, Anoxic environments, Pollutant sorbents, Active mechanical systems, Coatings.

5º Course: 13 April 2021 (1.5 h)
Interventive Conservation techniques and materials (Surface cleaning). - PART 1
6º Course: 15 April 2021 (1.5 h)
Interventive Conservation techniques and materials (Fixing, Soldering, Filling, Aesthetic restoration). - PART 2
The most common procedure in conservation and restoration of pottery is the cleaning process. This process can be distinguish between mechanical, chemical and laser cleaning. Furthermore, an expert who experienced in Fixing, Soldering, Filling, Aesthetic restoration, Protective Coatings of pottery know specific techniques, recipes, and/or methodological details which contribute to current condition issues or which may affect the success of potential treatments or impact of different environments.

7º Course: 20 April 2021 (1.5 h)
Non-invasive physicochemical analysis of pottery. - PART 1
8º Course: 22 April 2021 (1.5 h)
Non-invasive physicochemical analysis of pottery. - PART 2
Non-invasive physicochemical analysis used to analyze pottery and collect data about composition, stratigraphic structure, the mapping of surface, the colours, the weathering layers and the surface patinas. Furthermore, they are important for understanding the alterations and conservation works. Finally, they can be valuable foctoberor solving issues of identification or authentication. These techniques are non-invasive, meaning that no sampling is necessary, and are obviously non-damaging to the pottery (Optical Microscopy, UV-Vis-NIR, FCIR and Radiography).

9ο Course: 27 April 2021 (1.5 h)
Invasive physicochemical analysis of pottery. - PART 1
Invasive physicochemical analysis used to collect data about composition, the quantity of layers, the technical construction, the qualitative and quantitative analysis of chemical elements and the origin.These techniques are invasive, meaning that sampling is necessary. They can also be valuable for solving issues of identification or authentication (Scanning Electron Microscopy, X-Ray Fluoresce Spectroscopy, X-Ray Diffraction Spectroscopy, Raman Spectroscopy, FTIR).

10ο Course: 29 April 2021 (1.5 h)
3D scanning techniques in Archaeology.
During the lecture the students will gain knowledge on the main ways of 3D documentation (laser scanning, structured-light scanning, photogrammetry). Information will be given on how these techniques facilitate the archaeological research and what their limitations and their potentials are. Pictures and videos will help the participants to familiarize themselves with 3D scanning and its applications. Extra insights on 3D modeling will be offered via examples from the instructor's projects.

11ο Course: 4 May 2021 (1.5 h)
Students presentation and Case studies.

12ο Course: 6 May 2021 (1.5 h)
Students presentation and Case studies.

THE PRACTICAL WORKSHOP

15-27 June 2021

During the workshop students start their training with original artifacts once they reach to an acceptable level of skill, accuracy and precision. Most participants will be able to master conservation and restoration techniques within this workshop, and will complete work on 2 artifacts by the end of the program, depending on the initial state of the objects' conservation, the necessity of conservation treatment and the individual performance of the student. The participants should present their results on the last day of the workshop.

The practical Workshop includes four modules:

1. Lectures on the history and technology of Byzantine, Medieval and Post-Medieval pottery, as well as on preventive and non preventive conservation, and on physicochemical analyses of pottery.
2. Practical work in the documentation and conservation of authentic pottery finds from underwater excavations near the island of Nisyros, dated to Byzantine, Medieval and Post- Medieval times.
3. Study visits to the Archaeological Museum of Athens, the Archaeological museum of Piraeus, the Hellenic Maritime Museum, the Acropolis Museum and the Greek Research Center / Laboratory 'NCSR Demokritos' at Athens.
4. Presentation of the students' output of the workshop.

The major workshop's activities:

The main goal of this program is to provide students theoretical knowledge on Byzantine pottery, as well as the conservation of underwater ceramics. In addition, hands-on training experience on preventive conservation will be applied. For a better study of the artifacts, physicochemical analyses are carried out in the 'Demokritos Research Center / Laboratory' at Athens, which aims to a better diagnosis of the construction technology, the pathology and the damages of the objects under study. Another essential part of the workshop comprises the conditions of exhibition and storage of archaeological artifacts in museums according to international standards. The workshop is completed with the writing of a 'condition report, and documented with photographs and drawings.

GENERAL INFORMATION

Project type: Classes and Practical Workshop **'CONSERVATION AND PHYSICOCHEMICAL STUDY OF NISYROS SHIPWRECK POTTERY'** at Athens, including the basic principles of physicochemical analysis of underwater pottery and the importance of physicochemical methods in the study and conservation of pottery.

For: BA, MA, RMA and PhD students in pottery conservation and in archaeology (both beginners and advanced students).

Duration of workshop:
The Online classes: 30 March-6 May 2021
The Practical Workshop: 15-27 June 2021

Application deadline: 24 March 2021. The online courses are open to students who need to write and present a short thesis at the end. The 10 students who put in the best effort will participate in the practical workshop in Athens. For these last students it is obligatory to do the online classes in advance as preparation for the practical workshop. All teaching will be in English.

Application: online application forms can be completed at the website of the Netherlands Institute at Athens (NIA): see **www.nia.gr.** Completed forms (including a motivation letter) should be send before 24 March 2021 to: **nia@nia.gr.**

Venue: Netherlands Institute at Athens (NIA); Ephorate of Underwater Antiquities; Research Center / Laboratory 'NCSR Demokritos' at Athens.

Costs: The fee of the online classes is 150 €, and the fee of the practical workshop is 400 € (350€ for those arranging and paying their own accommodation). The practical workshop includes tuition, teaching materials, room and board at the Netherlands Institute at Athens, including 24-hour access to the NIA Library. The participants are supposed to pay their tickets to Athens and their meals during the workshop.

Visits: Archaeological Museum of Athens, Archaeological museum of Piraeus, Hellenic Maritime Museum, Benaki museum, Byzantine and Christian museum, Acropolis museum.

Workshop coordinator:
Prof. Dr. J.A.C. Vroom, Archaeology of Medieval and Early Modern Archaeology in Eurasia, Faculty of Archaeology, Leiden University (NL).

Workshop instructor:
Adamantia Panagopoulou, PhD Candidate at Leiden University,
External researcher at Institute of Nanoscience and Nanotechnology, 'NCSR Demokritos'
adamantiapanagopoulou@gmail.com

Collaborators:
Dr. Kalamara Pari, Director of Ephorate of Underwater Antiquities (Athens).
Sotiriou Andreas, Head of the Department of Archaeological Research and Documentation and Publishing of Archives, Ephorate of Underwater Antiquities (Athens).
Dr. Kourkoumelis Dimitris, Head of the Department of Northern Greece, Ephorate of Underwater Antiquities (Athens).
Fouseki Chrisa, Head of the Conservation laboratory, Ephorate of Underwater Antiquities (Athens).

Papanikou Spiridoula, Conservator of Antiquities and Works of Art, Ephorate of Underwater Antiquities (Athens).
Paizi Despoina, Conservator of Works of Art, Ephorate of Underwater Antiquities (Athens).
Maliou Irini, Conservator of Antiquities and Works of Art, Ephorate of Underwater Antiquities (Athens).
Dr. Winfred van de Put, Director of Netherlands Institute at Athens (NIA).
Dr. Hein Anno, Researcher at the Institute of Nanoscience and Nanotechnology, National Centre for Scientific Research "Demokritos" (GR).
Dr. Maniatis Yannis, Researcher at the Institute of Nanoscience and Nanotechnology, National Centre for Scientific Research "Demokritos" (GR).
Dr. Filippaki Liana, Researcher at the Institute of Nanoscience and Nanotechnology, National Centre for Scientific Research "Demokritos" (GR).
Dr. Tsakalos Evangelos, Dr. Kazantzaki Maria, Dr. Christodoulakis John, External Researchers at Laboratory of Luminescence dating, Institute of Nanoscience and Nanotechnology; 'NCSR Demokritos', Athens; Dep. of Geophysics, Graduate School of Science, Kyoto University, Japan.
MSc Vasiliki Lagari, Digital Archaeologist, Project Assistant in Leiden University under the supervision of Professor Joanita Vroom with specialization in 3D documentation and 3D modeling.

Artifacts used: Byzantine, Medieval and Post-Medieval ceramics from the Nisyros Shipwreck (ca. 11th - 19th centuries CE).

Minimum age: 18 years old
Language: English
Experience required: None

Special requirements: Good physical condition and command of manual operations. The average summer temperatures in the area are 25-38^0 C or higher. All participants should bring clothes and cosmetics suitable for hot and sunny weather, although the weather in June might be sometimes chilly. It is recommended that participants bring their laptops. All participants are expected to prepare for the workshop by reading at least the notes that will be sent to them (*some notes will be sent by e-mail to all registered students before the beginning of the project*) and other recommended readings. Participants will use tools and equipment available at the site and are not expected to bring any additional equipment.

All participants will receive:

- Project notes (in a PDF version by e-mail).
- Certificate specifying the fieldwork hours, educational modules, and sites visited.
- T-shirt.
- 5 ECTS.

Partners in this project:
Faculty of Archaeology**,** Leiden University; Netherlands Institute at Athens (NIA); Ephorate of Underwater Antiquities (Athens); Greek Research Center/Laboratory 'NCSR Demokritos' (Athens).

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