



1st International Conference TMM_CH
Transdisciplinary Multispectral Modelling and Cooperation for the
Preservation of Cultural Heritage
10-13 October, 2018 Eugenides Foundation Athens, Greece

GENERAL PROGRAM

10.10.2018

Byzantine & Christian Museum of Athens

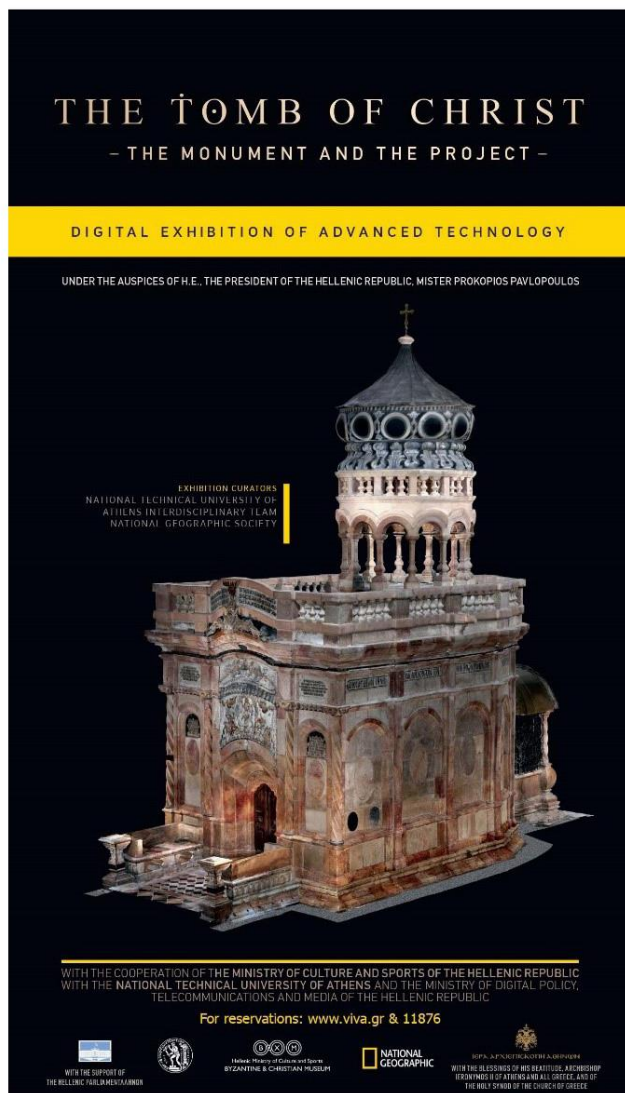


Our heritage: where the past meets the future

Throughout 2018, we will celebrate our diverse cultural heritage across Europe - at EU, national, regional and local level. The aim of the European Year of Cultural Heritage is to encourage more people to discover and engage with Europe's cultural heritage, and to reinforce a sense of belonging to a common European space. The year 2018 will see a series of initiatives and events across Europe to enable people to become closer to and more involved with their cultural heritage. Cultural heritage shapes our identities and everyday lives. It surrounds us in Europe's towns and cities, natural landscapes and archaeological sites. It is not only found in literature, art and objects, but also in the crafts we learn from our ancestors, the stories we tell to our children, the food we enjoy in company and the films we watch and recognise ourselves in. The year 2018 belongs to all to experience, appreciate, and enjoy cultural heritage. Everyone is invited to join the thousands of activities taking place across Europe to involve people more closely with cultural heritage.

10.10.18 | 17:00-20:00

- **Visit to the Digital Exhibition of Advanced Technology «The Tomb of Christ: The monument and the project»**



- **Welcome Reception**

11.10.2018

Auditorium	Hall 1
8:00-9:00 Registrations	
9:00-10:30 Opening Session	
10:30-10:45 Coffee Break	
<p>The Project of the Rehabilitation of Holy Sepulchre's Holy Aedicule as a pilot multispectral, multidimensional, novel approach through Transdisciplinarity and Cooperation in the Protection of Monuments</p> <p>10:45-12:30 Session I.1 Session Chairs: Prof. A. Moropoulou NTUA, Prof. Emer. M. Korres ACADATH, Prof. A. Georgopoulos NTUA, Prof. C. Spyarakos NTUA, Asst. Prof. Ch. Mouzakis NTUA</p> <p>12:30-14:00 Panel discussion I.1</p>	
14:00-15:00 Lunch Break	
<p>Digital Heritage</p> <p>15:00-17:30 Session I.2 Session Chairs: Prof. Ch. Ioannidis NTUA, Prof. I. Fudos UOI, Prof. K. Tokmakidis AUTH</p>	<p>Resilience to Climate Change and Natural Hazards</p> <p>15:00-16:30 Session II.1 Session Chairs: Dr. J. Leissner FRAUNHOFER, Prof. E. Sesana UWS, Dr. G. Padeletti CNR</p>
<p>Novel Educational Approach for the Preservation of Monuments</p> <p>17:30-19:30 Session I.3 Session Chairs: Pieter de Vries SEFI, Prof. I. Efesiou NTUA, Prof. Stefano Della Torre POLIMI</p> <p>19:30-21:00 Panel discussion I.3</p>	<p>Conserving sustainably the Materiality of Structures and Architectural Authenticity</p> <p>16:30-18:15 Session II.2 Session Chairs: Prof. P. Koutsoukos UOP, Prof. P. Spathis AUTH, Prof. B. Christaras AUTH</p> <p>Interdisciplinary Preservation and Management of Cultural Heritage</p> <p>18:15-20:45 Session II.3 Session Chairs: Prof. M. Philokyprou UCY, Prof. P. Asteris ASPETE, Prof. Th. Matikas UOI</p>

During the conference, Hall 2 will be at the disposal of the panelists and the session chairs, for preparatory meetings

12.10.2018

Auditorium	Hall 1
<p>9:00-12:00</p> <p>Session I.4: Sustainable Preservation and Management Lessons learnt on Emblematic Monuments Session Chairs: E. Kountouri HMC, Prof. I. Psycharis NTUA, Asst Prof. P. Maravelaki TUC</p> <p>12:00-13:30</p> <p>Panel discussion I.4: Bringing together Heritage Stakeholders, Science and Industry</p>	
<p>13:30-14:30 Lunch Break</p>	
<p>14:30-17:30</p> <p>14:30-16:45 Session I.5: Cross-discipline Earthquake Protection and Structural Assessment of Monuments Session Chairs: Th. Vlahoulis HMC, Prof. C. Spyarakos NTUA, Prof. G. Stavroulakis TUC</p>	<p>Inception – Inclusive Cultural Heritage in Europe through 3D Semantic Modelling</p> <p>14:30-16:00 Session II.4 Session Chairs: Prof. Roberto di Giulio UNIFE, D. Karadimas VBC, Asst. Prof. F. Maietti UNIFE</p>
<p>16:45-17:30 Session I.6: Cultural Heritage and Pilgrimage Tourism Session Chairs: Prof. A. Prepis DUTH, Dr. Nenad Vesic ICOMOS PRERICO, Asst Prof. S. Athanasiou UNIBE</p>	<p>Heritage at Risk</p> <p>16:00-17:30 Session II.5 Session Chairs: Prof. N. Zacharias UOP, Prof. A. Papageorgiou UOI, Asst. Prof. A. Saisi POLIMI</p>
<p>Reuse, Circular Economy and Social Participation as a leverage for the Sustainable Preservation and Management of Historic Cities</p> <p>17:30-19:15 Session I.7 Session Chairs: Bonnie Burnham WMF, Prof. H. Coccossis UTH, Prof. S. Avgerinou NTUA</p> <p>19:15-20:45 Panel discussion I.7</p>	<p>Advanced and non Destructive Techniques for Diagnosis, Design and Monitoring</p> <p>17:30-20:15 Session II.6 Session Chairs: Prof. D. Aggelis VUB, Prof. Osman Ahmad FRAUNHOFER IZFP, Dr. K. Lampropoulos NTUA</p>
<p>20:45-21:00 Closure</p>	

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Transdisciplinary Multispectral Modelling and Cooperation for the
Preservation of Cultural Heritage
10-13 October, 2018 Eugenides Foundation Athens, Greece

DETAILED PROGRAM

11.10.2018

11.10.18 | 09:00-10:30 Auditorium

Opening Session	
Address	
NTUA Rector Prof. Ioannis Golias	Technical Chamber of Greece (TCG) President Mr. Giorgos Stasinou
National Geographic Society Dr. Fredrik Hiebert , Archaeologist	World Monuments Fund Yiannis Avramides
European Commission D.G. Connect Dr. Albert Gauthier	ICOMOS Dr. Elena Korka , Member of the Board
Address of the President of the Hellenic Parliament Mr. Nikos Voutsis by the President of the Standing Committee of the Cultural and Educational Affairs of the Hellenic Parliament NTUA Prof. Dimitris Sevastakis	
Deputy Minister of Foreign Affairs of the Hellenic Republic Mr. Markos Bolaris	
Presence of the Deputy Minister of Culture and Sports of the Hellenic Republic Mr. Costas Stratis	
Opening Lecture	
The Project of the Rehabilitation of Holy Sepulchre's Holy Aedicule as a pilot multispectral, multidimensional, novel approach through Transdisciplinarity and Cooperation in the Protection of Monuments Prof. Antonia Moropoulou , NTUA, Chief Scientific Supervisor of the Project, President of the TCG General Assembly	
Opening of the Conference	
Minister of Digital Policy, Telecommunications and Media of the Hellenic Republic Mr. Nikos Pappas	
Benediction	
Message of His Beatitude Archbishop Hieronymus II of Athens and All Greece	
Representatives of the three Christian Communities, Guardians of the Holy Tomb	

11.10.18 | 10:45-12:30 Auditorium

Session I.1 The Project of the Rehabilitation of Holy Sepulchre's Holy Aedicule as a pilot multispectral, multidimensional, novel approach through Transdisciplinarity and Cooperation in the Protection of Monuments		
Id	Title	Authors
8	The Holy Sepulchre as a religious building	Stefanos Athanasiou Univ. of Bern / Faculty of Theology
52	A transdisciplinary approach to reveal the structural evolution of the Holy Aedicule in the Church of the Holy Sepulchre	Kyriakos Lampropoulos , Aikaterini Kolaiti, Manolis Korres, Antonia Moropoulou NTUA
174	Preliminary Assessment of the Structural Response of the Holy Tomb of Christ under Static and Seismic Loading	Charilaos Maniatakis , Constantine Spyrakos, Antonia Moropoulou NTUA
42	Corrosion Protection study of metallic structural elements for the Holy Aedicule in Jerusalem	George Batis , Eleni Ntaflou, Eleni Rakanta, Angeliki Zacharopoulou, Antonia Moropoulou NTUA
55	Holy Sepulchre Monitoring System	Maria Karoglou , Charalambos Mouzakis , George Pantazis , Simos Asimakopoulos, Evangelia Lambrou, Antonia Moropoulou NTUA
64	Innovative Methodology for Personalized 3D Representation and Big Data Management in Cultural Heritage	Emmanouil Alexakis , Evgenia Kapassa, Marios Touloupou, Dimosthenis Kyriazis, Andreas Georgopoulos, Antonia Moropoulou NTUA
169	Governance and Management of the Holy Edicule Rehabilitation Project	Nikolaos Moropoulos , Antonia Moropoulou NTUA

11.10.18 | 12:30-14:00 Auditorium

Panel discussion I.1 The Project of the Rehabilitation of Holy Sepulchre's Holy Aedicule as a pilot multispectral, multidimensional, novel approach through Transdisciplinarity and Cooperation in the Protection of Monuments	
The NTUA Interdisciplinary Team	
Prof. Antonia Moropoulou , NTUA School of Chemical Engineering - Coordinator	
Prof. Manolis Korres , Emeritus, Academy of Athens	
Prof. Andreas Georgopoulos , NTUA School of Rural & Surveying Engineering	
Prof. Constantine Spyrakos , NTUA School of Civil Engineering	
Asst. Prof. Charalambos Mouzakis , NTUA School of Civil Engineering	
National Geographic Society	
Fredrik Hiebert , Archaeologist	
World Monuments Fund	
Yiannis Avramides , Civil Engineer	
European Commission D.G. Connect	
Albert Gauthier	
Invited	
Representatives of the three Christian Communities, Guardians of the Holy Tomb	
Asst. Prof. Stefanos Athanasiou , University of Bern, Faculty of Theology - Rapporteur	

11.10.18 | 15:00-17:30 Auditorium

Session I.2 Digital Heritage		
Id	Title	Authors
19	Branding Strategies for Cultural Landscape promotion: Organizing real and virtual place networks	Konstantinos Moraitis NTUA
70	3D Survey of a neoclassical building using a handheld laser scanner a basic for the development of a bim - ready model	Antonios Antonopoulos , Katerina Kalentzi AII3D, LANDMARK
7	Virtual reconstruction of an archaic column using Immersive Reality	Panagiotis Parthenios , Theano Androulaki Tech. Univ. of Crete
154	Reconstruction and Visualization of Cultural Heritage Artwork Objects	Anastasia Moutafidou , George Adamopoulos, Anastasios Drosou, Dimitrios Tzovaras, Ioannis Fudos Univ. of Ioannina, CERTH
16	Vandalised frescoes' virtual retouching	Melina Aikaterini Vlachou , Dimitrios Makris, Leonidas Karampinis Univ. of West Attica
54	Travelling Exhibition: Idea - Ancient greek science and technology	Panagiotis Ioannidis , Angeliki Malakasioti, Maria Mavrokostidou Tetragon S.A.
178	Cross-sector Collaboration for Organisational Transformation: The Case of the National Library of Greece Transition Programme to the Stavros Niarchos Foundation Cultural Center 2015-2018	Julia Elmaloglou , Georgia Angelaki, Stephania Xydia Managerial Team NLG Transition Programme
27	Volos in the Middle Ages: A proposal for the rescue of a cultural heritage	Konstantia Triantafyllopoulou Univ. of Thessaly
175	Information Technology, Smart devices and Augmented Reality Applications for Cultural Heritage Enhancement: The Kalamata 1821 Project	Vayia Panagiotidis , George Malaperdas, Eleni Palamara, Vassiliki Valantou, Nikolaos Zacharias Univ. of the Peloponnese
28	DiscoVRCoolTour: Discovering capturing and experiencing cultural heritage and events using innovative 3D digitisation technologies and affordable consumer electronics	Constantin Makropoulos , Dimitra Pappa, Vassilis Pitsilis, Alexander Karapidis, Stephan Wilhelm, René Hellmuth. Florian Florian Wehner NCSR Demokritos, Fraunhofer, Univ. of Stuttgart, Univ. of Schmalkalden
26	The digitization of the tangible Cultural Heritage and the related policy framework	Konstantina Siountri , Evangelia Vagena, Dimitrios D. Vergados, Joseph Stefanou, Christos-Nikolaos Anagnostopoulos Univ. of Aegean, Univ. of Piraeus, NTUA

11.10.18 | 17:30-19:30 Auditorium

Session I.3 Novel Educational Approach for the Preservation of Monuments		
Id	Title	Authors
20	Authentic learning to better prepare for preservation work	Pieter de Vries , Antonia Moropolou Delft Univ. of Technology, NTUA / European Society for Engineering Education SEFI
62	20 years N.T.U.A. Interdisciplinary Postgraduate Program «Protection of Monuments»	Irene Efesiou , Antonia Moropoulou, Eleni Maistrou, Antonia Lampropoulou, Maria Balodimou NTUA
80	Education and training for the preservation of cultural heritage, as a strategic aim of the Department of Architecture, Frederick University Cyprus	Marios Pelekanos , Byron Ioannou Frederick Univ. Cyprus
151	Cultural Heritage and Education/Training/Occupational Activity	Stamatia Gkavela , Anastasia Sotiropoulou ASPETE
60	The historic centre of Vimercate: investigation, education, community involvement	Stefano Della Torre , Rossella Moioli, Lorenzo Cantini Politecnico di Milano
45	Connections with the cultural heritage in formal and informal education: The case of an interactive game of School Life Museum of Chania	Maria Drakaki Friends association of school life museum
182	A Knowledge Json-based Database for Integrating Multiple Disciplines in Cultural Heritage	Anastasios Doulamis , Christodoulos Fragkoudakis, Konstantinos Makantasis, Eftychios Protopapadakis, Anastasia Kioussi, Ekaterini T. Delegou, Emmanouil Alexakis, Antonia Moropoulou NTUA
33	From Discovery to Exhibition - Recomposing History	Maria Xipnitou , Sofia Soile, Michail Skourtis, Alcestis Papadimitriou, Ioannis Tziranis, Athanasios Voulodimos, Georgios Miaoulis, Charalabos Ioannidis NTUA

11.10.18 | 19:30-21:00 Auditorium

Panel discussion I.3 Novel Educational Approach for the Preservation of Monuments	
Prof. Pieter De Vries , Delft, European Society for Engineering Education (SEFI) - Coordinator	
Prof. Irene Efesiou , NTUA, Post-Graduate MSc Program "Protection of Monuments"	
Prof. Maria Arkadaki , AUTH, Protection, Conservation and Restoration of Cultural Monuments Interdepartmental Program of Post Graduate Studies	
Prof. Antonia Moropoulou , NTUA, Post-Graduate MSc Program "Protection of Monuments", President of the TCG General Assembly	
Prof. Nikos Zacharias , University of Peloponnese, Department of History, Archaeology and Cultural Resources Management, President	
Prof. Eleni Maistrou , President of the Council of Architectural Heritage of the Society for the Environmental and Cultural Heritage, ELLET	
Prof. Anastasia Sotiropoulou , ASPETE, Department of Civil Engineering Educators	
Prof. Marios Pelekanos , Frederick University of Cyprus	
Marcie Goodale , National Geographic Learning, Product Director	
J.J.Kelley , Emmy-nominated Film Maker of National Geographic	
Antonia Lampropoulou , NTUA - Rapporteur	

11.10.18 | 15:00-16:30 Hall 1**Session II.1 Resilience to Climate Change and Natural Hazards**

Id	Title	Authors
138	Climate information for the Preservation of Cultural Heritage : needs and challenges	Lola Kotova , Johanna Leissner, Uwe Mikolajewicz, Daniela jacob GERICS, Fraunhofer, Max Planck Institute for Meteorology
137	Heritage Resilience Against Climate Events on Site - HERACLES Project: Mission and Vision	Giuseppina Padeletti CNR
183	Resilient Eco-smart Strategies & Innovative Technologies to Protect Cultural heritage	Anastasios Doulamis , Kyriakos Lampropoulos, Dimosthenis Kyriazis, Antonia Moropoulou NTUA
31	Interventions on coastal monuments against climatic change	George Alexandrakis , Georgios V. Kozyrakis, Nikolaos Kampanis FORTH Coastal Research Lab
157	Increasing Cultural Heritage Resilience using a Learning Strategy	Elena Sesana , Chiara Bertolin, Arian Loli, Alexandre Gagnon, John Hughes, Johanna Leissner Univ. of the West of Scotland, NTNU, Fraunhofer
32	Natural hazards socio-economic impact on cultural heritage sites	George Alexandrakis , Constantine Manasakis, Nikolaos Kampanis Univ. of Crete, FORTH Coastal Research Lab

11.10.18 | 16:30-18:15 Hall 1**Session II.2 Conserving sustainably the Materiality of Structures and Architectural Authenticity**

Id	Title	Authors
30	Taxonomy of Architectural Styles and Movements worldwide since 8500 BC	Christos Floros Architect
150	Monastery of Kimisis Theotokou, Valtessiniko, Arcadia, Greece - Restoration of the Temple and integration of new structures	Julia Vobiri NTUA MSc Program "Protection of Monuments"
78	Study on the translucent sky-green ware of the Five dynasty Yaozhou kiln	Jianfeng Zhu , Fen Wang Shaanxi Univ. of Science and Technology
57	Deterioration of Monument Building Materials: Mechanistic Models as Guides for Conservation Strategies	Petros Koutsoukos , Aikaterini Vavouraki, Dimitra Kanellopoulou University of Patras, FORTH- ICEHT
58	Investigation of Microstructural Changes in Maastricht Limestone after Consolidation Treatment with Nanolime Suspension	Radek Sevcik , Alberto Viani, Lucia Mancini, Marie-Sousai Appavou, Dita Machova Czech Academy of Sciences, Forschungszentrum Jülich, Elettra-Sincrotrone Trieste S.C.P.A.
13	Synthesis and properties of composite coatings for the protection of calcite marble against weathering using fumed silica nanoparticles	Panagiotis Spathis , Konstantinos Triantafyllidis, Chara Prohaska, Ioannis Karapanagiotis, Maria Stefanidou Aristotle Univ. of Thessaloniki
158	The unbuilt monument and the perpetual quest of centrality	Angelos Papageorgiou Univ. of Ioannina

11.10.18 | 18:15-20:45 Hall 1

Session II.3 Interdisciplinary Preservation and Management of Cultural Heritage		
Id	Title	Authors
24	Technological Innovations in Architecture during Antiquity. The case of Cyprus	Maria Philokyprou Univ. of Cyprus
39	LS survey and FE modelling of the Vasari's Cupola of the Basilica dell'Umiltà (Italy). An interdisciplinary approach for preservation of CH.	Grazia Tucci , Gianni Bartoli, Michele Betti Univ. of Florence
119	Structural engineers vs. Conservators, Safety vs. Preservation: problems, doubts and proposals	Antonio Borri , Marco Corradi Univ. of Perugia
149	Interdisciplinary approaches in cultural heritage documentation: the case of Rodakis house in Aegina	Zoe Georgiadou , Panagiotis Ilias, Athina Georgia Alexopoulou Univ. of West Attica
172	Documentation of the Historical Building Materials and Decay Patterns of the Kaisariani Monastery	Georgia Mourgi , Elisavet Tsilimantou, Ekaterini T Delegou, Charalambos Ioannidis, Antonia Moropoulou NTUA
164	Assessment of Masonry Structures Based on Analytical Damage Indices	Athanasia Skentou , Maria Douvika, Ioannis Argyropoulos, Maria Apostolopoulou, Antonia Moropoulou, Panagiotis Asteris NTUA, ASPETE
139	Investigating the fracture properties of structural stones of historical monuments	Nikolaos Stylianos Chanakoulas , Stavros Kourkoulis, Antonia Moropoulou NTUA
46	A Historical Mortars Study assisted by GIS Technologies	Panagiotis Vryonis , George Malaperdas, Eleni Palamara, Nikos Zacharias Univ. of Peloponnese
10	Narrative Trails of Pelion	Maria Vrontissi Univ. of Thessaly
148	Towards a Blockchain Architecture for Cultural Heritage Tokens	Aristidis Anagnostakis Technological Educational Institute of Epirus
77	"Greek Paths of Culture" Programme - Bringing together cultural heritage preservation and social engagement for sustainable development	Katerina Stebili ELLET - Society for the Environment and Cultural Heritage
61	Protection and highlighting of a waterfront zone disposing strong cultural characteristics	Dimitris Psychogios , Eleni Maistrou Univ. of Thessaly, NTUA

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12.10.18 | 09:00-12:00 Auditorium

Session I.4 Sustainable Preservation and Management Lessons learnt on Emblematic Monuments		
Id	Title	Authors
17	Improving the Geometric Documentation of Cultural Heritage : Combined Methods for the Creation of an Integrated Management Information System in Greece	Eleftheria Mavromati , Eleni Stamatiou, Leonidas Chrysaeidis, Konstantinos Astaras <i>The Greek Ombudsman, Hellenic Cadastre, Geodetiki</i>
159	The Temple of Apollo at Corinth . Observations on the Architectural Design	Dimitra Andrikou <i>Archaeologist</i>
153	Anastylosis of Roman Temples in the West End of the Roman Forum, as Part of a Management Plan of the Archaeological Site of Ancient Corinth	Evangelos Kontogiannis <i>Architect Engineer</i>
65	Multidisciplinary Documentation, combination of NDTs with geometric documentation for the diagnostic study of Ancient Temples: The case of the Temple of Pythian Apollo in Rhodes	Sofia Soile , Elisavet Tsilimantou, Vasileios Keramidas, Maria Karoglou, Fotios Bourexis, Efstathios Adamopoulos, Ekaterini T. Delegou, Kyriakos Lampropoulos, Charalambos Ioannidis, Antonia Moropoulou <i>NTUA</i> , Maria Pikoula, Maria Michailidou <i>Dodecanese Ephorate of Antiquities</i>
67	A study regarding the historical materials of the Pythian Apollo Temple in Rhodes for the design and selection of appropriate restoration materials	Ekaterini T. Delegou , Vasileios Keramidas , Maria Apostolopoulou, Niki Galanaki, Myrto Kalofonou, Chariklia Skoula, Maria Karoglou, Asterios Bakolas, Antonia Moropoulou <i>NTUA</i> , Maria Pikoula, Maria Michailidou <i>Dodecanese Ephorate of Antiquities</i>
35	Seismic response of the Temple of Pythian Apollo in Rhodes Island and recommendations for its restoration	Ioannis Psycharis , Evangelos Avgenakis, Ioannis Taflampas and Maria Kroustallaki <i>NTUA</i> , Maria Pikoula, Maria Michailidou <i>Dodecanese Ephorate of Antiquities</i>
179	The Restoration of the Katholikon of Daphni Monastery : a challenging project of holistic transdisciplinary approach, novel methodologies and techniques and digital modelling.	Androniki Miltiadou-Fezans , Nikolaos Delinikolas <i>NTUA, Hellenic Ministry of Culture and Sports</i>
181	Restoration and Consolidation of the Byzantine Church of Palaia Episkopi in Tegea, Arcadia	Konstantina Siountri <i>Univ. of Pireaus</i>
79	Decryption, through the collaboration of historical accounts and technology, of the hidden phases of construction of the Church of the Holy Monastery of Kykko in Cyprus . A preliminary report.	Nasso Chrysochou <i>Frederick Univ. Cyprus</i>
73	The Plaka Bridge in Epirus : Ground penetrating radar prospection of surviving parts of the collapsed bridge, to provide structural information for its reconstruction	Kyriakos Lampropoulos , Antonia Moropoulou, Pavlos Sotiropoulos, Christoforos Papageorgiou <i>NTUA, Terra Marine</i>
66	The Plaka Bridge in Epirus : A combination of non destructive and analytical techniques to design and select compatible and performing materials for its reconstruction	Ekaterini T. Delegou , Maria Apostolopoulou, Iakovos Gryllakis, Ioannis Nikolaidis, Sophia Mermiggi, Vasileios Keramidas, Maria Karoglou, Asterios Bakolas, Antonia Moropoulou <i>NTUA</i>
23	The Oslo Opera House - Condition analysis and Proposal for cleaning, protection and maintenance of exterior marble	Noni Maravelaki , Chrysi Kapridaki, Lucia Toniolo, Francesca Gheraldi, Ioannis Arabatzis <i>Tech. Univ. of Crete, Politecnico di Milano, NanoPhos SA</i>
44	Modern architecture and cultural heritage	Agnes Couvelas <i>Architect, ICOM</i>

12.10.18 | 12:00-13:30 Auditorium

Panel discussion I.4 Bringing together Heritage Stakeholders, Science and Industry	
Amalia Androulidaki , Dir. Gen. of Anastylosis, Hellenic Ministry of Culture & Sports - Coordinator	
Yuval Baruch , Israeli Antiquity Authorities	
Michalis Daktylides , PEDMEDE, European Construction Industry Federation (FIEC)	
Kyriakos Themistokleus , Cyprus Scientific and Technical Chamber (ETEK), Member of the Executive Committee	
Prof. Panagiotis Touliaos , Frederick University of Cyprus	
Stefano Dellatore , Polytecnico di Milano	
Athina Chatzipetrou , President Hellenic Archaeological Fund	
Dr. Evgenia Tzannini , Lawlecturer NTUA - T.C.G.	
Özgür Turan Aksan , Architect Istanbul	
Representative of the Hellenic Construction Technology Platform -T.C.G. Dr. Ekaterini T. Delegou , NTUA	
Elena Korka , ICOMOS, Member of the International Board - Rapporteur	

12.10.18 | 14:30-17:30 Auditorium

Session I.5 Cross-discipline Earthquake Protection and Structural Assessment of Monuments		
Id	Title	Authors
47	Post-seismic restoration project of Basilica Churches in Kefallonia Island	Themistoklis Vlahoulis , Apostolia Oikonomopoulou, Niki Salemi, Mariliza Giarleli Hellenic Ministry of Culture and Sports
76	Experimental attempt to substitute a lost antiseismic timber reinforcement in a Venetian Monument in Kefalonia	Panagiotis Touliaos , Harris Mouzakis Frederick Univ. Cyprus, NTUA
53	Investigation of the structural response of masonry structures	Georgios Drossopoulos , Jan Phakwago, Maria Stavroulaki, Georgios Stavroulakis Univ. of KwaZulu-Natal, Tech. Univ. of Crete
49	The Timber-Roofed Basilicas of Troodos, Cyprus (15th-19th cent.) Constructional System, Anti-Seismic Behaviour and Adaptability	Marios Pelekanos Frederick Univ. Cyprus
82	Alternative Dome Reconstruction Method for Masonry Structures	Argyris Fellas Frederick Univ. Cyprus
120	Cultural Heritage rc structures strengthened by ties under seismic sequences and uncertain input parameters: a computational approach	Asterios Liolios Democritus Univ. of Thrace
171	Masonry Compressive Strength Prediction using Artificial Neural Networks	Panagiotis Asteris , Ioannis Argyropoulos, Liborio Cavaleri, Hugo Rodrigues, Humberto Varum, Job Thomas, Paulo Lourenço ASPETE, Univ. of Palermo, Polytechnic Institute of Leiria, Univ. of Porto, Cochin Univ. India, Univ. of Minho
165	Prediction of Compressive Strength of Mortars using Artificial Neural Networks	Maria Apostolopoulou , Maria Douvika, Ioannis Kanellopoulos, Antonia Moropoulou, Panagiotis Asteris NTUA, ASPETE
173	Nominal Life of Interventions for Monuments and Historic Structures	Constantine Spyrakos . Charilaos Maniatakis NTUA
Session I.6 Cultural Heritage and Pilgrimage Tourism		
Id	Title	Authors
152	Restoration and Management of World Heritage Christian Cultural Sites: Problems of Religious Tourism – Challenges - Perspectives	Alkiviadis Prepis Democritus Univ. of Thrace
156	On the greatest challenge in the management of living religious heritage: linking the authenticity of heritage and the authenticity of tourist experiences to the authenticity of religious Tradition	Ioannis Poullos Hellenic Open Univ.
180	An integrated cross-cultural approach for the promotion of common religious heritage: Planning pilgrimage routes through the comparative study of medieval monasteries in Greece and Serbia	Eleni Oikonomopoulou , Ekaterini T. Delegou, Nenad Vesic, Antonia Moropoulou NTUA, Serbian Orthodox Church - ICOMOS PRERICO

12.10.18 | 17:30-19:15 Auditorium

Session I.7 Reuse, Circular Economy and Social Participation as a leverage for the Sustainable Preservation and Management of Historic Cities		
Id	Title	Authors
163	Towards a New Heritage Financing Tool for Sustainable Development	Bonnie Burnham President Emerita, WMF
68	Public built cultural heritage management: the public-private partnership (P3)	Cristina Boniotti Politecnico di Milano
43	The historic centres modern conservation principles and their application to Mediterranean historic centers	Despina Dimelli Tech. Univ. of Crete
168	Estimation of Recreation Value and Factors Affecting Visitors' Decision to Visit Cultural Heritage Sites in the Northeast of Jordan	Ismail Abuamoud , Amal Ibrahim Univ. of Jordan
29	Architectural culture protection of Northern Greece : Review of designation actions in Thessaloniki	Maria Margarita Vyzantiadou , Melissa Selevista Hellenic Ministry of Interior (region of Macedonia - Thrace)
34	Preservation of Architectural Heritage Civil Servants Joint Stock Fund Historical Buildings: the Deligiorgi Residence Case in Athens	Maria Margarita Vyzantiadou , Panagiotis Gkiokas Hellenic Ministry of Interior (region of Macedonia - Thrace), Hellenic Ministry of Labour and Social Security
170	A programme for sustainable preservation of the Medieval City of Rhodes in the Circular Economy based on the renovation and reuse of listed buildings	Antonia Moropoulou , Nikolaos Moropoulos, George Andriotakis, Dimitrios Giannakopoulos NTUA, Univ. of Minnesota

12.10.18 | 19:15-20:45 Auditorium

Panel discussion I.7 Reuse, Circular Economy and Social Participation as a leverage for the Sustainable Preservation and Management of Historic Cities	
Lee Minaidis , Secr. Gen.OWhC (Org. of World Heritage Cities) - Coordinator	
George Kremlis , E.C.-D.G. Environment, Responsible for the Circular Economy	
Bonnie Burnham , World Monument Fund (WMF), President Emeritus	
Prof. Michael Turner , Unesco Chair in Urban Design, Conservation Studies / Bezalel Academy of Arts and Design, Jerusalem	
Prof. Sophia Avgerinou-Kolonia , NTUA, ICOMOS CIVICH	
Eleni Maistrou , NTUA Prof Emeritus, Society for the Environmental and Cultural Heritage, (ELLET), Council of Architectural Heritage, President	
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Session II.4 Inception – Inclusive Cultural Heritage in Europe through 3D Semantic Modelling		
Id	Title	Authors
72	Advanced 3D survey and modelling for enhancement and conservation of Cultural Heritage: the INCEPTION project	Roberto di Giulio , Federica Maietti, Emmanuele Piaia <i>Univ. of Ferrara</i>
160	INCEPTION: web cutting-edge technologies meet cultural heritage	Ernesto Iadanza , Peter Bonsma, Iveta Bonsma, Anna Elisabetta Ziri, Federica Maietti, Marco Medici, Federico Ferrari, Pedro Martín Leronés <i>Univ. of Ferrara, Consorzio Futuro in Ricerca, Nemoris srl, RDF Ltd, Fundación CARTIF</i>
69	Cultural Heritage sites holistic documentation through Semantic Web technologies	Anna Elisabetta Ziri , Peter Bonsma, Ernesto Iadanza, Federica Maietti, Marco Medici, Federico Ferrari, Pedro Martín Leronés <i>Univ. of Ferrara, Consorzio Futuro in Ricerca, Nemoris srl, RDF Ltd, Fundación CARTIF</i>
59	In situ advanced diagnostics and inspection by non-destructive techniques and unmanned vehicles as input to numerical model and structural analysis- case study Technical museum Nikola Tesla in Zagreb	Vlatka Rajcic , Mislav Stepinac, Jure Barbalic <i>Univ. of Zagreb</i>
121	Current and potential applications of AR/VR technologies in Cultural Heritage. "INCEPTION Virtual Museum HAMH: A use case on BIM and AR/VR modelling for the Historical Archive Museum of Hydra, Greece"	Leonidas Somakos , Dimitrios Karadimas, Dimitrios Bakalbasis, Alexandros Prassas, George Karadimas, Konstantina Adamopoulou <i>VBC, Hydra Museum Historical Archives (IAMY)</i>
63	Process and Methodology towards INCEPTION HBIM Creation through Multi-sensor Documentation	Elisavet Tsilimantou , Ekaterini T. Delegou, Maria Teresa Ioannou, Ioannis Athineos Nikitakos, Charalabos Ioannidis, Antonia Moropoulou <i>NTUA</i>

12.10.18 | 16:00-17:30 Hall 1

Session II.5 Heritage at Risk		
Id	Title	Authors
166	The Hellenistic Heritage: chemical processes, devices and products from illustrated Greek Manuscripts - an Interdisciplinary Approach	Dimitrios Yfantis <i>NTUA</i>
5	Stakes and challenges for Underwater Cultural Heritage in the era of blue growth: the role of spatial planning	Marilena Papageorgiou <i>Univ. of Thessaly</i>
36	In depth diagnosis and investigation of salt damage on stone building elements of the Venetian coastal fortress of Rocca a Mare (Koules).	Ioannis Grammatikakis , Constantinos Demadis, Eirini Armakola <i>Univ. of Crete</i>
74	The effect of fire on building materials: the case-study of the Varnakova monastery cells in Central Greece	Ioanna Ntoutsis , Marina Thoma, Maria Apostolopoulou, Ekaterini T. Delegou, Christos Papatrechas, George Economou, Antonia Moropoulou <i>NTUA</i>
147	Preservation and restoration of films and paper documents after their exposure to extreme environmental conditions (Case study of the historical archive of the Communist Party of Greece)	Panagiotis Mavrantonis , Loukas Zoumpoulakis <i>NTUA</i>
40	Glittering on the wall: gildings on Greek post-Byzantine wall paintings	Georgios Mastrotheodoros , Dimitrios Anagnostopoulos, Konstantinos Beltsios, Eleni Filippaki <i>NCSR Demokritos, UOI</i>

Session II.6 Advanced and non Destructive Techniques for Diagnosis, Design and Monitoring		
Id	Title	Authors
21	Kinematic analysis of rock instability in the archaeological site of Delphi, using innovative techniques	Kyriaki Devlioti , Basile Christaras, Vasilios Marinos, Konstantinos Vouvalidis, Nikolaos Giannakopoulos <i>Aristotle Univ. of Thessaloniki</i>
22	Monitoring and mapping of deterioration products on cultural heritage monuments using imaging and laser spectroscopy	Kostas Hatzigiannakis , Kristallia Melessanaki, Aggelos Philippidis, Olga Kokkinaki, Eleni Kalokairinou, Panayiotis Siozos, Paraskevi Pouli, Elpida Politaki, Aggeliki Psaroudaki, Aristides Dokoumetzidis, Elissavet Katsaveli, Elissavet Kavoulaki, Vassiliki Sithiakaki <i>IESL-FORTH, Ephorate of Antiquities of Heraklion</i>
83	The role of dynamic tests in operational conditions to complement historic and architectural research for the structural assessment of ancient towers	Carmelo Gentile , Antonella Saisi <i>Politecnico di Milano</i>
155	Microtremor measurements: A proactive tool to support civil protection authorities in terms of historical and monumental structures - the database of Crete	Margarita Moisi , Filippos Vallianatos <i>Technological Educational Institute of Crete</i>
81	Radar interferometer application for remote deflection measurements of a slender masonry chimney	Georgios Livitsanos , Antonella Saisi, Dimitrios G. Aggelis, Carmelo Gentile <i>Vrije Univ. Brussel, Politecnico di Milano</i>
1	Hyperspectral and Multispectral Imaging Studies on Greek Monuments, Archaeological objects and Paintings on Different Substrates. Achievements and limitations	Athina Alexopoulou , Agathi Anthoula Kaminari, Anna Moutsatsou <i>University of West Attica, National Gallery - Alexandros Soutzos Museum</i>
11	Infrared hyperspectral spectroscopic mapping imaging from 800 to 5000 nm. A step forward in the field of infrared "imaging"	Stamatios Amanatiadis , Georgios Apostolidis, Georgios Karagiannis <i>Ormylia Foundation</i>
12	Fusion of the infrared imaging and the ultrasound techniques to enhance the sub-surface characterization	Stamatios Amanatiadis , Georgios Apostolidis, Georgios Karagiannis <i>Ormylia Foundation</i>
25	Non-destructive analysis of byzantine gold-leaf glass tesserae using Ion Beam analysis	Polytimi Loukopoulou , Antonia Moropoulou <i>Hellenic Ministry of Culture and Sports, NTUA</i>
2	Techniques for Recording the Healing Mechanism of Lime Mortars Through Conventional Ways and Ultrasound μ Tomography	Maria Stefanidou , Evaggelia Tsampali, Eirini-Chrysanthi Tsardaka, Georgios Karagiannis <i>Aristotle Univ. of Thessaloniki, Ormylia Foundation</i>
161	Moisture climate monitoring in confined spaces using percolation sensors	Helge Pfeiffer , Charlotte Van Steen, Els Verstrynghe, Martine Wevers <i>KU Leuven</i>



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Message of His Beatitude Archbishop Hieronymus II of Athens and All Greece

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

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 capabilities and know-how from the scientific fields of architecture, civil engineering, surveying engineering, materials science and engineering, information technology and archaeology, as well as heritage professionals and state holders in cultural heritage. The advanced digital documentation permits the data fusion of interdisciplinary innovative modelling, analytical and non-destructive techniques, supporting the emergence of a transdisciplinary field for multispectral sustainable preservation and management of cultural heritage. Within this field communication, social awareness and participation is enhanced.

To this end, new finding tools, schemes and mechanism are searched out on the basis of reuse of heritage assets to generate revenue for a sustainable preservation towards circular economy.

The project of the rehabilitation of Holy Sepulchre's Holy Aedicule as a pilot multispectral, multidimensional, novel approach through transdisciplinarity and cooperation in the protection of monuments motivated the organization of this Conference.



The proceedings of the TMM_CH conference will be published in Springer's communications in Computer and information Science – volume numbers CCIS 961 & CCIS 962 - and will be available online by the 15th of December 2018 for 4 weeks.

Selected papers will be published in scientific journals in the field of Cultural Heritage Preservation.

- Journal of Heritage (ISSN 2571-9408) – Special Issue "Sustainability Management and Preservation of Built and Archaeological Heritage"
- Journal of Construction and Building Materials (ISSN 0950-0618)
- European journal of Engineering Education (ISSN 1469-5898)
- An International journal of NDT & E (to be defined)

The venues of the conference are a kind offer



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