



3rd International Conference on
**Transdisciplinary Multispectral
Modelling and Cooperation
for the Preservation of Cultural Heritage**
Recapturing the World in Conflict through Culture
promoting mutual understanding and Peace

20-23 March 2023, Eugenides Foundation, Athens, Greece

Καινοτόμος, Διεπιστημονική, Ψηφιακή
Διατήρηση της Πολιτιστικής Κληρονομιάς



Organized under the patronage of H.E. the President of the Hellenic Republic, Ms Katerina Sakellariopoulou, inaugurated by H.E. the Vice President of the Government of the Hellenic Republic, Mr Panagiotis Pikrammenos, with benedictions bestowed by 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

www.tmm-ch.com



About

Innovative scientific methodologies and challenging projects marking future trends in the protection of cultural heritage, 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 modeling towards the sustainable preservation of cultural heritage. Innovation is enhancing and revealing a critical dimension of the preservation of cultural heritage along with social participation and communication, and supporting peace through culture.

The National Technical University of Athens interdisciplinary team "Protection of monuments", scientific responsible for the Holy Aedicule's rehabilitation of the Holy Sepulchre in Jerusalem, and the Technical Chamber of Greece, in collaboration with international and Greek Organisations and Universities, organize the 3rd TMM_CH International Conference on "Transdisciplinary Multispectral Modelling and Cooperation for the Preservation of Cultural Heritage: Recapturing the World in Conflict through Culture, promoting mutual understanding and Peace", on 20-23 March 2023 in Athens, Greece, discussing modern trends in the original agora of our technological and democratic roots with distinguished scientists and representatives of International and European Organizations, Associations, Universities and Research Centers in the field of cultural heritage preservation.

The conference is held at the Eugenides Foundation in Athens.

At the 1st and the 2nd TMM_CH Conferences, which were held with great success in October 2018 and December 2021 respectively. The emblematic rehabilitation of the Holy Aedicule of the Holy Sepulchre in Jerusalem was presented as an exemplary application, in the field of monuments' protection, of interdisciplinary and multispectral collaboration, as an outcome of innovation, on Research, and in the implementation process as well, with emphasis on technological advancements, intersecting all the scientific fields of engineers and natural scientists, and also initiating an ongoing dialogue with humanities, such as Archaeology, Theology, Sociology, Diplomacy and Tourism. Innovative knowledge transfer through practice and education is continuing the venture, adjoining the National Technical University of Athens and La Sapienza University of Rome with Bezalel Academy of Science and Arts in Jerusalem, in cooperation with Israel Antiquities Authority, through the Erasmus+ Strategic Alliance EDICULA "Educational Digital Innovative Cultural Heritage related Learning Alliance".

The 3rd TMM_CH Conference intends to investigate the latest developments in research and innovation. The utilization and reuse of monuments, historic cities and sites, forms the framework of a sustainable preservation of cultural heritage and local development, in accordance with the principles of circular economy; in terms of respect and protection of values, integrity of materials and structures, authenticity of architecture and landscape; with an informed society, able to participate effectively in the policies that will design and implement the new strategies required.

Sharing knowledge, experiences, and recommendations about sustainable cultural heritage approaches and practices at a moment of great conflicts and climate change, energy, environment and socio-economic crisis, the preservation of cultural heritage promoting sustainable development is addressing challenges through mutual understanding, international cooperation and Peace.



GENERAL PROGRAM

DAY 1 - 20.03.2023

Auditorium	Hall 1	Hall 2
8:30-9:00 Registrations		
9:00-10:30 Opening Session		
10:30-10:45 Coffee Break		
<p>11:00-12:45 Panel discussion 1 Historic cities and centers: New Reuse and preservation strategies applying Circular Economy</p> <p>12:45-14:15 Panel discussion 2 Digital Heritage a holistic approach</p>	<p>10:30-12:00 Session 2A Digital Heritage: a holistic approach</p> <p>12:45-14:15 Session 1 Historic cities and centers: New Reuse and preservation strategies applying Circular Economy</p>	<p>11:00-13:00 Session 4B Novel educational Approach for the Preservation of Cultural Heritage</p>
14:15-15:00 Lunch Break		
Auditorium	Hall 1	Hall 2
<p>15:00-16:00 Panel discussion 3 Machine learning techniques for Cultural Heritage Preservation</p> <p>16:00-18:30 Panel discussion 4 The Holy Sepulchre rehabilitation project: Transdisciplinarity and innovation in research and education</p> <p>18:30-20:00 Panel discussion 5 Archaeology - Archaeometry – Archaeogene</p>	<p>15:00-20:00 Session 2B Digital Heritage: a holistic approach</p>	<p>15:00-16:30 Session 5 Art, Archaeology - Archaeometry – Archaeogene</p> <p>16:30-17:30 Session 3 Machine learning techniques for Cultural Heritage Preservation</p>



GENERAL PROGRAM

DAY 2 - 21.03.2023

Auditorium	Hall 1	Hall 2
<p>09:00-12:00 Panel discussion 6 <i>Honorary Session in memoriam Prof. Guido Biscontin</i> Preserving compatibility, the materiality and integrity of structures and architectural authenticity</p> <p>12:00-14:00 Panel discussion 7 Earthquake protection and structural rehabilitation</p>	<p>09:00-11:30 Session 7 Earthquake protection and structural rehabilitation</p> <p>11:30-14:00 Session 6A Preserving compatibility, the materiality and integrity of structures and architectural authenticity</p>	
<p>14:00-15:00 Lunch Break</p>		
<p>15:00-17:00 Session 8A CH Resilience to Climate Change, Natural Hazards and Pandemic Risks - Biosafety</p> <p>17:00-18:30 Panel discussion 8 Resilience of Cultural Heritage mitigating Climate Change, Natural Hazards and Pandemic Risks and ensuring Biosafety</p> <p>18:30-20:00 Session 8B CH Resilience to Climate Change, Natural Hazards and Pandemic Risks - Biosafety</p>	<p>15:00-17:00 Session 6B Preserving compatibility, the materiality and integrity of structures and architectural authenticity</p>	



GENERAL PROGRAM

DAY 3 - 22.03.2023

Auditorium	Hall 1	Hall 2
<p>09:00-10:30 Panel discussion 9 New European Bauhaus initiative for Green Deal addressing energy challenges</p> <p>11:00-14:00 Panel discussion 10 Green and blue deal for local and regional Sustainable Development</p>	<p>09:00-14:00 Session 12 Advanced Non Destructive and Structural Techniques for Diagnosis, Redesign and Health Monitoring for the Preservation of Cultural Heritage</p>	<p>10:30-11:30 Session 9 New European Bauhaus creative and Interdisciplinary initiative</p> <p>11:30-13:00 Session 11 Institutional framework Bridging Heritage Stakeholders, Art, Science, and Industry</p>
<p>14:00-15:00 Lunch Break</p>		
<p>15:00-16:30 Panel discussion 11 Bridging Heritage Stakeholders, Science and Industry</p> <p>16:30-18:00 Panel discussion 12 Advanced Non Destructive and Structural Techniques for Diagnosis, Redesign, Health Monitoring and Quality Assessment of Materials and Preservation Interventions</p> <p>18:00-19:30 Panel discussion 13 Recapturing the World in Conflict through Culture promoting mutual understanding and Peace</p> <p>19:30-20:30 Session 4A Emblematic works as source of innovation and transdisciplinarity</p>	<p>15:00-17:00 Session 10 Green and blue deal for local and regional Sustainable Development</p> <p>17:00-18:00 Session 13 Recapturing the World in Conflict through Culture promoting mutual understanding and Peace</p>	



3rd International Conference TMM-CH
Transdisciplinary Multispectral Modelling and Cooperation
for the Preservation of Cultural Heritage
Recapturing the World in Conflict through Culture
promoting mutual understanding and Peace
20-23 March 2023 Eugenides Foundation Athens, Greece

DETAILED PROGRAM

DAY 1 - 20.03.2023

20.03.23 | 09:00-10:30 Auditorium

Opening Session	
Introductory speech	
<p>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</p>	
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 | 11:00-12:45 Auditorium

Panel discussion 1: Historic cities and centers: New Reuse and preservation strategies applying Circular Economy

Addresses

- **Bakoyannis P. Kostas**, Mayor of Athens
- **Cambourakis V. Andonis**, Mayor of Rhodes

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

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

Akritidis Polychronis (Chronis), CEO of ANAPLASI ATHINAS S.A.

Gravari-Barbas Maria (invited), 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

Maistrou 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 – **Rapporteur**

20.03.23 | 12:45-14:15 Auditorium

Panel discussion 2: Digital Heritage a holistic approach
PA Research Program RESPECT

Ioannides Marinis, UNESCO Chair on “Digital Cultural Heritage”, Director - Cyprus University of Technology – **Moderator**

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, Laboratory of Materials Science and Engineering

Panel discussion 2: Digital Heritage a holistic approach

PA Research Program RESPECT

Di Giulio Roberto, University of Ferrara, Department of Architecture - 4CH Competence Centre for the Conservation of Cultural Heritage

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 – **Rapporteur**

20.03.23 | 15:00-16:00 Auditorium

Panel discussion 3: Machine learning techniques for Cultural Heritage Preservation

PA Research Program RESPECT

Stavroulakis Georgios, Professor, Technical University of Crete, School of Production Engineering and Management, Institute of Computational Mechanics and Optimization – **Moderator**

Asteris Panagiotis, Professor, Civil Engineering Educators, School of Pedagogical and Technological Education

Doulamis Anastasios, Associate Professor, National Technical University of Athens, School of Rural, Surveying and Geoinformatics Engineering - 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

Ronchi Alfredo, Associate Professor, Politecnico di Milano - European Commission-MEDICI Framework, General Secretary - European WG on "EU Directives and Cultural Heritage", Secretary - Coordinator of Artcast4D Project

Pentimalli Biscaretti di Ruffia Anna Maria, Teaching Assistant, Politecnico di Milano

Fudos Ioannis, Professor, University of Ioannina, Department of Computer Science and Engineering – **Rapporteur**

Panel discussion 4: The Holy Sepulchre rehabilitation project: Transdisciplinarity and innovation in research and education

EDICULA Erasmus+ Strategic Partnership "Educational Digital Innovative Cultural heritage related Learning Activities"

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 - **Moderator**

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 Governing Council, 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 - **Rapporteur**

20.03.23 | 18:30-20:00 Auditorium

Panel discussion 5: 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 - **Moderator**

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, DNASequence 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 - **Rapporteur**

21.03.23 | 09:00-12:00 Auditorium

Panel discussion 6: Preserving compatibility, the materiality and integrity of structures and architectural authenticity

▪ **Honorary Special Session in memoriam Guido Biscontin**

Professore emerito di chimica del restauro all'Università Ca' Foscari di Venezia

Zendri Elisabetta, Professor, University Ca' Foscari of Venice, Department of Environmental Engineering, Informatics and Statistics - **Moderator**

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 - **Rapporteur**

Panel discussion 6: Preserving compatibility, the materiality and integrity of structures and architectural authenticity

▪ **General Theme**

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 - **Rapporteur**

21.03.23 | 12:00-14:00 Auditorium

Panel discussion 7: Earthquake protection and structural rehabilitation

Spyrakos Constantine, Professor, National Technical University of Athens - member of the NTUA Interdisciplinary Team scientific responsible for the Holy Aedicule's rehabilitation of the Holy Sepulchre in Jerusalem - **Moderator**

Corradi Marco, Associate Professor, University of Northumbria, Department of Mechanical and Construction Engineering - **Moderator**

Dritsos Stefanos, Professor Emeritus, University of Patras, Department of Civil Engineering, Seismic Assessment and Redesign of Existing Structures

Mouzakis Charis, Associate Professor, National Technical University of Athens, School of Civil Engineering, Laboratory for Earthquake Engineering, Director - member of the NTUA Interdisciplinary Team scientific responsible for the Holy Aedicule's rehabilitation of the Holy Sepulchre in Jerusalem

Oliveira V. Daniel, Associate Professor, University of Minho, Department of Civil Engineering

Papanicolaou Corina, Associate Professor, University of Patras, Department of Civil Engineering, Structural Materials Laboratory

Penelis Georgios, Emeritus Professor, Aristotle University of Thessaloniki, School of Civil Engineering

Saisi Antonella, Associate Professor, Politecnico di Milano, Department of Architecture, Construction and Built Environment Engineering

Stavroulakis Georgios, Professor, Technical University of Crete, School of Production Engineering and Management, Institute of Computational Mechanics and Optimization - **Rapporteur**

21.03.23 | 17:00-18:30 Auditorium

Panel discussion 8: Resilience of Cultural Heritage mitigating Climate Change, Natural Hazards and Pandemic Risks and ensuring Biosafety

TRIQUETRA Toolbox for assessing and mitigating Climate Change risks and natural hazards threatening cultural heritage

Charalampopoulou Betty, CEO / President Geosystems Hellas S.A, TRIQUETRA representative - **Moderator**

Ioannidis Charalambos, Professor, National Technical University of Athens, School of Rural, Surveying and Geoinformatics Engineering, Dean – TRIQUETRA Coordinator - **Moderator**

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 - DNASequences SRL, Bioinformatics Expert

Martino Salvatore, Associate Professor, Sapienza University of Rome - TRIQUETRA member

Cerra Daniele, German Aerospace Center - TRIQUETRA member

Themistocleous Kyriacos, Eratosthenes Centre of Excellence, Cyprus

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 - **Rapporteur**

22.03.23 | 09:00-10:30 Auditorium

Panel discussion 9: New European Bauhaus initiative for Green Deal addressing energy challenges

Piaia Emanuele, Associate Professor, University of Ferrara, Department of Architecture - **Moderator**

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

Panel discussion 9: New European Bauhaus initiative for Green Deal addressing energy challenges

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 - **Rapporteur**

22.03.23 | 11:00-14:00 Auditorium

Panel discussions 10: Green and blue deal for local and regional Sustainable Development
PA Research Program AEI
Researcher's Night at NTUA Event

Sdoukou Alexandra, Secretary General of Energy and Mineral Raw Materials, Ministry of Environment and Energy of the Hellenic Republic - **Moderator**

Moropoulou Antonia, Professor, National Technical University of Athens – Scientific Responsible for Researchers' Night at NTUA – Coordinator of Research Program AEI for Sustainable development of less developed areas - **Moderator**

Kremlis George, European Commission, Honorary Director - Espoo Convention, SEA Protocol on Strategic Environmental Assessment SEA, Chair of the Bureau

Papagiannidis Dimitrios, Secretary General of Union Resources and Infrastructure of the Ministry of Rural Development and Food

Chatzipetrou Athina, Hellenic Development Bank, CEO

Makedos Konstantinos, Attica Bank, Chairman of the Board of Directors

La Grassa Alessandro, Centre for Social and Economic Research in Southern Italy (CRESM), President

Fraggakis Evangelos, Mayor of Chalki

Ioannidis Charalambos, Professor, National Technical University of Athens, School of Rural, Surveying and Geoinformatics Engineering, Dean

Avgerinou-Kolonias Sofia, Professor, National Technical University of Athens, Urban and Regional Planning, School of Architecture

Charalampopoulou Betty, CEO / President Geosystems Hellas S.A

Drakoulis Dimitris (invited), Telesto IoT Solutions, CEO

Petrakos George, Research Institute for Tourism (RIT), Director General - Professor

Kampanis Nikolaos, Foundation for Research and Technology Hellas FORTH, Institute of Applied and Computational Mathematics, Coastal and Marine Research Laboratory, Research Director - **Rapporteur**

22.03.23 | 15:00-16:30 Auditorium

Panel discussion 11: 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 - **Moderator**

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

Tasoulas Fokion, TITAN Cement Group, Group Innovation & Technology Director

Komnitsas Konstantinos, Professor, Technical University of Crete, School of Mineral Resources Engineering

Tosios Anastasios, Deputy CEO, Athens Water Supply and Sewerage Company S.A.

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 - **Rapporteur**

22.03.23 | 16:30-18:00 Auditorium

Panel discussion 12: 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 - **Moderator**

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

Panel discussion 12: Advanced Non Destructive and Structural Techniques for Diagnosis, Redesign and Health Monitoring and Quality Assessment of Materials and Preservation Interventions

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 - **Rapporteur**

22.03.23 | 18:00-19:30 Auditorium

Panel discussion 13: Recapturing the World in Conflict through Culture promoting mutual understanding and Peace

Nikoltsiou Maria, Journalist - **Moderator**

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

Theodorou Theodoros, Ambassador on Honors

Giannini Evgenia, Assistant Professor, National Technical University of Athens, School of Applied Mathematical and Physical Sciences, Department of Humanities Social Sciences and Law

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

PROGRAM PART B

20.03.2023 | 10:30-12:00

Hall 1

Session 2A: Digital Heritage: a holistic approach

Id	Title	Authors
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
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
6	Safed City Conservation Survey	Avishay Oz, Alexander Wiegmann and Maya Ovadia Israel Antiquities Authority
8	AAGIS: An archaeoastronomical approach using Geographic Information Systems	George Malaperdas, Dimitris Sinachopoulos and Eleni Valianatou University of the Peloponnese, National Observatory of Athens
17	Crowdsourcing for 3D digital modelling: Ioannina city - Chaired in Pasha Sarai case study	Athina Chroni, Andreas Georgopoulos and Pavlos-Stylianios Megalooikonomou Hellenic Ministry of Education and Religious Affairs, National Technical University of Athens
25	The Preservation of the Heritage of the Petralona Cave using Multiple 3D Scanning Techniques and Data Processing Algorithms	Panagiotis Tokmakidis, Charisios Achilles, Dimitrios Tzetzis, Elli Karkazi, Emmanouil Tzintzimis, Andreas Darlas, Athanasios Athanasiou, Dionysis Bochtis Centre for Research & Technology Hellas, Aristotle University Thessaloniki, International Hellenic University, Ephorate of Palaeoanthropology and Speleology - Ministry of Culture and Sports
26	A digital cultural landscape: Interpretations on multisensory projections	Eleni Maistrou, Konstantinos Moraitis, Yanis Maistros, Katerina Boulougoura, Amalia Maria Konidi, Karolina Moretti and Margarita Skamantzari National Technical University of Athens
29	The restoration of the main theatre of the First Ancient Theatre of Larissa, Greece, assisted by 3D technologies	Dimitrios Karagkounis and Sofia Tsanaktsidou Ephorate of Antiquities of Larissa
41	Mixed Reality for archaeological documentation: Microsoft HoloLens 2 meets excavation	Doukas Psarros and Christos-Nikolaos Anagnostopoulos University of the Aegean

20.03.2023 | 12:45-14:15

Hall 1

Session 1: Historic cities and centers: New Reuse and preservation strategies applying Circular Economy

Id	Title	Authors
10	Planning healthy historic centers	Despina Dimelli Technical University of Crete
18	Historic Centers and Overtourism. Three Mediterranean examples.	Antonis Karamitrou and Despina Dimelli Technical University of Crete
28	Smart city and Open-Air Museum: A digital application for the promotion of the old city of Chania	Hippocrates Manoudakis, Ioulia Pentazou and Maria Bakatsaki University of Thessaly, Technical University of Crete
52	Highlighting of the Interwar identity of the Fokionos Negri street-linear park. The iconic Lanaras apartment building	Georgia Eleftheraki, Helene Haniotou and Maria Markou National Technical University of Athens
186	Preservation and reuse of abandoned historic centres. The case of Poggioreale antica (Sicily)	Caterina F. Carocci, Francesco Cannizzaro, Salvatore Cocina, Alessia Di Martino, Renata Finocchiaro, Nicola Impollonia, Valentina Macca, Antonino Terrana and Cesare Tocci Università degli Studi di Catania, Regione Siciliana, Università Mediterranea di Reggio Calabria, Politecnico di Torino

20.03.2023 | 15:00-20:00

Hall 1

Session 2B: Digital Heritage: a holistic approach

Id	Title	Authors
47	A novel, collaborative methodology for the Digital Documentation of Ancient Materials	Lydia Avlonitou, Garyfallia Totou, Dafni Kyropoulou, Polyna Xiradakis, Martha Athanasiadou, Serafeim Korosis and Maria Pavlou Ephorate of Antiquities of the City of Athens
51	Digital Modeling of Ceramic Sherds by means of Photogrammetry and Macrophotography: Uncertainty Calculations and Measurement Errors	Michail Stamatopoulos and Christos-Nikolaos Anagnostopoulos University of the Aegean
53	Digitization of industrial heritage in Greece	Theodora Chatzi Rodopoulou University of the Aegean
56	Comparing the methods of terrestrial laser scanning and photogrammetry for the geometric documentation of stone bridges through the case study of Tzelefos bridge	Argyris Fellas and Milton Demosthenous Frederick University
59	Associating Geodetic theory to Digital Pottery Reassembly practice	Michail Stamatopoulos and Christos-Nikolaos Anagnostopoulos University of the Aegean

Session 2B: Digital Heritage: a holistic approach

Id	Title	Authors
62	Multimodal recording and visualization of archaeological excavation in the field using a mobile application	Doukas Psarros, Orfeas-Theodoros Eleftheriou, Nikoletta-Anna Kapoyanni, Athina Chroni, Maria Tsiolaki, Maria Koutsoumpou, Maria Konioti, Dimitrios Athanasoulis , P. Romanidis , K. Papastratigakis, D. Athanitis, D. Giannoulis, G. Kalamaras and Christos-Nikolaos Anagnostopoulos <i>University of the Aegean, Cyclades Ephorate of antiquities, Dataverse SE</i>
65	A review of Heritage Building Information Modelling: Classification of HBIM through the utilization of different dimensions (3D to 7D)	Efstratios Koutros and Christos-Nikolaos Anagnostopoulos <i>University of the Aegean</i>
85	Virtual Reconstruction of Lost Cultural Heritage – The Case of the Historical Church of Pammegist Taxiarch Archangel Michael in Medieval City of Corfu. A holistic Interdisciplinary approach, in Challenging Times enhancing Sustainable Urban Development.	Evi Polymeri <i>University of Patras</i>
91	Advanced Digitization Methods for the 3D Visualization and Interpretation of Cultural Heritage: The Sphinx of the Naxians at Delphi	Athanasia Psalti, Marilena Tsakoumaki, Christina Mamaloukaki, Michael Xinogalos, Nikolaos Bolanakis, Christos Kavallaris, Andreas Polychronakis, Katerina Mania and Emmanuel Marvelakis <i>Ephorate of Antiquities of Phocis Ministry of Culture and Sports of Greece, Astrolabe Engineering, Technical University of Crete, Hellenic Mediterranean University</i>
99	ICT and Semantic BIM technologies for the advanced documentation and condition assessment of cultural heritage sites	Marco Medici, Roberto Di Giulio and Beatrice Turillazzi <i>University of Ferrara, University of Bologna</i>
138	Design of a VR environment optimized for cultural heritage sites and objects: The use case of Its Kale, Ioannina, Greece	Christos Bellos, Dafni Patelou, Konstantinos Stefanou, Georgios Stergios, Angeliki Kita, Persefoni Ntoulia, Vasileios Nitsiakos and Ioannis Fudos <i>Lime Technology IKE, University of Ioannina, Public Central Library of Konitsa</i>
194	Different geodetic approaches for the creation of a HBIM	Chara Pagouni, Thanasis Iliodromitis, Elisavet Tsilimantou, Dimitrios Anastasiou and Vasileios Pagounis <i>National Technical University of Athens, University of West Attica,</i>
196	When Technology Meets Heritage	Jenny Pange, Alina Degteva and Vasiliki Magglara <i>University of Ioannina</i>
197	Digital documentation of three great subterranean structures of Hagia Sophia: The passage under the esonarthex, the vaults under the atrium and the hypogeum	Hasan Firat Diker <i>Fatih Sultan Mehmet Vakif Univesity</i>
199	A new low-cost rolling ball type isolation device for the protection of museum collections	Alessia Di Martino, Francesco Cannizzaro, Giuseppe Cocuzza Avellino and Nicola Impollonia <i>Università Mediterranea di Reggio Calabria, Università degli Studi di Catania</i>

Session 2B: Digital Heritage: a holistic approach

Id	Title	Authors
204	Restoration and Highlight of Agioi Theodoroi church in Nafplio with the use of CAD technologies	Dimitris Psychogyios and Katerina Leptidou University of Thessaly
226	3D laser mapping technology for reverse engineering, a case study	Dimitrios Ioannis Kalfas, Evangelos G. Megalios and George G, Ntroulias HYDRUS Engineering S.A.
227	Application of 3D Scanning, Modeling, Printing and Virtual Reality technologies for the representation of traditional and historical ships	Christos Papadopoulos National Technical University of Athens
228	Documentation of the Leprosarium of Chios	Athanasios Iliodromitis, George Pantazis and Elena Konstantinidou University of West Attica, National Technical University of Athens
312	Digital technologies for heritage conservation labs open to the public. The case of the CALLOS project	Sophia Papida, Martha Athanasiadou, Kostas Petrakis, Lida Charami, Dimitris Angelakis, Chryssoula Bekiari, Kristalia Melessanaki and Paraskevi Pouli Ephorate of Antiquities of the City of Athens, Foundation for Research and Technology
351	AegeanDigital Tourism Tank: Experiences and Products for enhancing the sustainable preservation of Digital Heritage of Cultural Organizations of North Aegean	Dora Chatzi Rodopoulou, Athanasia Kadrefi, Christos Kalloniatis, Angeliki Kitsiou, Maria Koltsaki, Anna Kyriakaki, Katerina Mavroeidi, Evangelia Proiou, Maria Sideri, Stavros Simou, Stavros Stavridis, Katerina Vgena and Mania Mavri University of the Aegean
377	The Complexity and Quality in 3D digitisation of tangible cultural heritage	Marinos Ioannides and Petros Patias Cyprus University of Technology, Aristotle University of Thessaloniki
412	Terrestrial Laser Scanning coupled with UAVs Technologies: The case of Old Navarino Castle in Pylos, Greece	Angeliki Kompoti, Anastasios Kazolias, Maria Kylafi, Vayia Panagiotidis and Nikolaos Zacharias University of the Peloponnese, Ephorate of Antiquities of Messenia
416	Historic Walking Trails in the Holy Site of Meteora	Chryssy Potsiou, Charalabos Ioannidis, Sofia Soile, Argyro-Maria Boutsis, Reggina Chliverou, Konstantinos Apostolopoulos, Maria Gkeli and Fotis Bourexis National Technical University of Athens

20.03.2023 | 11:00-13:00

Hall 2

Session 4B: Novel educational approach for the preservation of Cultural Heritage

Id	Title	Authors
15	Interpretive paths of the school life museum: The innovative pedagogical approach to Cultural Heritage through contemporary visual arts	Maria Drakaki School Life Museum of the Municipality of Chania

Session 4B: Novel educational approach for the preservation of Cultural Heritage

Id	Title	Authors
69	The Value of a Real Task Approach in Education for the Preservation: the Opportunities given by Villa Reale di Monza	Rossella Moioli and Stefano Della Torre University of Nova Gorica, Politecnico di Milano
72	CALLOS project: Conservation of Athens antiquities with Laser and Lidar technologies Open to Science and public	Paraskevi Pouli, Anastasia Giakoumaki, Eirini Ampatzioglou, Theodora Antonopoulou, Spilios Dellis and Chryssoula Bekiari Foundation for Research and Technology, Ephorate of Antiquities of the City of Athens, Raymetrics S.A.
155	Delivering education in sustainable aspects of heritage	Stavroula Thravalou and Maria Philokyprou University of Cyprus
367	Heritage at Risk. The educational role of Museums in rescuing and promoting tangible and intangible cultural heritage – The Benaki Museum example	Lila de Chaves-Chronopoulos Heritage & Museums in partnership with EMF Council of Europe
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 Sapienza University of Rome, Bezalel Academy of Arts and Design, 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

20.03.2023 | 15:00-16:30

Hall 2

Session 5: Art, Archaeology - Archaeometry – Archaeogene

Id	Title	Authors
12	Agion Anargyron Monastery of Kastoria: The Cultural Heritage, Its Endowment Property and the Church of Kosmas and Damianos	Nuray Ocakli Istanbul Sabahattin Zaim University
55	Salamis island in the Challenge of a Digital Storytelling	Maria Delazanou University of West Attica
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 Tzovaras University of Ioannina, University of Southampton
58	The soft power of Indian music. The case of an Indian Musical Instruments Museum in Greece.	Sathya Kassimi and Nadia Macha National and Kapodestrian University of Athens, Democritus University of Thrace
86	The Re-formation of Archaeological Areas - Visitors' Itineraries and Pathways Related to the Authentic Structure of Ancient Space	Eleni Kanetaki and Georgios Antoniou University of West Attica, Freelance Architectural office

Session 5: Art, Archaeology - Archaeometry – Archaeogene

Id	Title	Authors
229	The archaeological aspect of the rehabilitation of the Varnakova Monastery: Preliminary results of the archaeological project.	Athanasia Psalti, Marilena Tsakoumaki and Maria Vasileiou <i>Ephorate of Antiquities of Phocis</i>
413	A Contribution to Palaeocoastal and Beachrock studies with the Application of Digital Technologies: The Case Study of Romanos Beach in Pylos	Evangelia Bilitsi, Vayia Panagiotidis, Anastasios Kazolias and Nikolaos Zacharias <i>University of Peloponnese</i>

20.03.2023 | 16:30-17:30

Hall 2

Session 3: Machine learning techniques for Cultural Heritage Preservation

Id	Title	Authors
30	Artificial intelligence analysis of macroscopic X-ray fluorescence data: a case study of 19th century icon	Theofanis Gerodimos, D Chatzipanteliadis, Giannis Chantas, Anastasios Asvestas, Georgios Mastrotheodoros, Aristidis Likas and Dimitrios Anagnostopoulos <i>University of Ioannina, West Attica University</i>
68	New strategies for conservation: the role of data and the use of artificial intelligence in the innovative management of procedures for built cultural heritage protection	Anna Maria Pentimalli Biscaretti di Ruffia <i>Politecnico di Milano</i>
209	A novel application of deep learning and computer vision approaches over IRT Images for the automated detection of rising damp and defects in historic masonries	Emmanouil Alexakis, Ekaterini Delegou, Philip Mavrepis, Antonis Rifios, Dimosthenis Kyriazis and Antonia Moropoulou <i>National Technical University of Athens, University of Piraeus</i>
323	Evaluating the effectiveness of Unsupervised and Supervised techniques for identifying deteriorations on Cultural Heritage monuments using hyper-spectral imagery	Nikolaos Chrysogonos, Kyriakos Lampropoulos, Ioannis Tzortzis, Charalampos Zafeiropoulos, Anastasios Doulamis and Nikolaos Doulamis <i>National Technical University of Athens</i>

21.03.2023 | 15:00-17:00

Auditorium

Session 8A: Resilience to Climate Change, Natural Hazards and Pandemic Risks - Biosafety

Id	Title	Authors
19	Using synthetic biology and biotechnology methods for the preservation of the marble monuments	Dimitrios Nikolaos Kapis, Dimitrios Vellianitis, Dimitra Kollarou, Vasiliki Korpaki, Alexandra Lianou and Yiannis Vasilopoulos <i>University of Patras</i>

Session 8A: CH Resilience to Climate Change, Natural Hazards and Pandemic Risks - Biosafety

Id	Title	Authors
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
43	The Impact of Environment on Cultural Relics	Hongshu Pu and Xiufeng Wang Shaanxi University of Science and Technology
44	Building a Multidisciplinary System of Cultural Heritage Conservation with the Environment as Its Focal Point	Xiufeng Wang, Hongshu Pu and Xiaoxue Jin Shaanxi University of Science and Technology
54	Approaching climate resilience in Greek cultural heritage using geodata and geoinformatics tools	Athanasios Dimou and Christos-Nikolaos Anagnostopoulos University of Aegean
63	The concept of risk and its measurement in the field of the built heritage conservation	Anthoula Konsta and Stefano Della Torre Politecnico di Milano
64	Planning to Live Longer: a Model for the Maintenance-focused Heritage Building Conservation	Arturo Cruz, Vaughan Coffey and Tommy H.T. Chan Allister Property Detailing, Queensland University of Technology
79	Toward regenerative role of cultural heritage in climate resilience; the case of Indian water infrastructure heritage.	Mehrnaz Rajabi Politecnico di Milano
89	Environmental and socioeconomic pressures and cultural heritage degradation. Evidence from Elounda, Crete Island.	George Alexandrakis, Stelios Petrakis, Nikolaos Rempis, Antonios Parasyris and Nikolaos Kampanis Foundation for Research and Technology, Hellenic Centre for Marine Research (HCMR), University of the Aegean
90	Analysis between cultural heritage, human settlements and landscapes using earth observation and archaeological data	George Alexandrakis, Georgios V. Kozyrakis, Nikos Paxakis, Antonios Parasyris, Anastasia Vythoulka, Nikolaos A. Kampanis and Antonia Moropoulou Foundation for Research & Technology-Hellas, National Technical University of Athens
95	Determining rockfall hazard and risk in historical sites	Olga Mavrouli University of West Attica

Session 8B: Resilience to Climate Change, Natural Hazards and Pandemic Risks - Biosafety

Id	Title	Authors
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, Ioannis Rallis 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, DNASequencing SRL Hellas, Aristotle University of Thessaloniki, Chemical Process & Energy Resources Institute
144	Climate change vs cultural heritage: An adaptation strategy for the archaeological site of Ancient Messene	Vasiliki Pougkakioti, Miltiadis Lazoglou and Eleni Maistrou ELLINIKI ETAIRIA Society for the Environment and Cultural Heritage
180	Metagenomics approaches for the integration of the diagnostic study and the conservation of porous stone elements. The Catholicon of Varnakova Monastery	Ekaterini Delegou, Fragiskos Kollis, Dimitrios Karpouzas, Aristotelis Chatziioannou, Panagiota Theodoropoulou, Theodoros Bris, Diomi Mamma, Savas Genitsaris, P.A. Karas, S. Vasileiadis, K. Rousidou, Eleftherios Pilalis, George Karyotakis, Maria Mertzani and Antonia Moropoulou National Technical University of Athens, University of Thessaly, e-NIOS Applications P.C., National and Kapodistrian University of Athens, BOOKA Chemicals Hellas IKE, Ministry of Culture, Directorate of Conservation of Ancient and Modern Monuments
189	Climate-responsive opportunities and challenges in urban vernacular heritage.	Stavroula Thravalou University of Cyprus
212	The need to safeguard cultural heritage against climate change	Anila Sulaj, Brixhilda Kadiu and Arben Terpollari Agricultural University of Tirana
402	The Sunken City of Ancient Epidaurus	Konstantinos Tokmakidis, Dimitrios Kourkoumelis and Panagiotis Tokmakidis Aristotle University of Thessaloniki, Hellenic Ministry of Culture and Sports
403	Ground-based and remote sensing monitoring approaches supporting the preservation of cultural heritages threatened by sea cliff retreat for landslide processes	Salvatore Martino, F. Bozzano, Federico Feliziani, G. Grechi, G.M Marmoni, Daniele Cerra, Peter Gege, S. Plattner, C. Arrighi, C. Delpino, Antonio Ferrandes and A. Sokolicek Sapienza University of Rome, German Aerospace Center
404	Estimating the spread of invasive Quagga mussels on the lake bed of lake Neuchatel as a potential threat to the Les Argilliez submerged heritage site	Daniele Cerra, Peter Gege, S. Plattner, J.-C. Roulet, F. Droz, S. Wuethrich and F. Langenegger German Aerospace Center, Centre Suisse d'Électronique et Microtechnique (CSEM), Office du patrimoine et de l'archéologie du canton de Neuchâtel (OPAN)
405	Monitoring Cultural Heritage Sites Using Earth Observation to Manage Potential Risks from Natural Hazards: The Case Study of Choïrokoitia, Cyprus	Kyriacos Themistocleous, A. Argyriou, K. Photiou, M. Tzouvaras, Marinos Ioannides and Diofantos Hadjimitsis Eratosthenes Centre of Excellence, Cyprus University of Technology

Session 7: Earthquake protection and structural rehabilitation

Id	Title	Authors
27	Historic adjacent concrete buildings strengthened by cable-ties under seismic pounding effects: A stochastic approach considering uncertain input parameters	Angelos Liolios, Maria Stavroulaki, Konstantinos Liolios and Foteini Konstandakopoulou Hellenic Open University, Technical University of Crete, Bulgarian Academy of Sciences
38	Post-earthquake assessment by 3Muri software of monumental buildings in Croatia	Roko Zarnic and Vlatka Rajcic Slovenian Association of Earthquake Engineering, University of Zagreb
39	The out-of-plane behaviour of wall panels reinforced with Titanium rods	Fistum Haile, Marco Corradi, Giovanni Pesce and Jill Adkins University of Northumbria, Perryman Company
67	Structural investigation of historic buildings between safety and conservation	Antonella Saisi, Paolo Borlenghi and Carmelo Gentile Politecnico di Milano
70	Structural condition monitoring of the Milan Cathedral based on statistical pattern recognition of dynamic measurements	Carmelo Gentile, Antonello Ruccolo and Antonella Saisi Politecnico di Milano
71	3d Modelling & Analysis Techniques for the Apollo Temple in Delphi	Emmanuel Marvelakis, Georgia Giannioti, Athanasia Psalti, Marilena Tsakoumaki, Danae Phaedra Pocobelli, Michael Xinogalos, Demetris Galanakis, Nikolaos Bilalis and Georgios Stavroulakis Hellenic Mediterranean University, Technical University of Crete, Ephorate of Antiquities of Phocis Ministry of Culture and Sports of Greece, Astrolabe Engineering
73	Transdisciplinary conservation of Sant'Andrea Pulpit in Pistoia (Italy): the structural perspective	Francesca Marafini, Alessio Matteini, Michele Betti, Giacomo Zini and Gianni Bartoli University of Florence
74	Dynamic response of multi-drum columns with imperfections	Olympia Panagouli and Ioanna Totsi University of Thessaly
97	Linear and Nonlinear Earthquake Analysis for the Strength Evaluation of Masonry Monument of Neoria	Maria Stavroulaki, Amalia Kasampali, Barbara Charalambidi, Siphesihle Mpfo Motsa, Georgios Drosopoulos and Georgios Stavroulakis Technical University of Crete, University of KwaZulu Natal, University of Central Lancashire
98	Structural behavior and strength evaluation of a venetian church through finite element analysis	Maria Stavroulaki, Ioannis (Yannos) Liofagos and Panagiotis Darmarakis Technical University of Crete
191	Seismic-Energy Combined Retrofit Systems of Historical Buildings: The Use of Light Metal Exoskeletons	Ubaldo Saracco, Emilia Meglio and Antonio Formisano University of Naples Federico II
195	Seismic investigation and upgrading of disused industrial buildings: a case study	Giovanna Longobardi, Antonio Davino and Antonio Formisano University of Naples Federico II

Session 7: Earthquake protection and structural rehabilitation

Id	Title	Authors
375	Pre-seismic protection and post-seismic rehabilitation of traditional settlements in Greece and Italy	Irene Efesiou, Androniki Miltiadou-Fezans, Giorgos Kourmadas, Caterina Carocci and Cesare Tocci National Technical University of Athens, Università degli Studi di Catania-Politecnico di Torino

21.03.2023 | 11:30-14:00

Hall 1

Session 6A: Preserving compatibility, the materiality and integrity of structures and architectural authenticity

Id	Title	Authors
7	Peace building in Cyprus through the preservation of endangered heritage: In-situ and laboratory characterization of materials from the Panagia Apsinthiotissa Monastery	Rogiros Illampas and Ioannis Ioannou University of Cyprus, University of Minho
11	Methodological approaches for the restoration and revival of a Greek watermill whilst respecting its material and architectural authenticity	Triantafyllia Pineli Greek Ministry of Health
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, Sapienza University of Rome
13	Surface treatments for the protection of monuments built of calcitic materials	Efsthathia Pavlaku, Christine Lemonia, Emily Zouvani, Christakis Paraskeva and Petros Koutsoukos University of Patras
21	The Doric Temple at Kardaki in Corfu. Digital Measurements and Documentation at the End of a Heritage path.	Dimitra Andrikou Hellenic Ministry of Culture
203	Design and application of mortars and grouts for the restoration of the Byzantine Church of Panagia Krina in Chios Island	Androniki Miltiadou -Fezans, Anna Kalagri and Sofia Anagnostopoulou National Technical University of Athens, Hellenic Ministry of Culture and Sports, Region of Attica
33	ON-Tech project – A bridge in restoration mortars	Laura Medeghini, Caterina De Vito, Laura Calzolari, Martina Bernabale, Sara Capriotti, Mauro Giustini, Ida Pettiti, Gianfranco Dell'Agli, Luca Spiridigliozzi, Amina Antonacci, Giulia Gasperuzzo, Valeria Di Tullio, Margherita Zappelli, Lucia Conti, Eleonora Gioventù, Marina Marcelli, Alfredo Bonaccini and Silvano Mignardi Sapienza University of Rome, University of Cassino and Southern Lazio, Institute of Crystallography, Istituto di Scienze del Patrimonio Culturale, Central Institute for Restoration, Sovrintendenza Capitolina, Tecno Edile Toscana Srl

Session 6A: Preserving compatibility, the materiality and integrity of structures and architectural authenticity

Id	Title	Authors
34	Gel-supported liquid-extraction for multi-technical identification of natural colorants: designing a protocol for historical dyes	Alessandro Ciccola, Adele Bosi, Iaria Serafini, Greta Peruzzi, Flaminia Vincenti, Valentina Nigro, Camilla Montesano, Manuel Sergi, Gabriele Favero, Paolo Postorino and Roberta Curini Sapienza University of Rome, Fusion and Technologies for Nuclear Safety and Security
60	Study of Architectural-building restoration, fixing and installation of an Ottoman library in the castle of Ioannina	Angelos Papageorgiou, Lampros Lolos and Anastasios Mpalaskas University of Ioannina, Democritus University of Thrace
66	Bias on Architectural Authenticity in the Implementation of Preventive Planned Conservation in China: Proposal of an operational Approach	Xueqing Hu and Stefano Della Torre Politecnico di Milano
88	Synthesis of encapsulated healing agents and integration in cultural heritage repair mortars for enhancing their healing capacity	Stamatoula Papaioannou, Maria Amenta, Vassilis Kilikoglou, Dimitrios Gournis and Ioannis Karatasios National Centre for Scientific Research "Demokritos", University of Ioannina
92	Technological characteristics of restoration mortars used in the King's Megaron at the Minoan Palace of Knossos during different chronological periods	Anastasia Michalopoulou, Ioannis Karatasios, Elissavet Katsaveli, Vassilis Kilikoglou and Elissavet Kavoulaki National Centre for Scientific Research "Demokritos", Ephorate of Antiquities of Heraklion, Ministry of Culture and Sports
157	The implementation of wood as a structural element in Greece and how it defines the historical centre of the cities	Archonti Ioannou University of Thessaly

21.03.2023 | 15:00-17:00

Hall 1

Session 6B: Preserving compatibility, the materiality and integrity of structures and architectural authenticity

Id	Title	Authors
185	The cleaning of stone surfaces according to criteria of effectiveness and controllability: the surfaces of the Procuratie Nuove in Venice	Guido Biscontin, Guido Driussi and Elisabetta Zendri Ca' Foscari University of Venice, Arcadia Ricerche S.R.L.
273	Parameters of microstructure and micromechanical properties as evaluation criteria for compliant and performant paper maintenance	Panagiotis Mavrantonis and Loukas Zoumpoulakis National Technical University of Athens
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 Technical University of Crete, Ephorate of Corfu

Session 6B: Preserving compatibility, the materiality and integrity of structures and architectural authenticity

Id	Title	Authors
406	A simple green strategy to produce a nanocomposite with consolidation and hydrophobic ability to calcareous substrates	Areti Kotsoni, Stavros Lagkadinis, 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, Ecclesiastical Academy of Athens
415	Murat Reis complex: Survey, Documentation and Restoration of the Mosque	Anna Chrysidis, Elena Konstantinidou, Androniki Miltiadou Fezans and Eleftheria Tsakanika Free lance engineer, National Technical University of Athens

22.03.2023 | 19:30-20:30

Auditorium

Session 4A: Emblematic works as source of innovation and transdisciplinarity

Id	Title	Authors
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	Stergios Roumeliotis, Vasileios Keramidas, Kyriakos Lampropoulos, Ekaterini Delegou, Asterios Bakolas 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, Vasileios Keramidas, Christoforos Michalaros, Elisavet Tsilimantou, Timoleon Kouimtzoglou, Christos Papatrechas, Kyriakos Lampropoulos 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 Katholikon	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

Session 12: Advanced Non Destructive and Structural Techniques for Diagnosis, Redesign and Health Monitoring

Id	Title	Authors
16	Non-invasive damage detection in historic masonry walls using wavefield images and Laser Scanning Doppler Vibrometer	Costas Providakis, Maria Mousteraiki and Georgia Providaki Technical University of Crete
23	Multispectral non-invasive inspection of marqueteries coupled with finite element analyses	Yinuo Ding, Hai Zhang, Stefano Sfarra, Ahmad Osman, Thomas Waschkes, Elena Pivarčiová and Xavier Maldague China University of Mining and Technology, Laval University, University of L'Aquila, Technical University in Zvolen
46	Nondestructive testing and evaluation of cultural relics by using audible sounds and ultrasonic waves	Xiaoxue Jin, Xiufeng Wang and Hongshu Pu Shaanxi University of Science and Technology
48	Portable LIF-LiDAR system for the evaluation and mapping of biological deposition on monuments	Spilios Dellis, Theodoros Anagnos, Anastasia Giakoumaki and Serafeim Korosis Raymetrics S.A., Foundation for Research and Technology-Ephorate of Antiquities of the City of Athens
61	Revealing hitherto unidentified ships among the graffiti on the interior stone surfaces of the Horologion of Andronikos Kyrristos, coupling spectral imaging techniques and digital tracing	Evangelia Panou, Agathi Anthoula Kaminari, Georgios Tsairis and Athina Georgia Alexopoulou University of West Attica
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
76	Protection of our cultural heritage: Examination of bending issues during the preservation of wall-paintings	Angelos Ntaflos, Maria-Elissavet Kouli, Alexandra Papapavlou, Christina Gioti, Maria Kosarli and Alkiviadis Paipetis University of Ioannina
81	The Late Byzantine city of Mouchli in Arcadia, Greece: Combining archaeological data with physicochemical microanalysis of the wall painting traces for the documentation and promotion of the monument.	Aikaterini Anagnostopoulou, Yorgos Facorelis, Dionysios Mourelatos and Athina Alexopoulou University of West Attica

Session 12: Advanced Non Destructive and Structural Techniques for Diagnosis, Redesign and Health Monitoring

Id	Title	Authors
87	The use of Broadband Electromagnetic Techniques in 3-Dimensional Imaging of Monuments to Design Preservation Techniques	Nikolaos K Uzunoglu Institute of Communication and Computer Systems
94	Ancient Glass Burial Offerings of Children Inhumations from modern East Locris Phthiotis Greece: Scientific Analysis of Ancient Glass.	Antreas Kantaros, Maria Papageorgiou, Petros Stavroulakis, Theodore Ganetsos, Konstantinos Brachos and Stella Mouzakiotou University of West Attica, Greek Ministry of Culture, Department of Prehistoric and Classical Antiquities, FORTH Institute
105	Evaluation of synergistic multi/hyper-spectral techniques for the non-invasive analytical characterization of large-size paintings by means of a 19th-century mock-up painting.	Kostas Hatzigiannakis, Kristalia Melessanaki, Anna Moutsatsou, Agni Terlix, Elina Kavalieratou, Kalliopi Tsampa, Effrossyni Androulakaki, Demetrios Anglos and Andreas Karydas Foundation for Research and Technology Hellas (FORTH), National Gallery, Alexandros Soutsos Museum, Institute of Nuclear and Particle Physics, N.C.S.R. "Demokritos", University of Crete
106	Development of an Open-Access Laboratory for the analytical study and conservation of large-scale artworks supported by advanced robotic and digital systems. The case of the PROTEAS project.	Chyssoula Bekiari, Dimitris Angelakis, Kostas Hatzigiannakis, Konstantinos Karakasiliotis, Christos Stentoumis, Xenophon Zabulis, Andreas Karydas, Demetrios Aglos, Eftychia Agathonikou and Dimitris Plexousakis Foundation for Research and Technology-Hellas (FORTH), Printec S.A., up2metric P.C., Institute of Nuclear and Particle Physics, N.C.S.R. "Demokritos", University of Crete, National Gallery, Alexandros Soutzos Museum
134	Multiparametric and multimodal 2D & 3D MRI approaches for the diagnosis of wooden archeological artifacts and wood finds	Silvia Capuani, Valeria Stagno and Sveva Longo CNR ISC, Sapienza University of Rome
205	Cleaning old icons: the effect of varnishes on the XRF analysis of portable panel paintings	Georgios P. Mastrotheodoros, Dimitrios Anagnostopoulos and Konstantinos G. Beltsios West Attica University, University of Ioannina, National Technical University of Athens
232	Conservation and Preservation Standards for Paintings	Stefania Ioannidou and George Pantazis National Technical University of Athens
349	Ground penetrating radar (GPR) non-destructive diagnostic testing and moisture content monitoring of structural elements of monuments	Grigorios Tsokas, Nectaria Diamanti, Dimitrios Angelis, Panagiotis Tsourlos and Georgios Vargemezis Aristotle University of Thessaloniki, Northumbria University
352	Resilience of historic masonry after fire: the impact of the stone/mortar nature and a demonstration of a novel inspection methodology	Fadi Tohme, Dimitrios Aggelis and Eleni Tsangouri Vrije Universiteit Brussel

Session 12: Advanced Non Destructive and Structural Techniques for Diagnosis, Redesign and Health Monitoring

Id	Title	Authors
57	Development of a portable, hybrid analytical instrument combining LED-Induced Fluorescence, Laser-Induced Breakdown Spectroscopy and Diffuse Reflectance for an integrated analysis of materials on monuments and objects of archaeological interest	Anastasia Giakoumaki, Victor Piñon, Michalis Andrianakis, Kostas Hatzigiannakis, Kristalia Melessanaki, Maria Pavlou, Serafeim Korosis and Paraskevi Pouli Foundation for Research and Technology, Ephorate of Antiquities of the City of Athens

22.03.2023 | 15:00-17:00

Hall 1

Session 10: Green and blue deal for local and regional Sustainable Development

Id	Title	Authors
150	Agritourism as a strategy of remote island's development: the case study of Kasos	Anastasia Vythoulka, Fotis Kalliakmanis, Ekaterini Delegou, Antonis Giannikouris, Nikolaos Kampanis, Georgios Alexandrakis and Antonia Moropoulou National Technical University of Greece, Technical Chamber of Greece, Research Institute for Tourism
151	Chalki: A model of sustainable development, local participation and international cooperation	Antonia Moropoulou, Anastasia Vythoulka, Nikiforos Batis, Kyriakos Lampropoulos, Antonis Giannikouris, Nikolaos Kampanis and Georgios Alexandrakis National Technical University of Greece, Technical Chamber of Greece, Research Institute for Tourism
152	Sustainable islands' development through the protection and revealing of cultural and environmental reserve	Antonia Moropoulou, Agoritsa Konstanti and Anastasia Vythoulka National Technical University of Greece
153	Designing cultural routes as a tool of responsible tourism and sustainable local development in isolated and less developed islands: the case of Symi island in Greece.	Aspasia Fafouti, Anastasia Vithoulka, Ekaterini Delegou, Nikolaos Farmakidis, Maria Ioannou, Komninos Perellis, Antonis Giannikouris, Nikolaos Kampanis, Georgios Alexandrakis and Antonia Moropoulou National Technical University of Greece, Technical Chamber of Greece, Research Institute for Mathematical Sciences in Greece
154	Enhancing Heritage Management for Sustainable Development in Insular Areas through Digital Documentation: The Case Study of the Historic Center	Aspasia Fafouti, Anastasia Vythoulka, Ekaterini Delegou, Agapitos Xanthis, Antonios Giannikouris, Nikolaos Kampanis, George Alexandrakis and Antonia Moropoulou National Technical University of Athens, Technical Chamber of Greece, Foundation for Research and Technology
156	Preservation of Cultural Landscape as a tool for the Sustainable Development of Rural Areas: the case of Mani Peninsula in Greece.	Eleni Oikonomopoulou, Ekaterini T. Delegou, Anastasia Vythoulka, John Sayas†, Antonia Moropoulou National Technical University of Athens
198	Analysis of the Spatial Distribution of Traditional Villages in Guizhou	Yidan Liu, Marco Bovati and Paolo Vincenzo Genovese Polytechnic University of Milan - Tianjin University, Zhejiang University

Session 10: Green and blue deal for local and regional Sustainable Development

Id	Title	Authors
287	Redefinition of Rural Spaces: A Methodological Tool	Evanthia Kanaraki, Anastasia Konstantopoulou, Elina Ntogou, Rena Klabatsea and Elena Konstantinidou National Technical University of Athens
378	Multiplying effects in the local economy through the sustainable development of the cultural and environmental stock. The case of Symi.	Ioanna Mikrou, Petros Dimas, Georgia Skoulaki, Anastasia Vithoulka, Aspasia Fafouti, Ekaterini Delegou, Aggelos Tsakanikas and Antonia Moropoulou National Technical University of Athens

22.03.2023 | 17:00-18:00

Hall 1

Session 13: Recapturing the World in Conflict through Culture promoting mutual understanding and Peace

Id	Title	Authors
40	Cultural Heritage Destruction during the Ethiopia-Eritrea war on Tigray (Nov. 2020- Oct. 2022)	Negasi Awetehey Nega Polytechnic Institute of Tomar
84	Protection and enhancement of the historical and architectural heritage in times of peace on apparently distant war wounds. Some cases in Cagliari (Italy) between restorations, current problems and future prospects	Maria Dessì, Emanuela Fara and Piervanna Piredda University of Sassari
230	Recapturing the World in Conflict through Culture promoting mutual understanding and Peace	Sylvia van de Bunt SERVUS, Vrije Universiteit Amsterdam
376	'Orphaned' monuments or common bicomunal heritage? Conservation of four Gothic churches in Famagusta, promoting cultural understanding, exchange and peace	Nasso Chrysochou Frederick University
50	Nicosia a divided city. A research plan for its documentation and holistic future development	Irene Efesiou, Nasso Chrysochou and Gregory Kalnis National Technical University of Athens, Frederick University Cyprus

22.03.2023 | 10:30-11:30

Hall 2

Session 9: New European Bauhaus creative and Interdisciplinary initiative

Id	Title	Authors
187	The Hellenic landscape and the renewable energy sources. a social survey (2022) and some considerations	Panos Kosmopoulos K-ecoprojects co
188	Delphi: A social survey (2022) and some proposals for the sustainable development of the area	Panos Kosmopoulos, Athena Kantzioura, Kostas Kleskas and Ioanna Pinelopi Fraggidou K-ecoprojects co

Session 9: New European Bauhaus creative and Interdisciplinary initiative

Id	Title	Authors
208	Historic building and green energy. Strategies to make supply from renewable sources compatible with conservation	Francesco Trovò University IUAV of Venice
311	Revitalising small historical villages through social, economic, cultural and energy efficiency assets. Italian examples and methodological approaches.	Emanuele Piaia, Valentina Frighi, Laura Sacchetti and Iliara Spasari University of Ferrara

22.03.2023 | 11:30-13:00

Hall 2

Session 11: Institutional framework Bridging Heritage Stakeholders, Art, Science, and Industry

Id	Title	Authors
1	The use of restored monuments for the exhibition of contemporary artworks: where is (preventive) conservation?	Konstantinos Stoupathis Greek Ministry of Culture
2	(Technological) Globalization and Anthropogenic Heritage Objects and the Distinct Nature of Culture	Charalampos Kokkinos Hellenic Open University
5	A sustainable model of Cultural Heritage Management for Museums and cultural heritage institutions	Irimi Stamatoudi and Konstantinos Roussos University of Nicosia
9	International Law on Cultural Heritage: The Benefit of Updating the International Community's Classification of Perpetrators of Cultural Heritage Looting and Destruction	Panayotis Agelarakis Aegean Foundation of Anthropology
206	Exploring the potential of a participatory systems design method to overcome multi-stakeholder challenges in cultural preservation	Pieter de Vries, Gerdje Pijper, Pieter van Langen, Özgür Turan and Frances Brazier Delft University of Technology, Van der Wal Transport, Artlite Mimarlık, Sahrayicedit
231	Public Procurement & Mediation Procedures to facilitate the Effort	Maria Sideri Legal representative in Alternative Dispute Resolution
350	Cultural Heritage Protection and Artificial Intelligence; The future of our historical past	Eugenia Giannini and Evi Makri National Technical University of Athens



TMM_CH 2023 International Steering Committee Chair

President

Moropoulou Antonia, Professor Emeritus, National Technical University of Athens, School of Chemical Engineering - Technical Chamber of Greece, Executive Committee, Member – Governing Council of the University of Ioannina

Chair

Stasinou Giorgos, Technical Chamber of Greece, President

Constanti Constantinos, President of ETEK Cyprus Scientific and Technical Chamber

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

Eskosido Eli, Israel Antiquities Authority, Director General

Stylianidis Efstratios, Professor, Aristotle University of Thessaloniki, Vice Rector for Research and Lifelong Learning -

International Committee CIPA Heritage Documentation, President

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

Georgopoulos Andreas, Professor, National Technical University of Athens – International Council of Monuments and Sites ICOMOS, Vice-President

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

Hiebert Fredrik, Archaeologist, as National Geographic Society during the NG Exhibition "Tomb of Christ" Curator

Järvinen Hannu-Matti, Professor, Tampere University - European Society for Engineering Education SEFI, President

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

Leissner Johanna, Fraunhofer Gesellschaft, Scientific Representative - Cultural Heritage and Sustainability Network - EU OMC Group «Strengthening Cultural Heritage Resilience for Climate Change», Chair

Minaidis Lee, Organization of World Heritage Cities OWHC, Interim Secretary General

Oosterbeek Luiz, Professor, Polytechnic Institute of Tomar, School of Technology, International Council of Philosophy and Human Sciences CIPSH, President

Rodriguez-Maribona Isabel, European Construction Technology Platform ECTP, Heritage and Regeneration Committee, Chair

Žarnić Roko, f. Professor, former Minister of the Environment and Spatial Planning of the Republic of Slovenia - Appointed expert on preparations for the EU Horizon 2020

Di Giulio Roberto, University of Ferrara, Department of Architecture – 4CH Competence Centre for the Conservation of Cultural Heritage

Matikas Theodoros, Professor, University of Ioannina, Department of Materials Science and Engineering- Vice Rector for Research, Innovation and Development

TMM_CH 2023 International Scientific Committee Chair

President

Moropoulou Antonia, Head of the NTUA Interdisciplinary Team and Chief Scientific Supervisor of the Holy Sepulchre's Holy Aedicule's rehabilitation in Jerusalem

Chair

NTUA Interdisciplinary Team scientific responsible for the Holy Aedicule's rehabilitation of the Holy Sepulchre

Korres Manolis, Professor Emeritus, National Technical University of Athens, School of Architecture- Academy of Athens

Georgopoulos Andreas, Professor, National Technical University of Athens, School of Rural and Surveying Engineering

Mouzakis Charis, Associate Professor, National Technical University of Athens, School of Civil Engineering, Laboratory for Earthquake Engineering, Director

Spyrakos Constantine, Professor, National Technical University of Athens, School of Civil Engineering

EDICULA Erasmus+ Strategic Partnership

Favero Gabriele, Professor, Sapienza University of Rome, Master's Degree Programme, Science and Technologies for the Conservation of Cultural Heritage

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

Baruch Yuval, Dr Archaeologist, Israel Antiquities Authority, Directorate General representative

Co-editors of Publications' Special Issues

Ioannidis Charalambos, Professor, National Technical University of Athens, School of Rural, Surveying and Geoinformatics Engineering, Dean - NTUA Post-Graduate MSc Program "Protection of Monuments" Interdepartmental Committee member - TRIQUETRA coordinator

Angelis Dimitris, Professor, Free University of Brussels, Department of Mechanics of Materials and Constructions

Betti Michele, Associate Professor, University of Florence, Department of Civil and Environmental Engineering

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

Doukas Haris, Associate Professor, National Technical University of Athens, School of Electrical and Computer Engineering

Kyriazis Dimosthenis, Associate Professor, Vice Rector University of Piraeus

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

Osman Ahmad, Professor, Saarland University of Applied Sciences - Fraunhofer Institute for Nondestructive Testing, IZFP

Ronchi Alfredo, Associate Professor, Politecnico di Milano - European Commission-MEDICI Framework, General Secretary - European WG on "EU Directives and Cultural Heritage", Secretary - Coordinator of Artcast4D Project

Zendri Elisabetta, Professor, University Ca' Foscari of Venice, Department of Environmental Engineering, Informatics and Statistics

Doulamis Anastasios, Associate Professor, National Technical University of Athens, School of Rural, Surveying and Geoinformatics Engineering

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

Konstanti Agoritsa, Scientific and Teaching Staff, National Technical University of Athens, School of Chemical Engineering

Lampropoulos Kyriakos, elected Assistant Professor, National Technical University of Athens, School of Chemical Engineering

TMM_CH 2023 International Steering Committee Members

Achniotis Stelios, Cyprus Scientific and Technical Chamber ETEK, f. President

Aesopos Yannis, Professor, University of Patras, Department of Architecture, President

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

Amditis Angelos, National Technical University of Athens, Institute of Communications and Computer Sciences ICCS, I-SENSE Group, Research Director – European Association for Virtual and Extended Reality EuroXR, Vice President

Anagnostopoulos Christos, Professor, University of the Aegean, Department of Cultural Technology and Communication, President

Anagnostopoulos Dimosthenis, Professor, Harokopio University, Department of Informatics and Telematics, former Rector - Ministry of Digital Governance of the Hellenic Republic, Secretary General

Anastasiadis Spiros, Professor, University of Crete, Department of Chemistry - Foundation for Research and Technology Hellas FORTH, Institute of Electronic Structure and Laser IESL – interim General Assembly of the European Research Infrastructure on Heritage Science, member

Andrade Carmen, International Centre for Numerical Methods in Engineering

Androulidaki Amalia, Ministry of Culture and Sports of the Hellenic Republic, General Directorate for the Restoration, Museums and Technical Works, General Director

Antonatos Alexandros, Hellenic Society for Non-Destructive Testing, President

Arabiyat Abed Al Razzaq, Jordan Tourism Board, Managing Director

Arakadaki Maria, Associate Professor, Aristotle University of Thessaloniki, School of Architecture

Aravossis Konstantinos, Professor, National Technical University of Athens, School of Mechanical Engineering - Ministry of Environment and Energy of the Hellenic Republic - European Green Deal, national representative

Athanasίου Stefanos, University of Bern, Faculty of Theology

Avgerinou-Kolonias Sofia, Professor Emeritus, National Technical University of Athens - Hellenic Section of ICOMOS, 2nd Vice President

Avgeropoulos Apostolos, University of Ioannina, Department of Materials Science and Engineering, President

Avni Gideon, Israel Antiquities Authority, Archaeological Division, Head

Avouris Nikolaos, Professor, University of Patras, School of Engineering, Dean

Avramides Yiannis, World Monuments Fund, World Monuments Watch and Program Evaluation, Director

Babayan Hector, National Academy of Sciences of Armenia, Institute of Geological Sciences, Head

Badalian Irena, Church of the Holy Sepulchre, Technical Bureau

Bafataki Vicky, Journalist, Archaeologist – Foundation Giuseppe Sciacca International Awards, General Secretary

Bakogiannis Efthimios, Assistant Professor, National Technical University of Athens, School of Rural, Surveying and Geoinformatics Engineering - General Secretary of Spatial Planning and Urban Environment, Ministry of Environment and Energy of the Hellenic Republic

Benelli Carla, Church of the Holy Sepulchre, Technical Bureau

Botsaris Pantelis, Professor, Democritus University of Thrace, former Deputy Rector, Department of Production and Management Engineering

Caradimas Costas, Professor, National Technical University of Athens, School of Architecture - NTUA Post-Graduate MSc Program "Protection of Monuments", Director

Caristan Yves, European Council of Academies of Applied Sciences, Technologies and Engineering Euro-Case, General Secretary

Chatzarakis E. George, Professor, School of Pedagogical and Technological Education ASPETE, President

Chetouani Aladine, Associate Professor, University of Orleans, Laboratoire PRISME

Cholakian Paul, Great Priory of Greece in the "Sovereign Military Order of the Temple of Jerusalem", Great Vice-Chancellor

Chondrokoukis Grigorios, Professor, University of Piraeus, Department of Industrial Management and Technology, Vice Rector of Research and Life Long Learning

Constantopoulos Panos, Athens University of Economic and Business, Department of Informatics - MSc Programme in Digital Methods for the Humanities, Director - ESFRI Strategic Working Group in Social and Cultural Innovation, national representative

Corradi Marco, Associate Professor, University of Northumbria, Department of Mechanical and Construction Engineering

Correia Mariana, Portuguese University, Department of Architecture & Multimedia Gallaecia & Gallaecia research, Director

D'Ayala Dina, Professor, University College London, Department of Civil, Environmental and Geomatic Engineering

Daktylidis Michail, Panhellenic Association of Engineers Contractors of Public Works PEDMEDE, President

De Vries Pieter, Assistant Professor, Delft University of Technology - European Society for Engineering Education SEFI, Treasurer

Dimakopoulos Vassilios, Associate Professor, University of Ioannina, School of Engineering, Dean

Distefano Salvatore, Professor, Kazan Federal University, Higher Institute for Information Technology and Information Systems, Head of the Social and Urban Computing Group and Cisco Innovation Center - Associate Professor, University of Messina, Department of Mathematics, Computer Science, Physics and Earth Science

Drdácký Miloš, Academy of Sciences of the Czech Republic, Institute of Theoretical and Applied Mechanics

El Feki Mostafa, Dr, Bibliotheca Alexandrina, Director

Erdik Mustafa, Professor Emeritus, Bogazici University, Kandilli Observatory and Earthquake Research Institute

Flores Andreas, Professor, Ionian University, Department of Audio and Visual Arts, Rector

Forde Michael, Professor, University of Edinburgh- Journal of Construction and Building Materials, Editor-in-Chief

Forest Emmanuel, Bouygues Group, Executive Vice President – European Construction Technology Platform, former President

Galetakis Mihalis, Professor, Technical University of Crete, School of Mineral Resources Engineering, Dean

Gómez-Ferrer Bayo Álvaro, Architect, Valencian Institute for Conservation and Restoration of Cultural Heritage IVC+r

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

Grigoroudis Evangelos, Professor, Technical University of Crete, School of Production Engineering & Management, Dean

Groysman Alec, Association of Engineers, Architects and Graduates in Technological Sciences in Israel, Chairman of Haifa and the North branch

Hamdan Osama, Church of the Holy Sepulchre, Technical Bureau

Ioannou Ioannis, Professor, University of Cyprus, Department of Civil and Environmental Engineering

Kakali Glykeria, Professor, National Technical University of Athens, School of Chemical Engineering, Dean

Kaliampakos Dimitrios, Professor, National Technical University of Athens, School of Mining and Metallurgical Engineering, Dean

Kallithrakas-Kontos Nikolaos, Professor, Technical University of Crete, Vice Rector of Finance, Planning and Development, School of Mineral Resources Engineering

Kampanis Nikolaos, Foundation for Research and Technology Hellas FORTH, Institute of Applied and Computational Mathematics, Coastal and Marine Research Laboratory, Research Director

Karadimas Dimitris, Vision Business Consultants VBC, Managing Director

Karagiannis Christos, Professor. Democritus University of Thrace. Dean

Karapiperis Christos, American Hellenic Progressive Association (AHEPA HELLAS), Lt. Governor 3

Karystinos George, Professor, Technical University of Crete, School of Electrical and Computer Engineering, Dean

Kavassalis Petros, Associate Professor, University of Aegean, School of Engineering, Dean

Keane Kathryn, National Geographic Society, Vice President, National Geographic Museum, Executive Director

Kokkossis Harry, Professor Emeritus, University of Thessaly, Department of Spatial Planning and Regional Development – Hellenic Open University, former President

Kollias Stefanos, Professor, National Technical University of Athens, School of Electrical and Computer Engineering - National Infrastructures for Research and Technology GRNET, Chairman

Kolokotsa Dionysia, Professor, Technical University of Crete, School of Chemical and Environmental Engineering, Dean

Kordatos John, Worldwide Industrial and Marine Association, President

Koundouri Phoebe, Professor, Athens University of Economics and Business, Department of International and European Economic Studies - European Association of Environmental and Natural Resource Economists EAERE, President

Koutoulakis Manolis, Ministry of Shipping and Island Policy, Secretary General

Koziris Nectarios, Professor, National Technical University of Athens, School of Electrical and Computer Engineering, Dean

Kremlis George, European Commission, Honorary Director - Espoo Convention, SEA Protocol on Strategic Environmental Assessment SEA, Chair of the Bureau

Kriari Ismini, Professor, Panteion University of Social and Political Sciences, former Rector – European Research and Educational Centre of Bioethics and Legislation

La Grassa Alessandro, Centre for Social and Economic Research in Southern Italy (CRESM), President

Lagaros Nikolaos, Professor, National Technical University of Athens, School of Civil Engineering, Dean

Lee-Thorp Julia, Oxford University, School of Archaeology, Head

Lianos Nikolaos, Professor, Democritus University of Thrace - Hellenic Section of ICOMOS, 1st Vice President

Loukopoulou Politimi, Conservator, International Council of Museums ICOM Hellenic National Committee, Member of the Board

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

Masi Alessia, Researcher, Sapienza University of Rome, Department of Environmental Biology - Max Planck Institute for the Science of Human History

Mavroeidi Maria, International Committee for the Conservation of Industrial Heritage TICCIH Greece, President

Mavrogenes John, Associate Professor, Australian National University, Research School of Earth Sciences

Menychtas Andreas, University of Piraeus, elected Assistant Professor – Dr Research Engineer, BioAssist S.A, Chief Technology Officer

Mitropoulos Theodosios, Church of the Holy Sepulchre, Technical Bureau, Head

Mouhli Zoubeir, Association de Sauvegarde de la Médina de Tunis, General Director

Nakasis Athanasios, Hellenic Section of ICOMOS, President

Neubauer Wolfgang, Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology, Director

Nobilakis Ilias, Network "PERRAIVIA" - former Professor, University of West Attica, Department of Preservation of Antiquities and Works of Art

Nounesis George, National Centre for Scientific Research "Demokritos", Director and Chairman of the Board

Ntroutsas Eirini, IKY/ Erasmus+ Hellenic Agency, Directorate for Special Programmes and International Scholarships, Head of Unit

Oungrinis Konstantinos – Alketas, Professor, Technical University of Crete, School of Architecture, Dean

Padeletti Giuseppina, National Research Council Roma, Research Director - European Materials Research Society

Palaitsaki Nana, Journalist, MSc Media

Panayiaris George, Professor, University of West Attica, Department of Conservation of Antiquities and Works of Art, President

Papageorgiou Angelos, Associate Professor, University of Ioannina, Department of Architectural Engineering, President

Papakosta Kalliopi, Archaeologist, Hellenic Research Institute of Alexandrian Civilization HRIAC – Head of the excavation at the Shallalat Gardens in Alexandria- EDICULA Erasmus+ Strategic Partnership, Steering Committee member

Papi Emanuele, Professor, University of Siena, Department of History and Cultural Heritage – Italian School of Archaeology at Athens, Director

Pappas Spyros, Dr European Lawyer - European Commission, Directorate General of Education and Culture, former Director General - Argo the Hellenic Network in Belgium, President

Paraskevopoulos Marios, Dr, University of Leicester

Petridis Platon, Associate Professor, National and Kapodistrian University of Athens, Department of Archaeology and the History of Art - Museum of Archaeology and Art History, Director

Philokyrou Maria, Associate Professor, University of Cyprus, Department of Architecture

Pissaridis Chrysanthos, ICOMOS-Cyprus, President

Potsiou Chryssy, Professor, National Technical University of Athens, School of Rural and Surveying Engineering – International Federation of Surveyors FIG, former President

Pressas Charalambos, Professor, University of West Attica, School of Applied Arts and Culture, Dean

Prodromou Elizabeth Dr., Visiting Scholar, Boston College, International Studies Program



Re'em Amit, Israel Antiquities Authority, Jerusalem Region, Regional Archaeologist

Rydock James, Research Management Institute, Norway

Salakidis Antonios, PerpetielSI SRL – DNASequance SRL, startup archaeogene company, CEO - EDICULA Erasmus+ Strategic Partnership, partner

Sali-Papasali Anastasia, f. Professor of Museology, Ionian University, former Rector

Santos Pedro, Fraunhofer Institute for Computer Graphics Research IGD, Competence Center for Cultural Heritage Digitization, Head

Skianis Charalambos, Professor, University of the Aegean, Department of Information and Communication Systems Engineering, Vice Rector of Finance, Planning and Development

Skriapas Konstantinos, Network "PERRAIVIA", President

Soile Sofia, Laboratory and teaching stuff, National Technical University of Athens, of Rural and Surveying Engineering, Laboratory of Photogrammetry

Sotiropoulou Anastasia, Professor, School of Pedagogical and Technological Education ASPETE, Department of Civil Engineering Educators

Spathis Panagiotis, Professor, Aristotle University of Thessaloniki, MSc Program "Physico-chemical diagnostic methods for Cultural Heritage materials"

Stamoulis Georgios, Professor, University of Thessaly, School of Engineering, Dean

Stavrakos Christos, Professor, University of Ioannina Governing Council, Department of History and Archaeology - Secretary General of the International Association of Byzantine Studies

Stylianou Platonas, Cyprus Scientific and Technical Chamber ETEK, General Secretary

Tapinaki Sevi, Laboratory and teaching stuff, National Technical University of Athens, of Rural and Surveying Engineering, Laboratory of Photogrammetry

Touliatos Panagiotis, Professor, Frederick University, Department of Architecture, Head - Professor Emeritus, National Technical University of Athens, School of Architecture

Tournikiotis Panayotis, Professor, National Technical University of Athens, School of Architecture

Triantafyllou Athanasios, Professor, University of Western Macedonia, School of Engineering, Dean

Tsatsanifos Christos, Geotechnical Expert - International Society for Soil Mechanics and Geotechnical Engineering, Technical Committee 19 "Preservation of Historic Sites", former Chairman

Tsiampaos Kostas, Assistant Professor, National Technical University of Athens - International Committee for

documentation and conservation of buildings, sites and neighborhoods of the modern movement do.co.mo.mo Greece, Coordinator

Tsimas Pavlos, Journalist

Tucci Grazia, Professor, University of Florence, Department of Civil and Environmental Engineering

Tzitzikas Yannis, Professor, University of Crete, Department of Computer Science - Foundation for Research and Technology Hellas FORTH, Institute of Computer Science, Centre for Cultural Informatics, Head

Tzitzikosta Aikaterini, Hellenic National Commission for UNESCO, President

Varelidis Petros, Secretary General of Natural Environment and Water, Ministry of Environment and Energy of the Hellenic Republic - Doctor of Engineering National Technical University of Athens

Varvarigou Theodora, Professor, National Technical University of Athens, School of Electrical and Computer Engineering - Athens Water Supply and Sewerage Company, Chairman of the Board of Directors

Vergados Dimitrios, Professor, University of Piraeus, Department of Informatics - Master Program "Digital Culture, Smart Cities, IoT and Advanced Digital Technologies", Director

Vesic Nenad, Dr, Archimandrite Ambrosios, NTUA PhD - ICOMOS International Scientific Committee for Places of Religion and Ritual PRERICO

Vlachoulis Themistoklis, Ministry of Culture and Sports of the Hellenic Republic, Directorate for the Restoration of Byzantine and Post-byzantine Monuments, Director

Ward-Perkins Bryan, University of Oxford, Trinity College - Oxford Centre for Late Antiquity, Chair - Ertegun Graduate Scholarship Programme in the Humanities, Emeritus Director

Weinblum Liat, Israel Antiquities Authority

Yakinthos Kyriakos, Professor, Aristotle University of Thessaloniki, School of Engineering, Dean

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

Zarafonitis George, Professor, National Technical University of Athens, School of Naval Architecture & Marine Engineering, Dean

Zervakis Michael, Professor, Technical University of Crete, Rector

Zouain Georges, GAIA-heritage, Mediterranean Urban Observatory, Principal

TMM_CH 2023 International Scientific Committee Members

Abuamoud Ismaiel Naser, Assistant Professor, Hashemite University in Jordan, Queen Rania Faculty of Tourism and Heritage

Achenza Maddalena, Professor, University of Calgary, Faculty of Architecture

Adamakis Kostas, Professor Emeritus, University of Thessaly, Department of Architecture Engineering

Agapiou Athos, Cyprus University of Technology, Department of Civil Engineering and Geomatics

Aggelakopoulou Eleni, Acropolis Restoration Service, Technical Office and Surface Conservation Laboratory, Head

Alexopoulou Aleka, Professor Emeritus, Aristotle University of Thessaloniki, School of Architecture

Apostolopoulou Maria, Acropolis Restoration Service

Argyropoulou Vasilike, Professor, University of West Attica, Department of Conservation of Antiquities and Works of Art

Asteris Panagiotis, Professor, School of Pedagogical and Technological Education ASPETE, Department of Civil Engineering Educators

Avdelidis Nikolaos, Professor, Cranfield University, IVHM Centre, Head

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

Balas Kostas, Professor, Technical University of Crete, School of Electrical and Computer Engineering

Belavilas Nikos, Professor, National Technical University of Athens, School of Architecture

Bettega Stefano Maria, Superior Institute of Artistic Industries ISIA

Boniface Michael, Professorial Fellow, University of Southampton, IT Innovation Centre, Technical Director

Bounia Alexandra, Professor, University of the Aegean, Department of Cultural Technology and Communication

Boutalis Ioannis, Professor, Democritus University of Thrace, Department of Electrical and Computer Engineering

Boyatzis Stamatis, Associate Professor, University of West Attica, Department of Conservation of Antiquities and Works of Art

Bozani Panayiotis, Professor, International Hellenic University, Department of Science and Technology

Cassar JoAnn, Professor, University of Malta, Faculty for the Built Environment

Cassar May, Professor, University College London, Institute for Sustainable Heritage, Director

Castiglioni Carlo, Professor, Polytechnic University of Milan, Department of Architecture, Built Environment and Construction Engineering

Cavaleri Liborio, Professor, University of Palermo, Department of Civil, Environmental, Aerospace and Materials Engineering

Chamzas Christodoulos, Professor Emeritus, Democritus University of Thrace, Department of Electrical and Computer Engineering

Chiotinis Nikitas, Professor Emeritus, University of West Attica, Department of Interior Architecture

Chlouveraki Stefania, Assistant Professor, University of West Attica, Department of Conservation of Antiquities and works of Art

Christaras Basile, Professor Emeritus, Aristotle University of Thessaloniki, Department of Geology

Daflou Eleni, Scientific and Teaching Staff, National Technical University of Athens, School of Chemical Engineering, Laboratory of Materials Science and Engineering

De Angelis Roberta, Assistant Lecturer, University of Malta, Faculty for the Built Environment

Demotikali Dimitra, f. Professor, National Technical University of Athens, School of Chemical Engineering

Diker Hasan Firat, Fatih Sultan Mehmet Vakif University, Faculty of Architecture and Design, Professor

Dimitrakopoulos Fotios, Professor Emeritus, National and Kapodistrian University of Athens, Department of Philology - Byzantine, Post-Byzantine Literature and Paleography

Dritsos Stefanos, Professor Emeritus, University of Patras, Department of Civil Engineering

Drosopoulos Georgios, Lecturer, University of Central Lancashire, Civil Engineering

Economou Dimitrios, Professor, University of Thessaly, Department of Planning and Regional Development

Efesiou Irene, Professor Emeritus, National Technical University of Athens, School of Architecture - NTUA Post-Graduate MSc Program "Protection of Monuments" f. Director

Exadaktylos George, Professor, National Technical University of Athens, School of Applied Mathematical and Physical Science

Facorellis Yorgos, Associate Professor, University of West Attica, Department of Conservation of Antiquities and Works of Art

Formisano Antonio, Aggregate Professor, University of Naples "Federico II", Department of Structures for Engineering and Architecture

Foudos Ioannis, Professor, University of Ioannina, Department of Computer Science and Engineering

Frosina Annamaria, Centre for Social and Economic Research in Southern Italy CRESM

Fuhrmann Constanze, Fraunhofer Institute for Computer Graphics Research IGD, Competence Center for Cultural Heritage Digitization

Ganiatsas Vassilis, Professor, National Technical University of Athens, School of Architecture

Gavela Stamatia, School of Pedagogical and Technological Education ASPETE

Ghadban Shadi Sami, Associate Professor, Birzeit University, Department of Architectural Engineering

Gharbi Mohamed, Institute of Technological Studies of Bizerte, Department of Economics and Management Sciences, Director

Giannini Evgenia, Assistant Professor, National Technical University of Athens, School of Applied Mathematical and Physical Sciences, Law and Technical Legislation

Groag Shmuel, Bezalel Academy of Arts and design Jerusalem, Lecturer

HadjinicolaouTeti, International Council of Museums ICOM Hellenic National Committee, President

Iadanza Ernesto, Adjunct Professor and Research Fellow, University of Florence, Department of Information Engineering

Izzo Francesca Caterina, University Ca'Foscari of Venice, Department of Environmental Sciences, Informatics and Statistics

Kapsalis Georgios, Professor, National University of Ioannina, Department of Primary Education

Karaberi Alexia, Scientific and Teaching Staff, National Technical University of Athens, School of Chemical Engineering

Karagiannis Georgios, "ORMYLIA" Foundation, Scientific Director

Karellas Sotirios, Professor, National Technical University of Athens, School of Mechanical Engineering

Karoglou Maria, Scientific and Teaching Staff, National Technical University of Athens, School of Chemical Engineering, Laboratory of Materials Science and Engineering

Katsioti-Beazi Margarita, Professor Emeritus, National Technical University of Athens, School of Chemical Engineering

Kavvadas Michael, Professor, National Technical University of Athens, School of Civil Engineering

Kioussi Anastasia, Dr Archaeologist, NTUA PhD, Ministry of Culture and Sports of the Hellenic Republic, Ephorate of Antiquities of Samos-Icaria

Komnitsas Konstantinos, Professor, Technical University of Crete, School of Mineral Resources Engineering

Konstantinides Tony, Professor Emeritus, Imperial College London, Department of Electrical and Electronic Engineering

Konstantinidou Helen, Associate Professor, National Technical University of Athens, School of Architecture

Kontoyannis Christos, Professor, University of Patras, Department of Pharmacy

Kourkoulis Stavros, Professor, National Technical University of Athens, School of Applied Mathematics and Physical Sciences, Dean

Koutsoukos Petros, Professor Emeritus, University of Patras, Department of Chemical Engineering

Kyvellou Stella, Professor, Panteion University of Social and Political Sciences, Department of Economic and Regional Development

Lambropoulos Vasileios, Professor, University of West Attica, Department of Conservation of Antiquities and works of Art

Lioliou Asterios, Professor, Democritus University of Thrace, Department of Civil Engineering

Lobovikov-Katz Anna, Senior Lecturer, The NB Haifa School of Design - Senior Lecturer, Technion Israel Institute of Technology, Faculty of Architecture and Town Planning

Loukas Athanasios, Professor, University of Thessaly, School of Engineering

Lourenço Paulo, Professor, University of Minho, Department of Civil Engineering, Head - Group of Historical and Masonry Structures, Coordinator

Lyridis Dimitrios, Associate Professor, National Technical University of Athens, School of Naval Architecture and Marine Engineering

Maietti Federica, Associate Professor, University of Ferrara, Department of Architecture

Mamaloukos Stavros, Assistant Professor, University of Patras, Department of Architecture

Maniatakis Charilaos, Water Supply and Sewerage Company of Hersonissos Municipality - National Technical University of Athens, School of Civil Engineering, Laboratory for Earthquake Engineering

Maravelaki Pagona-Noni, Professor, Technical University of Crete, School of Architecture, Laboratory of Materials for Cultural Heritage and Modern Building, Head

Marinou Georgia, Professor, National Technical University of Athens, School of Architecture - NTUA Post-Graduate MSc Program "Protection of Monuments" Interdepartmental Committee member

Maroulis Zacharias, Professor, National Technical University of Athens, School of Chemical Engineering

Mavrogenes John, Professor, Australian National University, Research School of Earth Sciences

Medeghini Laura, Researcher, Sapienza University of Rome, Department of Earth Sciences

Milani Gabriele, Professor, Polytechnic University of Milan, Department of Structural Engineering

Miltiadou Androniki, Assistant Professor, National Technical University of Athens, School of Architecture

Mohebkah Amin, Associate Professor, Malayer University, Department of Civil Engineering

Nevin Saltik Emine, f. Professor, Middle East Technical University, Department of Architecture

Oikonomopoulou Eleni, Dr Architect, NTUA PhD

Ortiz Calderon Maria Pilar, Professor in contract, Pablo de Olavide University

Ouzounis Christos, Professor, Aristotle University of Thessaloniki, Department of Informatics - DNASquenceSRL, CSO

Page Tzeni, Professor, University of Ioannina, Department of Early Childhood Education, Informatics and Applied Mathematics in Education

Paipetis Alkiviadis, Professor, University of Ioannina, Department of Materials Science and Engineering

Panagouli Olympia, Associate Professor, University of Thessaly, Department of Civil Engineering

Pantazis George, Professor, National Technical University of Athens, School of Rural, Surveying and Geoinformatics Engineering

Papagianni Ioanna, Professor Emeritus, Aristotle University of Thessaloniki, School of Civil Engineering

Papaioannou Georgios, Associate Professor, Ionian University, Department of Archives, Library Science and Museology

Papatrechas Christos, Dr Geologist-Mineralogist, Institute of Geological and Mineral Research

Pérez García Carmen, Valencian Institute for Conservation and Restoration of Cultural Heritage IVC+r

Perraki Maria, Associate Professor, National Technical University of Athens, School of Mining and Metallurgical Engineering

Piaia Emanuele, Research Associate, University of Ferrara, Department of Architecture

Polydoros Stamatios, Scientific and Teaching Staff, National Technical University of Athens, School of Mechanical Engineering

Prepis Alkiviades, Professor, Democritus University of Thrace, School of Architecture

Psycharis Ioannis, f. Professor, National Technical University of Athens, School of Civil Engineering

Rajčić Vlatka, Professor, University of Zagreb, Faculty of Civil Engineering

Saisi Antonella Elide, Associate Professor, Polytechnic University of Milan, Department of Architecture

Sapounakis Aristides, f. Professor, University of Thessaly, Department of Planning and Regional Development

Schippers-Trifan Oana, DEMO Consultants B.V. Netherlands, Knowledge Dissemination Manager

Sela Wiener Adi, Bezalel Academy of Arts and Design Jerusalem, Adjunct Lecturer

Seligman Jon, Dr Archaeologist, Israel Antiquities Authority, Director of Excavations, Surveys and Research Department

Smith Robert, Lincoln Professor of Classical Archaeology and Art, Oxford University, School of Archaeology

Stambolidis Nikos, Professor Emeritus, University of Crete, Department of History and Archaeology

Stavrakos Christos, Professor, University of Ioannina, Department of History and Archaeology

Stavroulakis Georgios, Professor, Technical University of Crete, School of Production Engineering and Management

Stefanidou Maria, Associate Professor, Aristotle University of Thessaloniki, Department of Civil Engineering

Stefanis Alexis, Assistant Professor, University of West Attica, Department of Conservation of Antiquities and works of Art

Tavukcuoglu Ayse, Associate Professor, Middle East Technical University, Department of Architecture

Theodorou Doros, Professor, National Technical University of Athens, School of Chemical Engineering, Laboratory of Materials Science and Engineering

Theoulakis Panagiotis, Professor, University of West Attica, Department of Conservation of Antiquities and Works of Art

Thomas Job, Professor, Cochín University of Science Technology, Department of Civil Engineering

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

Triantafyllou Athanasios, Professor, University of Patras, Department of Civil Engineering

Tsakanika Eleutheria, Assistant Professor, National Technical University of Athens, School of Architecture

Tsilaga Evagelia-Marina, Professor, University of West Attica, School of Applied Arts and Culture, Department of Conservation of Antiquities and Works of Art

Tsilimantou Elisavet, Dr Rural and Surveying Engineering, Ministry of Infrastructure and Transport, Adjunct Lecturer, University of West Attica, School of Engineering, Department of Surveying and Geoinformatics Engineering

Tsoukalas Lefteris, Professor, University of Thessaly, Department of Electrical and Computer Engineering

Van Grieken René, Professor Emeritus, University of Antwerp, Department of Chemistry

Van Hees Rob, Professor, Delft University of Technology, Department of Architectural Engineering and Technology

Varum Humberto, Professor, University of Porto, Department of Civil Engineering

Vayenas Dimitris, Professor, University of Patras, Department of Chemical Engineering, President



Vintzilaïou Elissavet, Professor, National Technical University of Athens, School of Civil Engineering - NTUA Post-Graduate MSc Program "Protection of Monuments" Interdepartmental Committee member

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

Vogiatzis Konstantinos, Professor, University of Thessaly, Department of Civil Engineering

Vyzoviti Sophia, Associate Professor, University of Thessaly, Department of Architecture Engineering

Xanthaki-Karamanou Georgia, Professor Emeritus, University of Peloponnese - Research Institute of Byzantine Culture, Supervisor

Yannas Simos, Architectural Association School of Architecture, MSc and MArch in Sustainable Environmental Design, Director

Zachariou-Rakanta Eleni, Scientific and Teaching Staff, National Technical University of Athens, School of Chem. Eng

Zervos Spyros, Professor, University of West Attica, Department of Library Science and Information Systems

Zouboulakis Loukas, Professor, National Technical University of Athens, School of Chemical Engineering

Executive Organizing Committee of the TMM_CH Steering Committee

National Technical University of Athens

Lampropoulou Antonia, NTUA - EDICULA Erasmus+ Strategic Partnership

Psarris Dimitrios, NTUA, School of Applied Mathematics and Physical Sciences, PC Lab

Keramidas Vasilios, NTUA Phd Candidate

Sinigalia Maria, NTUA, IT at Central Library

Vythoulka Anastasia, NTUA Phd Candidate - PA Research Program AEI

Roumeliotis Stergios, National Technical University of Athens, School of Chemical Engineering

Technical Chamber of Greece

Anagnostaki Liana, Head of the TCG Directorate of Public Relations, International and European Affairs

Conference Secretariat

Pergantopoulou Alexia, TCG PRIEA Directorate

Haviara Villy, TCG PRIEA Directorate

Athini Lilly, Head of the TCG Directorate of Scientific and Development Activity

Tsavari Isavella, f. Prof. Democritus Univ Thrace, TCG WG

Erotokritos Emmanouil, BSc International Affairs, TCG WG

Bairaktari Eleni, Civil Engineer, MSc ICME, TCG WG

Manitsa Theodora, TCG Department of Governing Bodies' Support

Technical System Providers

Cosmolive Productions

P. Vrelos

BOUSSIAS Media Group

The conference is English speaking and held at the Eugenides Foundation in Athens, Greece. It is organized in a hybrid format with requested physical presence and feasible virtual attendance in case of onsite unavailability

TMM-CH 2023 in numbers

416 scientific papers were submitted on the TMM-CH platform, and after peer review and revision, 163 were accepted, with an acceptance rate of 39%. The scientific papers are presented within 13 thematic scientific sessions, submitted by 487 authors from all 5 continents. Related 13 thematic panel discussions are held with the participation of 142 panelists adjoining Science and Innovation with Policy Making, Industry and Society.

e-Proceedings TMM-CH 2023

The 163 accepted scientific papers comprise the TMM_CH 2023 e-proceedings distributed to the participants of the Conference

Publications

All accepted scientific papers will be published in:

Special Book Series

- Springer Proceedings in Materials
- Springer Proceedings in Communications in Computer and Information Science

Scientific Journals

- Technical Annals - Int. Scientific Journal in Advances in Engineering by the Technical Chamber of Greece – Special Issue
- Scientific Culture - Journal of Applied Science & Technology to Cultural Heritage Issues - Special Issue
- Land - Special Issue
- Buildings - Special Issue
- ACM Journal on Computing and Cultural Heritage – Special Issue
- Developments in the Built Environment
- Intrecci - International Journal of Architectural Conservation and Restoration
- Heritage et als



EDICULA

Educational Digital Innovative Cultural heritage related Learning Activities

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



NATIONAL TECHNICAL UNIVERSITY OF ATHENS [GREECE]



SAPIENZA UNIVERSITA DI ROMA [ITALY]



BEZALEL ACADEMY OF ARTS AND DESIGN [ISRAEL]



PERPETIEL SRL [ROMANIA]



ISRAEL ANTIQUITIES AUTHORITY [ISRAEL]



HELLENIC RESEARCH INSTITUTE OF THE ALEXANDRIAN CIVILIZATION [GREECE]

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



Researchers' Night at the National Technical University of Athens

MARIE - My Awesome Research Is for Everyone!

ΣΥΝΤΟΝΙΣΤΗΣ

ΦΟΡΕΙΣ ΔΙΟΡΓΑΝΩΣΗΣ



ΕΚΕΤΑ ΕΘΝΙΚΟ ΚΕΝΤΡΟ ΕΡΕΥΝΑΣ & ΤΕΧΝΟΛΟΓΙΚΗΣ ΑΝΑΠΤΥΞΗΣ



ΠΑΝΕΠΙΣΤΗΜΙΟ ΠΑΤΡΩΝ UNIVERSITY OF PATRAS



European Commission



ΕΡΑΝΕΚ 2014-2020 OPERATIONAL PROGRAMME COMPETITIVENESS-ENTREPRENEURSHIP-INNOVATION



«Sustainable Development of Less Developed Regions and Isolated Areas by Creating New Touristic Resources and Products through Analysis, Documentation and Modelling of Cultural Assets using Innovative ICT Applications»



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 of the Holy Sepulchre (Project T2EDK-03741)



European Union European Structural and Investment Funds

HELLENIC REPUBLIC MINISTRY OF DEVELOPMENT AND INVESTMENTS SPECIAL SECRETARIAT FOR ERDF & CF PROGRAMMES

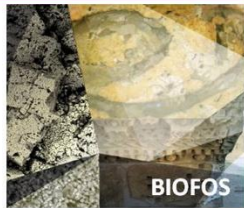
ΕΡΑΝΕΚ 2014-2020 OPERATIONAL PROGRAMME COMPETITIVENESS-ENTREPRENEURSHIP-INNOVATION

ΕΣΠΑ 2014-2020 Partnership Agreement 2014 - 2020

Co-financed by Greece and the European Union



Lab of Material Science & Engineering
Lab of Biotechnology



BIOFOS



HELLENIC REPUBLIC MINISTRY OF CULTURE AND SPORTS GENERAL DIRECTORATE OF ANTIQUITIES AND CULTURAL HERITAGE
Directorate of Conservation of Ancient and Modern Monuments

DEPARTMENT OF Biochemistry & Biotechnology UNIVERSITY OF THESSALY

Metagenomic analysis of the bacterial population of stone surfaces of monuments & development of nano-biomaterials for the sustainable protection of cultural heritage



European Union European Structural and Investment Funds

HELLENIC REPUBLIC MINISTRY OF DEVELOPMENT AND INVESTMENTS SPECIAL SECRETARIAT FOR ERDF & CF PROGRAMMES

ΕΡΑΝΕΚ 2014-2020 OPERATIONAL PROGRAMME COMPETITIVENESS-ENTREPRENEURSHIP-INNOVATION

ΕΣΠΑ 2014-2020 Partnership Agreement 2014 - 2020

Co-financed by Greece and the European Union

Toolbox for assessing and mitigating Climate Change risks and natural hazards threatening cultural heritage



Sponsors



The venues of the conference are a kind offer



Eugenides Foundation

Media sponsor



Media support

