

19-23.03.2023

EDICULA
Educational Digital Innovative Cultural heritage related Learning Activities

**EDICULA
TEACHERS'
COURSE**

Project Code: 2020-1-EL01-KA203-079108

Co-funded by the Erasmus+ Programme of the European Union

The **scope** of the EDICULA Teachers' Course is to train higher education teachers - educators to promote the transdisciplinary scientific synthesis as the key element of innovative education. Innovation can serve as the catalyst to transform research into novel educational approaches to achieve authentic learning. The importance of innovative transdisciplinary scientific synthesis is accentuated to teachers - educators in post-graduate programs in scientific fields other than Cultural Heritage. The EDICULA Teachers' Course approaches higher education teachers - educators in the field of Cultural Heritage since they are the stepping stone to transfer this framework. Higher education is the only area that combines education and research in order to embed innovation achieved through research within education in real-time, as well as promotes transdisciplinarity within interdepartmental programs. Two factors that are not yet fulfilled in primary and secondary education. EDICULA Teachers' Course includes principles to be addressed and directions to be followed towards an innovative education in the field of protection of monuments. The curricula applied should be adaptive to the relevant audiences needs, and thus specific curricula should not included.

EDICULA Teachers' Course **trainers** are professors and educators from the EDICULA stakeholders, the National Technical University of Athens, Sapienza University of Rome, Bezalel Academy of Arts and Design, as well as the Israel Antiquities Authority. EDICULA Teachers' Course **trainees** are higher education teachers in different fields in order to promote the EDICULA educational framework for transdisciplinarity through innovation. The training group consists of 20 participants representatives of post-graduate programs, that have been selected as relevant to the disciplines that can be applied in cultural heritage protection, but can also transfer the EDICULA framework into other scientific fields as well.

EDICULA Teachers' Course is implemented within EDICULA project "Educational Digital Innovative Cultural heritage related Learning Activities", co-funded by the Erasmus+ Program of the European Union. <http://edicula.eu/>

EDICULA project opens the discussion to other case studies. Innovative scientific methodologies developed within the emblematic rehabilitation of the Holy Aedicule of the Holy Sepulchre in Jerusalem are marking future trends in the protection of cultural heritage. They have initiated a universal conversation within a holistic approach, merging competence from the scientific fields of architecture, civil engineering, surveying engineering, materials science and engineering, information technology and archaeology, as well as heritage professionals on restoration and conservation, stakeholders, industry representatives and policy makers.

The combined utilization of digital documentation technologies with innovative analytical and non-destructive techniques, numerical, computational and 3D techniques, archaeometric and archaeogene methods, supports the creation of a transdisciplinary multispectral methodology for the sustainable preservation of cultural heritage. Innovation enhances and reveals a critical dimension of the preservation of cultural heritage along with social participation and communication. EDICULA is an innovative educational approach that fuses the interdisciplinary collaboration among the sectors of applied sciences in the protection of monuments with humanities disciplines using extended reality technologies and hands on experience, by developing an educational framework advancing scientific transdisciplinary synthesis.

Real world learning regards the acquisition of skills required for the management of complex real-world problems that involve a much larger variety of disciplines. In this context, the EDICULA use-cases act as the stepping stone for open-minded and constructive thinking that not only designs solutions on the actual cases, but also analyses the overall environment and consequences that might emerge from any potential intervention. Know-how transfer regards the development of a **methodological transdisciplinary mentality**, as an issues resolution, rather than a duplication of a depository of knowledge. The change-of-mentality highlights the innovations applied and the transdisciplinary approaches adopted to address the multi-level challenges of elaborate projects of built cultural heritage protection, such as the emblematic Holy Sepulchre rehabilitation, i.e. complex projects which entail challenges that cannot be addressed efficiently without the coordinated involvement of various complementary scientific disciplines.

EDICULA Teachers' Course is a short course that expands into three parts.

EDICULA TEACHERS' COURSE PART 1

The first part is a theoretical approach where the EDICULA trainers teach through lectures the EDICULA concept.

EDICULA TEACHERS' COURSE PART 2

The second part is a primary approach to apply the concept in the trainees' field of study. Initially, the trainees work separately in a joint hypothesis case study with the support of EDICULA trainers (Part 2A). Afterwards, the trainees share their approach and merge their input (Part 2B).

EDICULA TEACHERS' COURSE PART 3

The third part is the creation of added value by asking the trainees to investigate the possibilities to transfer the EDICULA concept of innovative transdisciplinary scientific synthesis in their respective post-graduate programs.

The EDICULA Teachers' Course is held in Athens, Greece from 19 to 23 March 2023. It is held at the National Technical University of Athens and the Eugenides Foundation, including a scientific visit at the Acropolis of Athens.



TIMETABLE

DAY 1 | 19.03.2023

National Technical University of Athens – School of Chemical Engineering				
17:00-17:30	EDICULA Teachers' Course introduction. Scope and structure – housekeeping rules [NTUA]			
17:30-18:15	Introduction to advanced didactic design [SAPIENZA] part 1			
18:15-19:00	Tools for teaching, training and learning on different levels of education [SAPIENZA] part 1			

DAY 2 | 20.03.2023

	Eugenides Foundation Auditorium	Eugenides Foundation Hall 1	Eugenides Foundation Hall 2
09:00-10:30	Plenary Session – Addresses by the Organizers		

	Eugenides Foundation Auditorium		Eugenides Foundation Hall 1		Eugenides Foundation Hall 2	
		10:30-10:45	A holistic framework for Cultural Heritage data management [210]			
		10:45-11:00	The islet of Klissova and the church of Agia Triada [414]			
11:00-12:30	Historic cities and centers: New Reuse and preservation strategies applying Circular Economy					
				12:30-12:45	Learning from the Jerusalem Workshop of the EDICULA Project: Promoting Hands-on Experience as part of CH learning and training activities [20]	
				12:45-13:00	Innovative educational methodology in the field of cultural heritage protection in an interdisciplinary, problem-based, hands-on framework [224]	
13:00-14:00	Digital Heritage a holistic approach					
14:15-15:30	LUNCH BREAK					
				15:45-16:00	'Deconstructing' and conceptualising the 'rock-art fleet' of Astypalaia. Case study for the application of interdisciplinary tools in Archaeology [391]	
16:00-18:30	The Holy Sepulchre rehabilitation project: Transdisciplinarity and innovation in research and education					

	Eugenides Foundation Auditorium		Eugenides Foundation Hall 1		Eugenides Foundation Hall 2
18:30-20:00	Archaeology - Archaeometry – Archaeogene				

DAY 3 | 21.03.2023

	Eugenides Foundation Auditorium		Eugenides Foundation Hall 1		Eugenides Foundation Hall 2
09:00-12:00	Preserving Compatibility, the Materiality and Integrity of Structures and Architectural Authenticity				
		12:00-12:15	More than meets the eye – compatible materialities of Jerusalem Stone [31]		
				12:15-12:45	Documentation and data management of archaeological excavations and historic reconstruction of monuments and sites [IAA]
				12:45-13:15	On authenticity and integrity [BEZALEL]
				13:15-13:45	Urban Heritage – from Historic Cities to HUL [BEZALEL]
				13:45-14:15	Aspects of conservation in planning processes [BEZALEL]

	Eugenides Foundation Auditorium		Eugenides Foundation Hall 1		Eugenides Foundation Hall 2
14:15-15:15	LUNCH BREAK				
15:15-15:30	NYMPHA - Microalgae polysaccharides for cultural heritage preservation [36]				
15:30-15:45	A novel approach to control biodeterioration of wooden made materials based on chitosan nanoparticles loaded with R-(+)-pulegone [49]				
		15:45-16:00	Stone Deterioration of the Western Wall: Chemical and Mineralogical Characterization of Salts [407]		
		16:00-16:15	Analysis of historical mortars to design compatible restoration ones: application to the Raymond Bastion in Corfu [201]		
		16:15-16:30	A simple green strategy to produce a nanocomposite with consolidation and hydrophobic ability to calcareous substrates [406]		
		16:30-16:45	A superamphiphobic composite coating for the protection of marble [409]		
		16:45-17:00	Murat Reis complex: Survey, Documentation and Restoration of the Mosque [415]		
				17:00-17:30	Introduction to advanced didactic design [SAPIENZA] part 2
				17:30-18:00	Tools for teaching, training and learning on different levels of education [SAPIENZA] part 2
18:00-18:30	Resilience of Cultural Heritage mitigating Climate Change, Natural Hazards and Pandemic Risks and ensuring Biosafety				
18:30-18:45	Development of a Support System for Improved Resilience and Sustainable Urban areas to cope with Climate Change and Extreme Events based on GEOSS and Advanced Modelling Tools [193]				
18:45-19:00	Assessment of soil pollution and contamination at the historic former Hellenikon airport in Athens, through correlation of analytical measurements and metagenomics analysis [213]				

DAY 4 | 22.03.2023

	Eugenides Foundation Auditorium		Eugenides Foundation Hall 1		Eugenides Foundation Hall 2
				09:00-10:00	Practical activities with the involvement of attendants: Didactic design elaboration, writing learning outcomes, rethinking courses, building a tuning matrix [SAPIENZA]
10:00-10:30	New European Bauhaus initiative for Green Deal addressing energy challenges				
		10:30-10:45	Portable NMR applications: non-destructive and non-invasive porosity investigations on carbonatic stone materials [37]		
		10:45-11:00	Evaluation of materials and techniques of a 19th century hieratic manuscript [80]		
		11:00-11:15	Nondestructive assessment of hidden information in a post-byzantine icon [82]		
		11:15-11:30	Nano-reinforced ternary lime-based composites for structural health monitoring of Cultural Heritage Monuments [225]		
11:30-13:00	EDICULA STEERING COMMITTEE MEETING				
				13:00-14:00	Technical skills for didactic purpose: Voice use lab [SAPIENZA]
14:00-15:00	LUNCH BREAK				
15:00-16:30	Bridging Heritage Stakeholders, Science and Industry				

	Eugenides Foundation Auditorium		Eugenides Foundation Hall 1		Eugenides Foundation Hall 2
16:30-18:00	Advanced Non Destructive and Structural Techniques for Diagnosis, Redesign and Health Monitoring and Quality Assessment of Materials and Preservation Interventions				
18:00-19:30	Recapturing the World in Conflict through Culture promoting mutual understanding and Peace				
19:30-19:45	Enhanced documentation and evaluation of grouting process, through the fusion of non-destructive testing and evaluation information. The case study of the Katholikon of the Monastery of Panagia Varnakova [190]				
19:45-20:00	The interventions for the main dome of Hagia Sophia throughout its history and a preservation proposal [200]				
20:00-20:15	The historical materials of the Varnakova Monastery Katholikon and restoration proposals [211]				
20:15-20:30	Interdisciplinary approach: Evolution of rehabilitation works, supervision, monitoring and control at the Varnakova Monastery Katholikon [417]				

DAY 5 | 23.03.2023

Acropolis of Athens					
08:30-10:30	SCIENTIFIC FIELD VISIT by the Acropolis Restoration Service				

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ANALYTICAL PROGRAM

EDICULA TEACHERS' COURSE PART 1

The first part is a theoretical approach where the EDICULA trainers teach through lectures the EDICULA concept.

DAY 1

19.03.23 | 17:00-19:00 NTUA School of Chemical Engineering

Introductory lectures	
EDICULA Teachers' Course introduction. Scope and structure – housekeeping rules	Antonia Moropoulou, Kyriakos Lampropoulos and Antonia Lampropoulou National Technical University of Athens
Introduction to advanced didactic design – PART 1	Gabriele Favero Sapienza University of Rome
Tools for teaching, training and learning on different levels of education – PART 1	Medeghini Laura, Masi Alessia Sapienza University of Rome

DAY 2**20.03.23 | 09:00-10:30****Eugenides Foundation Auditorium**

Opening Session	
Introductory speech	
President of the International TMM_CH Conferences, Professor Emeritus Moropoulou Antonia, National Technical University of Athens - Head of the Interdisciplinary Team and Chief Scientific Supervisor of the Holy Sepulchre's Holy Aedicule's rehabilitation - Technical Chamber of Greece Executive Committee - Governing Council of the University of Ioannina Member	
Welcome Address	
Rector of the National Technical University of Athens, Professor Andreas Boudouvis	President of TCG Technical Chamber of Greece, Giorgos Stasinou
Inauguration of the Conference	
H.E. the Vice President of the Greek Government, Mr Panagiotis Pikrammenos	
Benedictions	
His All-Holiness, Ecumenical Patriarch Bartholomew of Constantinople	
His Beatitude, Archbishop Hieronymus II of Athens and All Greece	
His Beatitude, Patriarch Theophilos III of Jerusalem	
Addresses	
European Commissioner for Innovation, Research, Culture, Education and Youth, Mariya Gabriel	
Secretary General of ICOMOS International Council of Monuments and Sites, Professor Mario Santana Quintero – Carleton University	
Director General of Israel Antiquities Authority, Eli Eskosido	
President of ETEK Cyprus Scientific and Technical Chamber, Constantinos Constanti	
Rector of the University of Ioannina, Professor Anna Batistatou	
Founder and President of CHiFA Cultural Heritage Finance Alliance, Bonnie Burnham – President Emerita of WMF World Monuments Fund	

President of the International Committee CIPA Heritage Documentation, Professor Efstratios Stylianidis - Vice Rector for Research and Lifelong Learning of the Aristotle University of Thessaloniki

Director of UNESCO Chair on "Digital Cultural Heritage", Dr Marinos Ioannides - Cyprus University of Technology

20.03.23 | 11:00-12:30 Eugenides Foundation Auditorium

Historic cities and centers: New Reuse and preservation strategies applying Circular Economy

Bakoyannis Kostas, Mayor of Athens

Kampourakis Antonis, Mayor of Rhodes

Minaidis Lee, Advisor to the Secretary General of the Organization of World Heritage Cities OWHC

Burnham Bonnie, Cultural Heritage Finance Alliance, President - World Monuments Fund WMF, President Emerita

Akritidis Chronis, CEO of ANAPLASI ATHINAS S.A.

Gravari-Barbas Maria, UNESCO Chair on "Culture, Tourism, Development", Director -Paris 1 Panthéon-Sorbonne University - Institute of Research and Higher Studies on Tourism IREST

Drakos Stefanos, Deputy Mayor of Rhodes, Head of Medieval City

Maistrrou Eleni, Professor Emeritus, National Technical University of Athens - Society for the Environmental and Cultural Heritage, Council of Architectural Heritage, President

Moropoulou Antonia, Professor, National Technical University of Athens, School of Chemical Engineering

Turner Mike, Professor, Bezalel Academy of Arts and Design Jerusalem - UNESCO Chair in Urban Design and Conservation Studies

Della Torre Stefano, Professor, Polytechnic University of Milan, Department of Architecture, Built Environment and Construction Engineering

Karavasili Margarita, ECOCITY Voluntary Organization for the Urban Environment, council member

Coccosis Harry, Professor Emeritus, University of Thessaly, Department of Planning and Regional Development – EC consultant on spatial planning and environment, tourism, sustainable development, insular development

20.03.23 | 13:00-14:00 Eugenides Foundation Auditorium

Digital Heritage a holistic approach

Ioannides Marinos, UNESCO Chair on "Digital Cultural Heritage", Director - Cyprus University of Technology

Amditis Angelos, National Technical University of Athens, Institute of Communication and Computer Systems, Research Director

Anagnostopoulos Dimosthenis, Secretary General at GSIS, Ministry of Finance and Economics of the Hellenic Republic - Professor, Harokopio University, Department of Informatics and Telematics

Delegou Ekaterini, Scientific and Teaching Staff, National Technical University of Athens, School of Chemical Engineering

Di Giulio Roberto, University of Ferrara, Department of Architecture - Research Project "Inclusive Cultural Heritage in Europe through 3D semantic modeling INCEPTION", Scientific Coordinator

Georgopoulos Andreas, Professor, National Technical University of Athens, School of Rural, Surveying and Geoinformatics Engineering - International Council of Monuments and Sites ICOMOS, Member of the International Board

Kyriazis Dimosthenis, Associate Professor, Vice Rector University of Piraeus – Representative, Research Program RESPECT An exemplary information system and methodology for the integrated management, analysis and dissemination of digital cultural heritage data coming from the rehabilitation of the Holy Aedicule

Tokmakidis Konstantinos, Professor, Aristotle University of Thessaloniki, School of Rural and Surveying Engineering

20.03.23 | 15:30-16:00 Eugenides Foundation Hall 2

Art, Archaeology - Archaeometry – Archaeogene

391	'Deconstructing' and conceptualising the 'rock-art fleet' of Astypalaia: a case study for the application of interdisciplinary tools in Archaeology	Andreas Vlachopoulos and Panagiotis Tzouvaras University of Ioannina, University of Southampton
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20.03.23 | 18:30-20:00 Eugenides Foundation Auditorium

Archaeology - Archaeometry – Archaeogene

Korka Elena, Dr Archaeologist, Ministry of Culture and Sports of the Hellenic Republic, General Directorate of Antiquities and Cultural Heritage, Honorary Director General –Hellenic Blue Shield, President

Simosi Aggeliki, Hellenic Ministry of Culture and Sports of the Hellenic Republic, Ephorate of Antiquities of Piraeus and Islands, Director

Psalti Athanasia, Hellenic Ministry of Culture and Sports of the Hellenic Republic, Ephorate of Antiquities of Phocis, Director

Vlachopoulos Andreas, Associate Professor, University of Ioannina, Department of History and Archaeology, Chair

Liritzis Ioannis, Professor, University of the Aegean, Department of Mediterranean Studies, Laboratory of Archaeometry, Director

Karapiperis Christos, DNASequences SRL

Mertzani Maria, Hellenic Ministry of Culture and Sports of the Hellenic Republic, Directorate of Conservation of ancient and Modern Monuments, Director

Terlixi Agni, Deputy Head of the Work's of Arts Conservation and Reability Director, National Gallery of Greece

Zacharias Nikos, Professor, University of Peloponnese, Department of History, Archaeology and Cultural Resources Management - School of Humanities and Cultural Studies, Dean – MSc Program "Cultural Heritage Materials and Technologies", Director

DAY 3**21.03.23 | 09:00-12:00 Eugenides Foundation Auditorium**

Preserving Compatibility, the Materiality and Integrity of Structures and Architectural Authenticity
Zendri Elisabetta , Professor, University Ca' Foscari of Venice, Department of Environmental Engineering, Informatics and Statistics
Bakolas Stelios , Associate Professor, National Technical University of Athens, School of Chemical Engineering, Laboratory of Materials Science and Engineering, Director - NTUA Post-Graduate MSc Program "Protection of Monuments" Direction "Materials and Conservation Interventions" Studies Director
Della Torre Stefano , Professor, Polytechnic University of Milan, Department of Architecture, Built Environment and Construction Engineering
Moropoulou Antonia , Professor, National Technical University of Athens, School of Chemical Engineering - President of the TMM-CH Conferences
Maravelaki Pagona-Noni , Professor, Technical University of Crete, School of Architecture, Laboratory of Materials for Cultural Heritage and Modern Building, Head
Vlachoulis Themistoklis , Ministry of Culture and Sports of the Hellenic Republic, Directorate for the Restoration of Byzantine and Post-byzantine Monuments, Director
Efesiou Irene , Professor Emeritus, National Technical University of Athens, School of Architecture
Eleftheriou Vasiliki , Ministry of Culture and Sports of the Hellenic Republic, Acropolis Restoration Service, Director
Konstantinidou Elena , Associate Professor, National Technical University of Athens, School of Architecture - NTUA Post-Graduate MSc Program "Protection of Monuments" representative
Miltiadou-Fezans Androniki , Associate Professor, National Technical University of Athens, School of Architecture
Spathis Panagiotis , Professor, Aristotle University of Thessaloniki, MSc Program "Physico-chemical diagnostic methods for Cultural Heritage materials"
Rajčić Vlatka , Professor, University of Zagreb, Faculty of Civil Engineering
Sela Wiener Adi , Architect, Lecturer at Bezalel Academy of Arts and Design Jerusalem, School of Architecture, Master's Program in Urban Design; ICOMOS Israel, Head of the Cultural Routes Scientific Committee – Edicula Consortium
Smyris Georgios , Associate Professor, University of Ioannina, Department of Architecture, Chair

21.03.23 | 12:15-14:15 Eugenides Foundation Hall 2

Lectures	
Documentation and data management of archaeological excavations and historic reconstruction of monuments and sites	Yuval Baruch Israel Antiquities Authority
On authenticity and integrity	Mike Turner Bezalel Academy of Arts and Design
Urban Heritage – from Historic Cities to HUL	Adi Sela Wiener Bezalel Academy of Arts and Design
Aspects of conservation in planning processes	Danielah Smits Possek Bezalel Academy of Arts and Design

21.03.23 | 17:00-18:00 Eugenides Foundation Hall 2

Introductory lectures	
Introduction to advanced didactic design – PART 2	Gabriele Favero Sapienza University of Rome
Tools for teaching, training and learning on different levels of education – PART 2	Medeghini Laura, Masi Alessia Sapienza University of Rome

21.03.23 | 18:00-18:30 Eugenides Foundation Auditorium

Resilience of Cultural Heritage mitigating Climate Change, Natural Hazards and Pandemic Risks and ensuring Biosafety
Ioannidis Charalambos , Professor, National Technical University of Athens, School of Rural, Surveying and Geoinformatics Engineering, Dean – TRIQUETRA member
Charalampopoulou Betty , CEO / President Geosystems Hellas S.A, TRIQUETRA representative
Alexandrakis Georgios , Foundation for Research and Technology Hellas FORTH, Institute of Applied and Computational Mathematics, Coastal and Marine Research Laboratory
Alexopoulos Konstantinos , retired General, Defense and Civil Emergency Planning expert - The Grand Priory of Greece in the "Sovereign Military Order of the Temple of Jerusalem", representative
Chasapi Anastasia , Research Scientist, Centre for Research and Technology, Hellas CERTH - DNASequency SRL, Bioinformatics Expert
Deodatis George , Columbia University, Department of Civil Engineering and Engineering Mechanics, Santiago and Robertina Calatrava Family Professor of Civil Engineering and Professor of Earth and Environmental Engineering
Martino Salvatore , Associate Professor, Sapienza University of Rome - TRIQUETRA member
Cerra Daniele , German Aerospace Center - TRIQUETRA member
Themistocleous Kyriacos , Eratosthenes Centre of Excellence - TRIQUETRA member
Deodatis George , Columbia University, Department of Civil Engineering and Engineering Mechanics, Santiago and Robertina Calatrava Family Professor of Civil Engineering and Professor of Earth and Environmental Engineering
Moropoulou Antonia , Professor, National Technical University of Athens
Koundouri Phoebe , Professor and Director of ReSEES Research Laboratory, Athens University of Economics and Business - Director of Sustainable Development Unit and EIT Climate-KIC Hub Greece, Athena Information Technology Research Center – President-Elect of the European Association of Environmental and Resource Economists - Fellow World Academy of Art and Science - Co-chair SDSN Europe & SDSN Greece

EDICULA TEACHERS' COURSE PART 2

The second part is a primary approach to apply the concept in the trainees' field of study. Initially, the trainees work separately in a joint hypothesis case study with the support of EDICULA trainers (Part 2A). Afterwards, the trainees share their approach and merge their input (Part 2B).

DAY 2

20.03.23 | 09:00-10:30 Eugenides Foundation Auditorium

Plenary Session – Addresses by the Organizers

President of the International TMM_CH Conferences, Professor Emeritus **Moropoulou Antonia**, National Technical University of Athens - Head of the Interdisciplinary Team and Chief Scientific Supervisor of the Holy Sepulchre's Holy Aedicule's rehabilitation – Technical Chamber of Greece Executive Committee

Rector of the **National Technical University** of Athens, Professor **Andreas Boudouvis**

President of **TCG** Technical Chamber of Greece, **Giorgos Stasinou**

H.E. the Vice President of the Greek Government, Mr Panagiotis Pikrammenos

His All-Holiness, Ecumenical Patriarch Bartholomew of Constantinople

His Beatitude, Archbishop Hieronymus II of Athens and All Greece

His Beatitude, Patriarch Theophilos III of Jerusalem

European Commissioner for Innovation, Research, Culture, Education and Youth, **Mariya Gabriel**

Secretary General of **ICOMOS** International Council of Monuments and Sites, Professor **Mario Santana Quintero** – Carleton University

Director General of **Israel Antiquities Authority**, **Eli Eskosido**

President of **ETEK** Cyprus Scientific and Technical Chamber, **Constantinos Constanti**

Rector of the **University of Ioannina**, Professor **Anna Batistatou**

Founder and President of **CHiFA** Cultural Heritage Finance Alliance, **Bonnie Burnham** – President Emerita of **WMF World Monuments Fund**

President of the International Committee **CIPA** Heritage Documentation, Associate Professor **Efstratios Stylianidis** - Vice Rector for Research and Lifelong Learning of the Aristotle University of Thessaloniki

Director of **UNESCO Chair on "Digital Cultural Heritage"**, Dr **Marinos Ioannides** - Cyprus University of Technology

20.03.2023 | 10:30-11:00 Eugenides Foundation Hall 1

Digital Heritage: a holistic approach

210	A holistic framework for Cultural Heritage data management	Emmanouil Alexakis, Philip Mavrepis, Alexandros Raikos, Antonis Rifios, Dimosthenis Kyriazis and Antonia Moropoulou National Technical University of Athens-University of Piraeus
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414	The Islet of Klissova and the Church of Agia Triada	Anastasia Papoutsaki, Vayia Panagiotidis, Nikolaos Zacharias, Aggeliki Kompoti and Anastasios Kazolias University of Peloponnese
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DAY 3

21.03.2023 | 12:00-12:15 Eugenides Foundation Hall 1

Preserving Compatibility, the Materiality and Integrity of Structures and Architectural Authenticity

31	More than meets the eye – compatible materialities of Jerusalem Stone	Adi Sela Wiener, Laura Medeghini and Gabriele Favero Sapienza University of Rome, Bezalel Academy of Arts and Design
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21.03.2023 | 15:15-15:45 Eugenides Foundation Auditorium

Resilience to Climate Change, Natural Hazards and Pandemic Risks - Biosafety

36	NYMPHA - Microalgae polysaccharides for cultural heritage preservation	Laura Medeghini, Melania Di Fazio, Alessia Masi, Laura Sadori, Eleonora Cerafogli, Cristina Chiarucci, Francesca Leonoelli, Amina Antonacci, Annalisa Masi, Daniele Di Luca, Teresa Rinaldi, Marcella Ioele, Carolina Rigon, Eleonora Gioventù, Miriam Pitocco, Antonella Di Giovanni, Maria Speranza Storace, Gabriella Pace and Gabriele Favero Sapienza University of Rome, Institute of Crystallography, National Research Council, Central Institute for Restoration (ICR)
49	A novel approach to control biodeterioration of wooden made materials based on chitosan nanoparticles loaded with R-(+)-pulegone	Chiara Genova, Marzia Beccaccioli, Alessandro Lazzara, Alessandro Ciccola, Gabriele Favero, Alessia Masi and Simona Sennato Sapienza University of Rome, Institute for Complex Systems (ISC-CNR), National Research Council

21.03.2023 | 15:45-17:00 Eugenides Foundation Hall 1

Preserving Compatibility, the Materiality and Integrity of Structures and Architectural Authenticity

407	Stone Deterioration of the Western Wall: Chemical and Mineralogical Characterization of Salts	Meidad Shor, Aliza van Zuiden, Nimrod Wieler and Yotam Asscher Israel Antiquities Authority
201	Analysis of historical mortars to design compatible restoration ones: application to the Raymond Bastion in Corfu	Noni Maravelaki, Kali Kapetanaki and Tenia Rigakou University of Thessaly
406	A simple green strategy to produce a nanocomposite with consolidation and hydrophobic ability to calcareous substrates	Areti Kotsoni, Stavros Lagkadinou, Dimitrios Stefanakis, Ioannis Karapanagiotis and Pagona-Noni Maravelaki Technical University of Crete, Aristotle University of Thessaloniki

409	A superamphiphobic composite coating for the protection of marble	Panagiotis Spathis, Panagiotis Manoudis, Zebunnisa Chughtai, Vasilios Tsiridis, Avraam Konstantinidis, Sotiris Evgenidis, Kyriaki Devlioti, Ioannis Karapanagiotis and Thodoris Karapantsios Aristotle University of Thessaloniki
415	Murat Reis complex: Survey, Documentation and Restoration of the Mosque	Anna Chrysidi, Elena Konstantinidou, Androniki Miltiadou Fezans and Eleftheria Tsakanika free lance engineer, National Technical University of Athens

21.03.23 | 17:00-18:30 Eugenides Foundation Hall 2

Lectures		
	Introduction to advanced didactic design – PART 2	Gabriele Favero Sapienza University of Rome
	Tools for teaching, training and learning on different levels of education – PART 2	Medeghini Laura, Masi Alessia Sapienza University of Rome

21.03.2023 | 18:30-19:00 Eugenides Foundation Auditorium

Resilience to Climate Change, Natural Hazards and Pandemic Risks - Biosafety		
193	Development of a Support System for Improved Resilience and Sustainable Urban areas to cope with Climate Change and Extreme Events based on GEOSS and Advanced Modelling Tools	Charalampos Zafeiropoulos, Ioannis Tzortzis, Rallis Ioannis and Anastasios Doulamis National Technical University of Athens
213	Assessment of soil pollution and contamination at the historic former Hellenikon airport in Athens, through correlation of analytical measurements and metagenomics analysis	Kyriakos Lampropoulos, Ekaterini Delegou, Antonios Samiotakis, Jelica Novakovic, Maria Loizidou, Antonios Salakidis, Christos Karapiperis, Anastasia Chasapi, Dimitrios Valasiadis and Antonia Moropoulou National Technical University of Athens, DNASequences SRL Hellas, Aristotle University of Thessaloniki, Chemical Process & Energy Resources Institute

DAY 4
22.03.23 | 09:00-10:00 Eugenides Foundation Hall 2

Lectures		
	Practical activities with the involvement of attendants: Didactic design elaboration, writing learning outcomes, rethinking courses, building a tuning matrix	Gabriele Favero, Medeghini Laura, Ciccola Alessandro Sapienza University of Rome, National Technical University of Athens

22.03.23 | 10:00-10:30 Eugenides Foundation Auditorium

New European Bauhaus initiative for Green Deal addressing energy challenges	
Piaia Emanuele , Associate Professor, University of Ferrara, Department of Architecture	
Touliatos Panagiotis , Professor, Frederick University, Department of Architecture, Head - Professor Emeritus, National Technical University of Athens, School of Architecture	
Konstanti Agoritsa , Scientific and Teaching Staff, National Technical University of Athens, School of Chemical Engineering, Laboratory of Materials Science and Engineering	
Kapareliotis Vassilis , Topos Systems (start up Greece)	
Xenidis Anthimos , Professor, National Technical University of Athens, School of Mining and Metallurgical Engineering	
Nikolovgenis Andreas , Assistant Professor, University of Ioannina, Architecture and Urban Design Department of Architecture	
Thravalou Stavroula , Adjunct Teaching Staff University of Cyprus, Department of Architecture	
TERNA representative	
Doukas Haris , Associate Professor, National Technical University of Athens, School of Electrical and Computer Engineering	

22.03.2023 | 10:30-11:30 Eugenides Foundation Hall 1

Advanced Non Destructive and Structural Techniques for Diagnosis, Redesign and Health Monitoring		
37	Portable NMR applications: non-destructive and non-invasive porosity investigations on carbonatic stone materials.	Laura Giuliani, Valeria Stagno, Chiara Genova, Alessandro Ciccola, Silvia Capuani and Gabriele Favero Università La Sapienza, CNR ISC
80	Evaluation of materials and techniques of a 19th century hieratic manuscript	Georgia Varfi, Spyridoula Farmaki, Dimitrios Moschovas, Dimitrios Exarchos and Theodore Matikas University of Ioannina
82	Nondestructive assessment of hidden information in a post-byzantine icon.	Georgia Varfi, Spyridoula Farmaki, Theofanis Gerodimos, Dimitrios Exarchos, George Mastrotheodoros, Dimitrios Anagnostopoulos and Theodore Matikas University of Ioannina, University of West Attika
225	Nano-reinforced ternary lime-based composites for structural health monitoring of Cultural Heritage Monuments	Maria Evangelia Stogia, Stavros Kourkoulis and Nikolaos Alexopoulos University of the Aegean-National Technical University of Athens

22.03.23 | 13:00-14:00 Eugenides Foundation Hall2

Lectures	
Technical skills for didactic purpose: Voice use lab	Ciccola Alessandro Sapienza University of Rome

22.03.23 | 16:30-18:00 Eugenides Foundation Auditorium

Advanced Non Destructive and Structural Techniques for Diagnosis, Redesign and Health Monitoring and Quality Assessment of Materials and Preservation Interventions
Osman Ahmad , Professor, University of Applied Sciences in Saarbrücken - Fraunhofer Institute for Nondestructive Testing IZFP
Betti Michele , Associate Professor, University of Florence, Department of Civil and Environmental Engineering
Zhang Hai , Professor, Harbin Institute of Technology
Tsangouri Eleni , Professor, Free University of Brussels
Karagiannis Georgios , "ORMYLIA" Foundation, Scientific Director
Lampropoulos Kyriakos , elected Assistant Professor, National Technical University of Athens, School of Chemical Engineering
Mouzas Athanasios , Civil Engineer TÜV HELLAS (TÜV NORD), Buildings & Infrastructure Projects Inspector
Sideris Kosmas , Professor, Democritus University of Thrace, Department of Civil Engineering
Matikas Theodoros , Professor, University of Ioannina, Department of Materials Science and Engineering, Laboratory of Mechanics, Smart Sensors and Nondestructive Evaluation, Vice Rector for Research, Innovation and Development
Hristoforou Evangelos , Professor, National Technical University of Athens, School of Electrical and Computer Engineering – Hellenic Society of Non-Destructive Testing HSNT, representative

22.03.2023 | 19:30-20:30 Eugenides Foundation Auditorium

Emblematic works as source of innovation and transdisciplinarity		
190	Enhanced documentation and evaluation of grouting process, through the fusion of non-destructive testing and evaluation information. The case study of the Katholikon of the Monastery of Panagia Varnakova	Kyriakos Lampropoulos, Ekaterini Delegou, Stergios Roumeliotis, Vasileios Keramidas and Antonia Moropoulou National Technical University of Athens
200	The interventions for the main dome of Hagia Sophia throughout its history and a preservation proposal	Hasan Firat Diker, Mehmet Halis Günel and Beyza Kapucu Güzelbulut Fatih Sultan Mehmet Vakıf University, Middle East Technical University, Istanbul Technical University
211	The historical materials of the Varnakova Monastery Katholikon and restoration proposals	Maria Apostolopoulou, Ekaterini T. Delegou, Christoforos Michalaros, Vasileios Keramidas, Elisavet Tsilimantou, Christos Papatrechas and Antonia Moropoulou

		National Technical University of Athens, Hellenic Survey of Geology & Mineral Exploration
417	Interdisciplinary approach: Evolution of rehabilitation works, supervision, monitoring and control at the Varnakova Monastery Catholicon	Antonia Moropoulou, Charalampos Mouzakis, Georgios Andriotakis, Julia Vobiri, Vassilios Zafeiris, Maria Apostolopoulou, Vassilios Keramidas, Ekaterini Delegou, Kyriakos Lampropoulos, Stergios Roumeliotis, Marilena Tsakoumaki and Athanasia Psalti National Technical University of Athens, Ephorate of Antiquities of Phocis, free lance engineers

DAY 5

23.03.23 | 08:30-10:30 Acropolis of Athens

Scientific Field Visit to the Acropolis of Athens	Vasiliki Eleftheriou, Eleni Aggelakopoulou and Maria Apostolopoulou Acropolis Restoration Service, Ministry of Culture and Sports

EDICULA TEACHERS' COURSE PART 3

The third part is the creation of added value by asking the trainees to investigate the possibilities to transfer the EDICULA concept of innovative transdisciplinary scientific synthesis in their respective post-graduate programs.

DAY 2

20.03.2023 | 12:30-13:00 Hall 2

Novel educational Approach for the Preservation of Cultural Heritage		
20	Learning from the Jerusalem Workshop of the EDICULA Project: promoting Hands-on Experience as part of Cultural Heritage learning and training activities	Adi Sela Wiener and Liat Weinblum Bezalel Academy of Arts and Design; Sapienza University of Rome, Israel Antiquity Authority
224	Innovative educational methodology in the field of cultural heritage protection in an interdisciplinary, problem-based, hands-on framework	Antonia Lampropoulou, Ioannis Rallis, Agoritsa Konstanti, Ekaterini Delegou, Kyriakos Lampropoulos and Antonia Moropoulou National Technical University of Athens

20.03.23 | 16:00-18:30 Eugenides Foundation Auditorium

The Holy Sepulchre rehabilitation project: Transdisciplinarity and innovation in research and education	
Moropoulou Antonia , Professor, National Technical University of Athens, School of Chemical Engineering - Head of the NTUA Interdisciplinary Team and Chief Scientific Supervisor of the Holy Aedicule's rehabilitation in the Holy Sepulchre in Jerusalem	
Dimas Christos , Deputy Minister for Research and Innovation, Ministry of Development and Investments of the Hellenic Republic	
Hiebert Fredrik , Dr. Archaeologist at the Project as National Geographic Society	
Favero Gabriele , Professor, Sapienza University of Rome, Master's Degree Programme, Science and Technologies for the Conservation of Cultural Heritage - EDICULA Erasmus+ Strategic Partnership, Steering Committee member	
Sanmartín Fulgencio , Policy Officer at European Commission, Competence Centre for Conservation of Cultural Heritage	
Smits Possek Danielah , Architect, Bezalel Academy of Arts, School of Architecture, Master's Program in Urban Design Studies, Head	
Järvinen Hannu-Matti , Professor Tampere University, President of SEFI European Society for Engineering Education	
Belavilas Nikolaos , Professor, National Technical University of Athens, School of Architecture - NTUA Post-Graduate MSc Program "Protection of Monuments", Director	
Bakolas Stelios , Associate Professor, National Technical University of Athens, School of Chemical Engineering - NTUA Post-Graduate MSc Program "Protection of Monuments" Direction "Materials and Conservation Interventions", Studies Director	
Papayianni Ioanna , Professor Emeritus, Aristotle University of Thessaloniki, School of Civil Engineering - MSc Program "Protection, Conservation and Restoration of Civilization Monuments" representative	
Georgopoulos Andreas Professor of National Technical University of Athens, Board member of the International Council of Monuments and Sites ICOMOS	

Maravelaki Pagona-Noni , Professor, Technical University of Crete, School of Architecture – MSc Program “Protection, valorization and conservation of Monuments and Sites”, representative
Stavrakos Christos , Professor, University of Ioannina, Department of History and Archaeology – MSc Program “Byzantine Studies”, Secretary General of the International Association of Byzantine Studies
Zacharias Nikos , Professor, University of Peloponnese, Department of History, Archaeology and Cultural Resources Management - School of Humanities and Cultural Studies, Dean – MSc Program “Cultural Heritage Materials and Technologies”, Director
Lampropoulou Antonia , National Technical University of Athens - EDICULA Erasmus+ Strategic Partnership

DAY 4

22.03.23 | 15:00-16:30 **Eugenides Foundation Auditorium**

Bridging Heritage Stakeholders, Science and Industry
Androulidaki Amalia , Ministry of Culture and Sports of the Hellenic Republic, General Directorate for the Restoration, Museums and Technical Works, General Director
Baruch Yuval , Dr Archaeologist, Israel Antiquities Authority, Directorate General representative
Stylianou Platonas , Cyprus Scientific and Technical Chamber ETEK, General Secretary of the Executive Board
Daktylidis Michail , Panhellenic Association of Engineers Contractors of Public Works PEDMEDE, President
Zafeiri Styliani , Sons P. Zafiri Techniki Ltd
Dalkafouki Maria , Dalkafouki House Ltd, Chief Executive Officer
Katsiotis Marios , PhD, TITAN Cement Group, Research & Innovation Manager
Komnitsas Konstantinos , Professor, Technical University of Crete, School of Mineral Resources Engineering
Tosios Anastasios , Deputy Chief Executive Officer, EYDAP Athens Water Supply and Sewerage Company
Daskalaki Melina , Athens Development and Destination Management Agency, Member of the Board of Directors
Vani Maxie , Chief Strategy Officer, Growthfund (HCAP)
Rodriguez-Maribona Isabel , European Construction Technology Platform ECTP, Heritage and Regeneration Committee, Chair

22.03.23 | 18:00-19:30 **Eugenides Foundation Auditorium**

Recapturing the World in Conflict through Culture promoting mutual understanding and Peace
Nikoltsiou Maria , Journalist, Alpha TV
Tasoulas Constantine , President of the Hellenic Parliament
Georgiadis Adonis , Minister for Development and Investment of the Hellenic Republic
Pappas Spyros , Dr European Lawyer - European Commission, Directorate General of Education and Culture, former Director General - Argo the Hellenic Network in Belgium, President

Moropoulou Antonia , Professor Emeritus, National Technical University of Athens - Head of the Interdisciplinary Team and Chief Scientific Supervisor of the Holy Sepulchre's Holy Aedicule's rehabilitation - Technical Chamber of Greece Executive Committee – President of TMM_CH Conferences
Grekas Aristarchos , Archimandrite of the Holy Archdiocese of Athens - Assistant Professor, National and Kapodistrian University of Athens, Department of Theology - Hellenic Institute of Cultural Diplomacy
Kriari Ismini , Professor Emeritus, Panteion University of Social and Political Sciences, former Rector – European Research and Educational Centre of Bioethics and Legislation
Diker Hasan Firat , Fatih Sultan Mehmet Vakif University, Faculty of Architecture and Design, Professor
Giannini Evgenia , Assistant Professor, National Technical University of Athens, School of Applied Mathematical and Physical Sciences, Department of Humanities Social Sciences and Law
Theodorou Theodoros , Ambassador on Honors
De Vries Pieter , Assistant Professor, Delft University of Technology - European Society for Engineering Education SEFI, Treasurer
De Chaves-Chronopoulos Lila , Heritage & Museums International, President
Jugyasu Rohit , International Centre for the Study of the Preservation and Restoration of Cultural Heritage in Rome ICCROM, heritage conservation professional
Pissaridis Chrysanthos , ICOMOS-Cyprus, President



EDICULA

Educational Digital Innovative Cultural heritage related Learning Activities
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THE ALEXANDRIAN CIVILIZATION
[GREECE]

The EDICULA Educational Committee responsible for the Teachers' Course

National Technical University of Athens

Professor Antonia Moropoulou – Coordinator of EDICULA Project
Elected Assistant Professor Kyriakos Lampropoulos
Antonia Lampropoulou

Bezalel Academy of Arts and Design

Professor Mike Turner
Lecturer Adi Sela Wiener
Danielah Smits Possek – Head M. Urb. Des

Sapienza University of Rome

Professor Gabriele Favero
Dr Alessandro Ciccola
Dr Alessia Masi
Dr Laura Medeghini

Israel Antiquities Authority

Dr Yuval Baruch
Dr Yotam Asscher
Liat Weinblum



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