



3rd INTERNATIONAL CONFERENCE

Ancient Greek and Byzantine Technology

19-21 NOVEMBER 2024 MEGARON THE ATHENS CONCERT HALL

PROGRAM

Tuesday, November 19, 2024

08:30-09:30 Registration

09:30-10:30 Welcoming Addresses

1st Session: Invited Speakers

10:30-11:00 **Wright Michael**, Independent Scholar, London

"The Antikythera Mechanism as a Mechanical Artefact"

11:00-11:30 **Moussas Xenophon**, Professor, Department of Astrophysics, Astronomy and Mechanics, Faculty of Physics, School of Science, National and Kapodistrian University of Athens

"Hellenistic Science: From Observations to Pure Science and Technology Based on the Laws of Physics. The Example of the Antikythera Mechanism"

11:30-12:00 Break – Coffee

2nd Session: Quarrying – Sculpture

12:00-12:20 **Kozelj Tony**, Architect PhD & Archaeologist, **Wurch-Kozelj Manuela**, Architect PhD & Archaeologist, French School at Athens

"The Techniques of Marble Extraction in the Antique Quarries of Thassos"

12:20-12:40 **Koukouvou Angeliki**, Archaeologist, Archaeological Museum of Thessaloniki

"Stone Quarrying for Building in Antiquity and Quarrying Techniques"

12:40-13:00 **Merkouri Christina**, Archaeologist, Director of the Ephorate of Antiquities of West Attica, **Anagnostopoulou Eirini**, Archaeologist, Ephorate of Antiquities of West Attica

"Ancient Quarry in Petroupoli"

13:00-13:20 **Bilis Themistoclis**, Dr Architect Engineer, NTUA, German Archaeological Institute

"'Phidias Workshop' in Olympia - New Data and New Interpretations"

13:20-14:00 Discussion

14:00-15:30 Break

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3rd Session: Shipbuilding – Navigation

- 15:30-15:50 **Wachsmann Shelley**, Texas A&M University & Institute of Nautical Archaeology
"Big and Small: The Construction of the Panathenaic Ship and the Dionysian Ship Cart in Ancient Athens"
- 15:50-16:10 **Iossifidis Thomas**, Archaeologist, **Panopoulou Elena**, Archaeologist
"Shipbuilding Technology during the Late Bronze Age: Comparative Overview of the Evidence through Linear B and Archaeological Remains"
- 16:10-16:30 **Papamarinopoulos Stavros**, Professor of Geophysics, University of Patras
"Knowledge of River Navigation Systems in Europe and the Atlantic Ocean between the 13th and 12th Century BC according to the Ancient Text Argonautica-Orphica"
- 16:30-16:50 **Preka-Papadima Panagiota**, Professor of Astrophysics, Astronomy, and Mechanics, Department of Physics, National and Kapodistrian University of Athens (NKUA)
"Knowledge of Celestial Cartography and Ocean Currents for Navigation in the Atlantic Ocean during the 1st Century AD, according to the Writings of Plutarch"
- 16:50-17:20 Break – Coffee

4th Session: Construction, Geotechnical Engineering

- 17:20-17:40 **Gautier Di Confieppo Edoardo**, Engineer, Former Assistant Professor at the Polytechnic University of Turin
"Nero's Cenatio Rotunda. An Example of Hellenistic Engineering"
- 17:40-18:00 **Palyvou Clairly**, Professor Emerita, Department of Architecture, Aristotle University of Thessaloniki (AUTH), **Rethemiotakis Giorgos**, Director Emeritus of the Archaeological Museum of Heraklion, **Christakis Kostis**, PhD, Knossos Curator, British School at Athens, **Athanasidou Kostas**, PhD Architect Engineer
"Mason's Marks from the Minoan Palace of Galatas"
- 18:00-18:20 **Bitis Ioannis**, Architect Engineer, Italian Archaeological School, **Spanou Nikolia**, Archaeologist, University of Crete, **Tsigonaki Christina**, Assistant Professor, Department of History and Archaeology, University of Crete
"The Screw of the Treasury in the Temple of Ancient Eleutherna"



- 18:20-18:40 **Dounias Georgios**, PhD Civil Engineer-Geotechnical Engineer, **Lotidis Michail**, PhD Mining Engineer-Metallurgist / EDAFOS CONSULTING ENGINEERS S.A.
"Retaining Walls in Ancient Theater Construction - Geotechnical Approach"
- 18:40-19:00 **Pelekanos Marios**, PhD Architect Engineer, Frederick University, Cyprus
"The Wooden-Roofed Basilicas of Troodos in Cyprus (15th-19th Centuries). The Morphological Introduction and Adaptive Transformation of the Construction Type"
- 19:00-19:20 **Papastathopoulou Aristeia**, PhD Archaeologist, Ephorate of Antiquities of Phthiotis-Evrytania
"The Built Macedonian-Type Vaulted Tomb at Perivoli Spercheiados. The Architecture of a Monument of Great Importance Built during the Peak of Macedonian Rule"
- 19:20-19:40 **Pizzigoni Attilio**, Architect, former Professor at the University of Bergamo, Italy
"The Tile of Delphi. Designed to Protect from Rainwater or as a Self-Supporting Structural Element for the Construction of a Vaulted Roof?"
- 19:40-20:00 Discussion

Wednesday, November 20, 2024

5th Session: Byzantium – Arabs / Chemistry – Glassmaking

- 09:00-09:20 **Vus Oleh**, **Historian PhD**, Independent Researcher, **Papastathopoulou Aristeia**, PhD Archaeologist, Ephorate of Antiquities of Phthiotis-Evrytania
"Skivarin – Early Byzantine Fortress in the Belbek Canyon of the Crimean Mountains"
- 09:20-09:40 **Zampaki Theodora**, Dr. of Graeco-Arabic Studies, Hellenic Open University
"The Greek Tradition of Engineering in Al-Jazarī's Work Kitāb Fī Ma'Rifat Al-Ḥiyal Al-Handasiyya (The Book of Knowledge of Ingenious Mechanical Devices)"



- 09:40-10:00 **Nikolaou Anastasia**, E.D.I.P. Member, Department of Greek Philology, Democritus University of Thrace
"The Influence of Paul of Aegina on Arab Medicine: The Case of Theriac"
- 10:00-10:20 **Touliatos Panagiotis**, Professor Emeritus, National Technical University of Athens (NTUA), Professor at Frederick University of Cyprus
"Hidden and 'Invisible' Fortifications Against Humans and Nature in Byzantine and Post-Byzantine Architecture"
- 10:20-10:40 **Manoutsoglou Emmanuel**, Professor, Technical University of Crete
"Locations, Physical Characteristics, and Chemistry of the Waters of Two Asclepieia in Crete"
- 10:40-11:30 Break – Coffee
Film screening

6th Session: Engineering and Measuring Mechanisms

- 11:30-11:50 **Vasileiadou Soultana**, Assistant Professor, University of West Attica
"Locking and Safety Mechanisms in Antiquity"
- 11:50-12:10 **Tasios Theodosios**, Professor Emeritus, NTUA
"Mechanical Analysis of the Quasi-Self-Movement of Posidonius' Helepolis"
- 12:10-12:30 **Argyropoulos Alexandros**, Civil Engineer
"The Usefulness of the Antikythera Mechanism"
- 12:30-12:50 **Voulgaris Aristeidis**, Thessaloniki Municipality, Department of Culture and Tourism, **Mouratidis Christophoros**, Assistant Professor of General and Technical Subjects, Merchant Marine Academy of Syros, **Vossinakis Andreas**, Friends of Astronomy Club, Thessaloniki
"The Draconic Gearing of the Antikythera Mechanism: Evidence for Its Operation – The Mechanical Behavior of Its Parts"
- 12:50-13:10 **Efstathiou Kyriakos**, Professor Emeritus, Aristotle University of Thessaloniki (AUTH), **Efstathiou Marianna**, Cyprus University of Technology, **Bassiakoulis Alexandros**, Mechanical Engineer, AUTH, **Kokkinos Neofytos**, Cyprus University of Technology
"The Antikythera Mechanism: An Educational Tool for Astronomy Schools or a Scientific Instrument for Precise Prediction of Astronomical Phenomena?"



13:10-13:30 **Kotsanas Kostas**, Museum of Ancient Greek Technology
"The Hydraulic Clock (or Calendar) - Planetarium of Andronikos of Kyrrhos"

13:30-14:00 Discussion

14:00-15:30 Break

7th Session: Hydraulic Works

15:30-15:50 **Anagnostopoulou Eirini**, Archaeologist, **Miliionis, Christos**, PhD Archaeologist, **Youtsos Nektarios-Petros**, PhD Archaeologist, **Tzefronis Spyridon**, Architect Engineer,, **Vazaiou Anezina**, Conservator / Ephorate of Antiquities of West Attica
"The Waterways: System of Pipes – Wells – Reservoir from Ancient Times in Acharnes"

15:50-16:10 **Giannopoulou Maria**, PhD Archaeologist, Ephorate of Antiquities of Piraeus and Islands
"Water Management Technical Works in Troezen"

16:10-16:30 **Papafotiou Apostolos**, PhD Civil Engineer, NTUA
"Water Management of Aqueducts in the Roman Empire for Drinking Purposes through Inscriptions and Legislation of the Early Byzantine Era"

16:30-16:50 **Michalopoulou Sofia**, Archaeologist, Ephorate of Antiquities of Piraeus and Islands, **Deuteraios Panos**, Civil Engineer, **Chiotis Efstathios**, PhD Mining Engineer, IGME
"Preliminary Investigation of Ancient Hydraulic Works in Aegina"

16:50-17:20 Break – Coffee

8th Session: Carpentry – Pottery / Agricultural Technology – Weaving

17:20-17:40 **Lygouri-Tolia Eftychia**, Archaeologist, Former Head of the 26th Ephorate of Prehistoric and Classical Antiquities, **Anagnostopoulou Anna-Maria**, PhD Archaeologist, Ephorate of Antiquities of Piraeus and Islands, **Giamalidi Mary**, Archaeologist / Ephorate of Antiquities of Piraeus and Islands
"The Kilns of the Pottery Workshop from the Systematic Excavation at Agios Nikolaos Pallon, Voula, Attica"



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- 17:40-18:00 **Malouta Myrto**, Assistant Professor, Ionian University
"The Contribution of Papyri from Greco-Roman Egypt to the History of Carpentry"
- 18:00-18:20 **Michailidou Anna**, PhD Archaeologist, Research Director Emerita at the National Hellenic Research Foundation
"Exploring the Relationship Between Writing and Pottery Technology at Akrotiri, Thera: The Case of Two Vessels with Incised Linear A Writing"
- 18:20-18:40 **Di Salvo Federico**, Sapienza University of Rome, Department of Science of Antiquities
"Spinning Technology in Classical Attica: The Iconographic Evidence"
- 18:40-19:00 **Kolaiti Eleni**, Mining Engineer NTUA, PhD in Geoarchaeology, National Hellenic Research Foundation, University of Nottingham, Society for the Study of Ancient Coastlines – AKTES, **Mourtzas Nikos**, PhD Geologist, University of Nottingham, Society for the Study of Ancient Coastlines - AKTES
"The Ancient Rock-Cut Trenches for Viticulture in Paros, Antiparos, and Surrounding Islets (Cyclades)"
- 19:00-19:20 **Mavrofydis Giorgos**, Archaeologist, University of the Aegean, **Goras Giorgos**, Assistant Professor, Agricultural University of Athens, **Petanidou Theodora**, Professor, University of the Aegean
"Beekeeping Technology in Ancient Greece"
- 19:20-19:40 **Raftopoulou Stella**, Archaeologist, Ephorate of Antiquities of East Attica, **Kontonika Georgia**, Archaeologist, Ephorate of Antiquities of Aetolia-Acarnania-Lefkada, **Tsonos Iraklis**, Archaeologist, Ephorate of Antiquities of East Attica
"Farming and Cultivation Methods in Attica During the Classical Period"
- 19:40-20:00 Discussion

Friday, November 21, 2024

9th Session: Ancient Engineers, Mobility and Cultural Interaction, Innovation - Technology

- 09:00-09:20 **Antonopoulos Panagiotis**, PhD in Virtual Reality in Education, **Stefanakis Manolis**, Professor, University of the Aegean, **Fokidis Emmanuel**, Associate Professor, University of the Aegean
"Reviving the Technology of the Past through Immersive Virtual Reality: The Case of the Fire-Signaling Towers (Fryktories)"



- 09:20-09:40 **Vogiatzis Sotiris**, PhD Architect, NTUA
"Innovation and Explorations in 8th-Century AD Construction: The Church of Panagia Katapoliani in Paros"
- 09:40-10:00 **Kakogiannos Ioannis**, University of West Attica, **Vasileiadou Soultana**, Assistant Professor, University of West Attica
"The Concept of Innovation in Ancient Greek Technology and its Influence on the Evolution of Technology over the Centuries"
- 10:00-10:20 **Moutousidou Ourania**, Aristotle University of Thessaloniki (AUn), **Tokmakidis Konstantinos**, Professor, Department of Rural and Surveying Engineering, AUn
"Ancient Greek Scientists (600 B.C. - 600 A.D.) on the Concepts of Space and Time: A Geographical Approach Based on Biographies"
- 10:20-10:40 **Belogianni Maria**, PhD Archaeologist, Department of History and Archaeology, National and Kapodistrian University of Athens (NKUA)
"The Reception of the 'Technophilia' of Ancient Greeks by Secondary Education Students"
- 10:40-11:00 **Petrakis Vassilis**, Assistant Professor, Department of History and Archaeology, NKUA
"Mycenaean Palatial Technoscapes: Eclectic Palatial Interest in Craft Production in the Late Bronze Age Aegean (1400-1200 BCE)"
- 11:00-11:30 Break – Coffee

10th Session: Military Technology

- 11:30-11:50 **Giannakos Konstantinos**, Civil Engineer PhD, General Secretary of EDAByT.
Evidence for the Influence of Mycenaean Building and Defensive Technology in Troy VI around 1400 B.C.
- 11:50-12:10 **Giannopoulos Theodoros**, Assistant Professor, School of Humanities & Social Sciences, Open University of Cyprus
Military Technology in the Late Bronze Age Aegean: Warrior Burials of Northwestern Peloponnese and Their Relation to the Fall of the Mycenaean Palaces
- 12:10-12:30 **Bakas Spyridon**, Archaeologist, University of Warsaw, Poland, **Katsikis Dimitrios**, Ancient Weapons Armorer, MSc, Wageningen University, Netherlands
The Dendra Panoply: Approaches to Its Operational Functionality



- 12:30-12:50 **Bellas Ioannis**, PhD Archaeologist, AUTh
The Bow: A Smart Weapon in the Ancient Greek World. Usage, Construction, and Properties
- 12:50-13:10 **Faklaris Panagiotis**, Professor, Department of History and Archaeology, AUTh
Iron Arms and Armor from Macedonian Graves
- 13:10-13:30 **Stamatopoulou Vasiliki**, PhD Archaeologist, Ephorate of Antiquities of the City of Thessaloniki, University Excavation of Vergina, Section of the Acropolis and Walls
Hoplite Shields with Iron Attachments: Exploring the Armament of Alexander the Great's Campaign
- 13:30-14:00 Discussion
- 14:00-15:30 Break

11th Session: Economy – Energy – Standardization

- 15:30-15:50 **Brybaert Ann**, University of Leiden, Faculty of Archaeology, Netherlands Institute at Athens
Labor and Its Cost During the Late Bronze Age in Argolis, Greece
- 15:50-16:10 **Moullou Dorina**, PhD Archaeologist, Ephorate of Antiquities of Eastern Attica / Hellenic Open University (HOU), **Zerefos Stelios**, PhD Architect Engineer, School of Applied Arts, HOU, **Balafoutis Thanos**, PhD Architect Engineer, HOU, **Topalis Fragiskos**, Professor, School of Electrical and Computer Engineering, NTUA, **Doulos Lambros**, Associate Professor, School of Applied Arts, HOU
On Lamps: Archaeological and Photometric Approaches
- 16:10-16:30 **Niaounakis Michail**, PhD Physicist, NTUA, European Patent Office
Reuse and Recycling in the Greek World
- 16:30-16:50 **Papageorgiadou Charikleia**, Director of Research at the Institute of Historical Research, National Hellenic Research Foundation
Coinage Transformations: From Production Defects to Control Methods
- 16:50-17:20 Break – Coffee



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12th Session: Mining, Metallurgy, Land Improvement Projects

- 17:20-17:40 **Jeffreys Rosemary**, Independent Researcher, London
Methods of Gilding in Late Classical and Hellenistic Greece
- 17:40-18:00 **Timotheou Yiannakis**, Archaeologist, Ministry of Culture and Sports
Archaeological Evidence of Iron Mining in Glyka Nera, Attica
- 18:00-18:20 **Lolos Yiannis**, Associate Professor, Department of History, Archaeology & Social Anthropology, University of Thessaly
Ancient Land Improvement Projects in Historical Times (from the Archaic to the Roman Period) in Greece
- 18:20-18:40 Discussion
- 18:40-19:00 Closing discussion of the 3rd International Conference on Ancient Greek and Byzantine Technology

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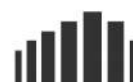
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