

IMEKO TC4 International Conference on Metrology for Archaeology and Cultural Heritage 2023

Rome, Italy
19 - 21 October 2023

Volume 1 of 2

ISBN: 978-1-7138-8834-5

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2023) by the International Measurement Confederation (IMEKO)
All rights reserved.

Printed with permission by Curran Associates, Inc. (2024)

For permission requests, please contact the International Measurement Confederation (IMEKO)
at the address below.

IMEKO Secretariat
Dalszinhaz utca 10, 1st floor, Office room No. 3
H-1061 Budapest (6th district)
Hungary

Phone/Fax: +36 1 353 1562

imeko@t-online.hu

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

VOLUME 1

ArcheoVerso: A Cultural Metaverse for Enhancement, Technologies, Communities, Services	1
<i>Saverio Giulio Malatesta, Laura Leopardi, Marco Raoul Marini, Paolo Rosati</i>	
Realverso Lucanum: A Metaverse for Innovative Didactic and Digital Tourism	6
<i>Diego Sinitò, Giulio Setzu, Alessandro Verderame, Antonio Ruoto, Vito Santarcangelo</i>	
XRM Imaging for Non-Destructive Age at Death Estimation of the Incinerated Teeth from the Motya Tophet.....	11
<i>Martina Trocchi, Luciano Fattore, Flavio Cognigni, Federico Cappella, Marco Rossi, Giorgio Manzi, Lorenzo Nigro</i>	
Perceiving Ancient Landscape in Digital Simulation. Preliminary Consideration on the Case of the Missing Auser River in Pisa (Tuscany, IT).....	17
<i>Alberto Caroti</i>	
Finite Element Analysis of Vittoriano Building Based on InSAR Data	22
<i>Hamed Dabiri, Jessica Clementi, Roberta Marini, Paolo Mazzanti, Gabriele Scarascia Mugnozza, Francesca Bozzano, Dan Bompa</i>	
Analytical Investigations on Polychrome Artworks from the Wooden Ceiling of ex-Ospedale San Matteo in Pavia.....	27
<i>Giacomo Fiocco, Francesca Volpi, Tommaso Rovetta, Chaehoon Lee, Michela Albano, Chiara Delledonne, Maduka L. Weththimuni, Mario Colella, Anna Letizia Magrassi Matricardi, Curzio Merlo, Marco Malagodi, Maurizio Licchelli</i>	
Raman and X-Ray Fluorescence Spectroscopy Analysis of Decorative Ceramic Tiles Manufactured by Niculoso Pisano from the Church of Flores De Ávila (Ávila, Spain).....	32
<i>Oscar Fadon, Violeta Hurtado-Garcia, Cristian Berga-Celma, Carlos Sanz-Velasco, Javier Pinto, Suset Barroso-Solares</i>	
Analysis of Roman Era Archaeological Finds from Museo Territoriale Del Lago Di Bolsena with Non-Destructive Investigation Techniques.....	37
<i>Valentina Alemanno, Pierfrancesco Atanasio, Giancarlo La Penna, Chiara Mancini, Flavio Cognigni, Serena Silvestri, Anacleto Proietti, Marco Rossi, Alessandro Ciccola, Alessandro Nucara, Barbara Barbaro, Paolo Binaco, Danilo Dini</i>	
Non-Invasive Diagnostic Techniques for Studying the Coronation of the Virgin Altarpiece by Michele Di Matteo.....	43
<i>Chiara Andrea Lombardi, Valeria Comite, Andrea Bergomi, Mattia Borelli, Gianluca Carabelli, Valentina Verzoni, Mario Colella, Paola Fermo</i>	
Inorganic, Organic and Biochemical Characterization of Wall Paintings from a Roman Domus	49
<i>Leila Birolo, Manuela Rossi, Miriam Alberico, Nunzia De Riso, Georgia Ntasi, Antonella Tomeo, Alessandro Vergara</i>	
Synchrotron X-Ray for Archaeometry: State-Of-The-Art and Future Perspectives	54
<i>Ilaria Carlomagno, Giuliana Aquilanti, Gangadhar Das</i>	

Geophysical Investigation at Villa Del Casale Piazza Armerina (EN)	58
<i>Isabella Baldini, Carla Sfameni, Lara De Giorgi, Ivan Ferrari, Francesco Giuri, Chiara Torre, Giovanni Leucci</i>	
Ground-Penetrating Radar Survey at the Basilica of Santa Caterina D'Alessandria (Galatina-Italy).....	63
<i>Giancarlo De Pascalis, Lara De Giorgi, Ivan Ferrari, Francesco Giuri, Dora Francesca Barbolla, Lucrezia Longhitano, Chiara Torre, Giovanni Leucci</i>	
Ground Penetrating Radar Investigation at Roman Villas of Sabina Tiberina: The Case of the Villas of Montebuono and Cottanello (Rieti, Italy)	68
<i>Daniela Tarallo, Michele Punzo, Vincenzo Di Fiore, Carla Sfameni, Francesca Colosi, Anna De Meo, Tommaso Leti Messina, Daniele Verrecchia</i>	
Multimodal 3D Digitization of the Megalithic Complex of Borg in-Nadur (Malta): An Archaeoastronomical Perspective.....	73
<i>Davide Tanasi, Katya Stroud, David Cardona, Dario Calderone, Paolo Trapani, Frederick Pirone</i>	
Multiple GPR Surveys in Urban Area. the Case of S. Giovanni in Laterano and S. Croce in Gerusalemme, as Part of ERC Rome Transformed Project	77
<i>Salvatore Piro, Daniela Zamuner, Daniele Verrecchia, Tommaso Leti Messina</i>	
Satellite Automatic Extraction and Characterization of Looting Features in the Peruvian Desert	82
<i>Alessia Brucato, Rosa Lasaponara, Nicola Masini</i>	
3D Virtual Restoration: From Photogrammetric and 3D Modeling Techniques to Integration with Scientific Documentation in a GIS Environment	87
<i>Luca Lucchetti</i>	
Dimensional Assessment in Bioarchaeology Applications: A Preliminary Study on Quality Controls in 3D Printing of Human Skulls	92
<i>Marta Cecchitelli, Giorgia Fiori, Gabriele Bocchetta, Federico Filippi, Fabio Leccese, Jan Galo, Salvatore Andrea Sciuto, Andrea Scorza</i>	
Dynamic 3D Model for Decoding Archaeological Complexity of Funerary Contexts.....	98
<i>Francesca Adesso, Emanuela Faresin, Giuseppe Salemi</i>	
HBIM for Restoration Project and Data Management of a Religious Complex.....	103
<i>Iliaria Trizio, Federica Miconi, Augusto Ciciotti, Francesca Savini</i>	
Extended BIM: A Proposed Workflow for the Integration of the HBIM and EM Approaches	109
<i>Ariane Galeano, Anna Sanseverino, Simone Berto, Emanuel Demetrescu, Marco Limongiello</i>	
Metaverse(s) and Cultural Heritage: Overview and Perspectives of the Italian Scenario	115
<i>Augusto Palombini</i>	
Analyzing an Ancient City: Non-Invasive Studies of Ostia Antica Archeological Park S Wall Paintings	120
<i>Eleonora Del Federico, Paolo Tomassini, Bernhard Blümich, Costanza Cucci, Marcello Picollo, Domenico Miriello, Giacomo Chiari, Hilary Becker, Jan Bader, Daniel Krueger, Jen Anders, Jurgen Frick, M. Ramsey, S.Wong, S. Burry, K. Fallon, M. Urbanek</i>	
Traces of Polychromies in Roman Sculpture: A Multi-Analytical Approach.....	126
<i>Sara Lenzi, Marta Novello, Monica Salvadori, Ivana Angelini, Alfonso Zoleo, Rita Deiana</i>	

An Improved Methodology for Extending the Applicability of Reflectance Transformation Imaging to Confined Sites	131
<i>Federico Di Iorio, Leila Es Sebar, Luca Lombardo, Amina Vietti, Sara Aicardi, Federica Pozzi, Sabrina Grassini</i>	
Change Detection Analysis of Cultural and Landscape Heritage Based on Multispectral and Hyperspectral Remote Sensing Data and Algorithm: The Case of Appia Antica Park	136
<i>Andrea Massi, Antonio Cosentino, Paolo Mazzanti, Michele Ortolani, Jessica Clementi</i>	
Limited Technology and Unlimited Results from National Museum of Ras Al Khaimah Collection and Its Sustainability for Future Generations Accessibility	142
<i>Nagmeldeen Hamza</i>	
FEM-Based Models of Real-Time Dynamic Structural Behavior in Archaeology and Monumental Heritage: The Case of Ancient Greek Colonnades	148
<i>Marco Casazza, Fabrizio Barone</i>	
Discrete Wavelet Transform to Reduce Surface Scattering in GPR Sections	154
<i>Dora Francesca Barbolla, Lara De Giorgi, Giovanni Leucci</i>	
Broadband Vibroacoustic Fingerprint of a Historic Building Chamber Concert Room in Napoli (Italy).....	160
<i>Fabrizio Barone, Marco Casazza</i>	
An Art-Historical and Scientific Investigation into Two Early Cinquecento Renaissance Polyptychs by Antonio De Saliba (1466/7 - C. 1535) on Sicily and Malta.....	166
<i>Andrea Luca Bartolo, Charlene Vella</i>	
An Innovative Heuristic Strategy for the Management of Buried Scenarios with Strong Discontinuities.....	171
<i>Raffaele Persico, Gianfranco Morelli, Giuseppe Esposito, Ilaria Catapano</i>	
From Space to Tree: Multisensor and Multiscale Remote Sensing Based Approach for Monitoring Monumental Trees. the Case of Archaeological Park of Colosseum in Rome. Preliminary Results	175
<i>Nicola Masini, Gabriella Strano, Costanza Fiorentino, Domenico Conte, Nicodemo Abate, Antonio Loperte, Antonio Minervino Amodio, Alfonsina Russo, Angelo Donvito, Rosa Lasaponara</i>	
High-Resolution Geophysical Investigation at Banditaccia Necropolis (Cerveteri) by Means GPR and Magnetic Surveys	180
<i>Michele Punzo, Daniela Tarallo, Vincenzo Di Fiore, Vincenzo Belevi, Carmelo Rizzo, Alberto Villari, Carla Sfameni, Marco Arizza</i>	
Characterization of Mortars from the Roman Cryptoporticus of Lisbon (Portugal).....	186
<i>Amira Souliman, Eva Leitão, Cristina Nozes, Patrícia Moita, Cristina Galacho</i>	
AI-Assisted Reconstruction of Archaeological Pottery from Digital 3D Mesh Models.....	190
<i>Eleonora Marconi, Antonio Budano, Giancarlo Della Ventura, Federico Fina, Alberto Botti, Sandro Tassa, Ottavia Palacino, Lorenzo Conte, Marianna Franco, Francesco Pacetti, Caterina Coletti, Armida Sodo, Luca Tortora</i>	
Comparison of Design Formulas for Torsion Based Catapults.....	195
<i>Kasper Mayntz Paasch, Alexander Petersen Paasch</i>	
Study of Wood Samples Positioning on Two Microwave Planar Coupled Ring Resonators for Water Content Measurements	201
<i>Livio D'Alvia, Ludovica Apa, Emanuele Rizzuto, Zaccaria Del Prete</i>	

Microwave Reflectometry System for Non-Invasive Wood Moisture Content Monitoring	207
<i>Andrea Cataldo, Antonio Masciullo, Emanuele Piuzei, Raissa Schiavoni</i>	
From Landscape to Excavation: Using New Smart Tools for Multiscale Archaeological Investigations.....	212
<i>Emanuele Brienza</i>	
System Design for Precision Weeding in Secondary Archaeological Sites	218
<i>Mariagrazia Leccisi, Giuseppe Schirripa Spagnolo, Fabio Leccese</i>	
A Study on Microclimatic Parameters and Conservation State: The Case of Wall Paints of the Archeological Site of Baia (Italy).....	224
<i>Paola Cennamo, Roberta Scielzo, Giorgio Trojsi, Elena Chianese</i>	
Protecting Archaeological Collection: The Importance of Microclimatic Monitoring and Diagnostic Investigations in the Preservation of the Sala Delle Madri.....	229
<i>Antonio Spagnuolo, Carmela Vetromile, Antonio Masiello, Maria Francesca Alberghina, Salvatore Schiavone, Noemi Mantile, Giovanni Solino, Carmine Lubritto</i>	
A Multidisciplinary Investigation of an Ancient Kiln Excavated at Costigliole Saluzzo: New Archaeometric and Archaeomagnetic Results	234
<i>Yuri Leite Santos, Evdokia Tema, Patrizia Davit, Diego Elia, Valeria Meirano, Fulvio Fantino, Monica Gulmini</i>	
Noravank Monastery in Armenia. Multidisciplinary Surveying.....	240
<i>Marco Carpiceci, Fabio Colonnese, Antonio Schiavo, Rachele Zanone</i>	
The X-Ray Irradiation as Disinfection Treatment: The State-Of-The-Art.....	246
<i>Cristina Cicero, Monia Vadrucci, Claudia Mazzuca, Leonardo Severini, Fulvio Mercuri, Ugo Zammit, Noemi Orazi</i>	
Wireless Sensing of Permittivity for Cultural Heritage Monitoring Using a Passive SRR	252
<i>Erika Pittella, Andrea Cataldo, Marta Cavagnaro, Livio D'Alvia, Francesco Fabbrocino, Emanuele Piuzei</i>	
Preliminary Multi-Spectral Imaging Investigation on Items from the Aga Khan III Necropolis, Aswan (Egypt).....	257
<i>Vittoria Guglielmi, Patrizia Piacentini, Chiara Andrea Lombardi, Valeria Comite, Andrea Bergomi, Mattia Borelli, Gianluca Carabelli, Alfonsina D'Amato, Paola Fermo, Alice Tomaino</i>	
Research Information System for Cultural Heritage Impact Assessment	262
<i>Nunzia Maria Mangialardi, Alessandra Pierucci</i>	
GPR and ERT Surveys in the Giardino dell'Annunziata in Cammarata (Sicily).....	268
<i>Raffaele Martorana, Patrizia Capizzi, Calogero Giambrone, Valeria Genco, Lisa Simonello</i>	
Preliminary Results Obtained by Multi-Spectral Imaging (MSI) on a Sheet with Dedication and Drawing by Giorgio De Chirico	272
<i>Paola Fermo, Paolo Baldacci, Davide Manzini, Valeria Comite, Chiara Andrea Lombardi, Andrea Bergomi, Mattia Borelli, Vittoria Guglielmi</i>	
Integrated Survey Techniques for Historical Architectures: First Results for Santa Maria Della Croce in Casaranello, South of Italy	277
<i>Laura Fabbiano, Alessandro De Marco, Manuela Incerti, Anna Castellano, Gaetano Vacca, Rosario Morello</i>	

A Technique to Support the Restoration Activities of Archaeological Discoveries	282
<i>Rosario Morello, Claudio De Capua, Andrea Maria Gennaro, Laura Fabbiano</i>	
Electromagnetic Survey to Detect a Section of the Messapian City Walls in Ugento (Lecce)	288
<i>Dora Francesca Barbolla, Lara De Giorgi, Ivan Ferrari, Francesco Giuri, Iliaria Miccoli, Giuseppe Scardozi, Chiara Torre, Giovanni Leucci</i>	
A New Matrix for the Architectural Stratigraphic Diagram	293
<i>Roberto Villalobos</i>	
Significant Data and Information in Complex Analysis of the Architectural Heritage, the Republican Museum of Itu, Brazil	299
<i>Maisa Almeida, Marcela Sousa, Gustavo Vanini</i>	
Geophysical Investigation at the Cathedral of Nardò (Lecce, Italy).....	305
<i>Lara De Giorgi, Ivan Ferrari, Francesco Giuri, Chiara Torre, Dora Francesca Barbolla, Giovanni Leucci</i>	
The Study of Limes Arabicus Using Aerial and Satellite Remote Sensing Documentation. the Case of Umm ar-Rasas (Amman, Jordan).....	310
<i>Francesca Di Palma, Roberto Gabrielli, Iliaria Miccoli, Giuseppe Scardozi</i>	
Multitemporal Analysis of Remote Sensing Data for the Study of the Ancient City of Venusia (Venosa, Basilicata)	314
<i>Iliaria Miccoli, Immacolata Ditaranto, Pasquale Merola, Giuseppe Scardozi</i>	
Integrated Use of Aerial and Ground-Based Close-Range Remote Sensing Techniques to Support Preventive Archaeology: The Case Study of Ascoli Satriano (FG).....	319
<i>Nicodemo Abate, Italo Maria Muntoni, Maria Sileo, Luigi Capozzoli, Gregory de Martino, Rosa Lasaponara, Nicola Masini</i>	
High Resolution GPR Survey to Investigate the Urban Centres: The Case of XX Settembre Square of Fano (Fano, Italy).....	324
<i>Salvatore Piro, Laura Cerri, Oscar Mei, Maria Raffaella Ciuccarelli</i>	
Geophysical Investigation at the Archaeological Site of Venosa (PZ)	329
<i>Ivan Ferrari, Francesco Giuri, Maurizio Lazzari, Lara De Giorgi, Giovanni Leucci</i>	
Scientific Examination for the Investigation of the Painting Technique of Contemporary Mural Paintings: The Angry Christ by Alfonso Ossorio in Victorias, Negros Occidental, Philippines.....	333
<i>Jem Erika Nique, Emilio Catelli, Zohreh Chahardoli, Rocco Mazzeo</i>	
ERT and Magnetic Surveying: The Case Study of Khayrabadtepa Sattelment (Southern Uzbekistan)	339
<i>Azamat Zakirov, Ilyas Yanbukhtin, Timur Mamarozikov, Ilkhom Alimukhamedov, Farangiz Omonova, Ulugbek Musae, Otabek Aripjanov</i>	
From Excavation to Digital Use, Reconstructing and Returning the Past to Small Communities: The Case of the Medieval Fortress of Cervara Di Roma.....	344
<i>Giulia Chellini, Saverio Giulio Malatesta, Mariflora Caruso, Paola La Torre, Paolo Rosati, Roberta Manzollino</i>	
From TLS Data into H-FEM Model Based on the Quad-Mesh: The Case Study of Romanian Church	350
<i>Vincenzo Saverio Alfio, Domenica Costantino, Sorin Herban, Massimiliano Pepe, Alfredo Restuccia Garofalo</i>	

Archaeological Prospection Methodology at Teotihuacan (Mexico): Study of a Neighbourhood in the Centre of the City	355
<i>Alessandra Pecci, Luis Barba, Agustin Ortiz Butron, Jorge Blancas, Itzayana Bernal, Natalia Moragas</i>	
Bioclimatic Study of Feng Shui Principles in the Ancient Chinese Village of Chuandixia.....	360
<i>Filippo Calcerano, Letizia Martinelli, Elena Verticchio, Luciano Cessari, Elena Gigliarelli</i>	
Archaeological Data and Reliability Criteria. a GIS Measurement Proposal for the Study of the Mignone Valley	365
<i>Federica Vacatello</i>	
Digital Approaches to Ancient Metrology: New Insights into Methods and Tools for Measuring and Designing Marble in Late Antiquity	369
<i>Giulia Marsili, Claudia Lamanna</i>	
Design Analysis: Research Experiences from Alexandrian Manuals to Imperial Architecture	375
<i>Silvia Bertacchi, Francisco Juan-Vidal, Filippo Fantini</i>	
MirrorLAB: Narrative Patterns Between Collections of Antiquities and Urban Landscapes.....	381
<i>Lorenzo Fei, Francesco Freddolini, Federica Grigoletto, Vincenzo Maria Lacolla, Laura Leopardi, Saverio Giulio Malatesta, Leonora Marzullo, Maria Onori, Giorgio Ortolani, Antonio Pugliano, Paolo Rosati</i>	
The Application of Reflectance Transformation Imaging (RTI) and Multispectral Analysis on Ancient Egyptian Coffin-Lids at the Israel Museum, Jerusalem: A New Analytic Approach to Workshop Identification	386
<i>Daniela Galazzo, Shirly Ben Dor, Assaf Yasur-Landau</i>	
Active Infrared Thermography for the Analysis of Ancient Books	391
<i>Giovanni Caruso, Noemi Orazi, Stefano Paoloni, Ugo Zammit, Fulvio Mercuri</i>	
Optical NDT Supporting the Restoration of a Marble Sculpture on the Facade of the Gesù Nuovo Church in Naples	396
<i>Massimo Rippa, Vito Pagliarulo, Chiara Saltarelli, Maria Rosaria Vigorito, Gianluca Coda, Pasquale Mormile, Andrea Carpentieri, Melania Paturzo</i>	
Development of a Quantitative Multimodal Imaging Technique for In-Situ Study of Iron Archaeological Artefacts	401
<i>Elodie Granget, Ocon Reginald Cocen, Mahdieh Shakoorioskooie, Zhan Qianru, Marian Nida Lumongsod-Thompson, Anders Kaestner, David Mannes, Laura Brambilla</i>	
Gellan Gum Hydrogels as Such and Ionic-Liquid Doped as Modulable Micro-Invasive Tools for Cultural Heritage Studies	407
<i>Rocco Cancelliere, Leonardo Severini, Eleonora Kratter Thaler, Claudia Mazzuca, Vittoria Guglielmi, Patrizia Mussini, Laura Micheli</i>	
Thermal Texturing for Ancient Codices 4D Exploration.....	412
<i>Noemi Orazi, Eva Pietroni, Fulvio Mercuri, Daniele Ferdani, Enzo D'Annibale, Giovanni Caruso, Diego Ronchi, Stefano Paoloni, Ugo Zammit</i>	
Absolute Dating of Three Ancient Kilns Excavated at Canosa Di Puglia Through Archaeomagnetism.....	417
<i>Evdokia Tema, Italo Maria Muntoni</i>	

3D Metric Survey of the Mezzagnone Arab Bath. from Point Clouds to 2D Drawings and Parametric Model	422
<i>Alessandro Spadaro, Filiberto Chiabrando, Lorenzo Teppati Losé</i>	
Comparison of Two Technologies in 3D Surveying of Real Estate Assets and Cultural Heritage	428
<i>Giulia Fiorini, Maria Alessandra Tini, Francesco Montelli, Gabriele Bitelli</i>	
War-Scapes Testimonial Gradient: A Multi-Criteria Approach as a Proactive Tool for Choosing Future Practices of Enhancement	434
<i>Joel Aldrighettoni, Barbara Marana, Maria Grazia D'Urso</i>	
Unveiling the Hidden Past: Exploring the Historical Evolution of Borbona (Rieti, Italy) Through Archaeological Surveys and Geophysical Prospections	440
<i>Cecilia Giorgi, Marilena Cozzolino, Vincenzo Gentile, Paolo Mauriello</i>	
Recycled Bacterial Nanocellulose Membranes as Novel Green Gels for the Cleaning of Cultural Heritage Surfaces	445
<i>Erica Sonaglia, Maria Paola Bracciale, Maria Laura Santarelli</i>	
Cellulose Ethers and Nanoconsolidants: Preliminary Observations on the Suitability of the Use of Cellulose Derivatives in the Synthesis of Nanolime Particles	450
<i>Penka Girginova, Cristina Galacho</i>	
Electrochemistry and Vibrational Spectroscopy in Investigation of Protective Coatings for Bronze Artworks	455
<i>Angelja Kjara Surca, Mohor Mihelčič</i>	
Analysis of Materials of Wax Christ-Children from the Monastery of Santa Rosa in Viterbo	461
<i>Arianna Ceci, Luca Lanteri, Claudia Pelosi, Paola Pogliani, Sabrina Sottile</i>	
Novel, Effective and Safe Coatings for the Protection of Copper-Based Artefacts	467
<i>Francesca Boccaccini, Aurelio Barbetta, Elena Messina, Marianna Pascucci, Cristina Riccucci, Gabriella Di Carlo</i>	
Synthesis of Titania Nanoparticles in W/O Microemulsion: Moving the Production Toward a Green Approach	472
<i>Eleonora Marconi, Luca Tortora</i>	
Monoazo and Isoindoline Yellow Reactivity in Presence of Pb, Ti, Zn-Based White Substrates	478
<i>Agnese De Carlo, Valerio Graziani, Paolo Branchini, Luca Tortora</i>	
Handheld Laser-Induced Breakdown Spectroscopy, Portable Energy Dispersive X-Ray Fluorescence Spectroscopy and Graph Clustering Applied to the Identification and Inner Stratigraphy of Archaeological Metallic Artifacts	484
<i>Giorgio Saverio Senesi, Sara Mattiello, Vincenzo Palleschi, Bruno Cocciaro, Girolamo Fiorentino, Olga De Pascale</i>	
Digitalization of Bernini's Drawing Tondo Depicting St. Joseph with the Baby Jesus. Increasing Knowledge and Monitoring Surface Cracks	489
<i>Beatrice Calosso, Marialuisa Mongelli, Sara Pettisano, Samuele Pierattini</i>	
In Situ Characterization of Prehistoric Rock Paintings: The Côa Valley (Portugal)	495
<i>Jose Santiago Pozo Antonio, Teresa Rivas, Pablo Barreiro, Vera Caetano, Fernando Carrera, Lara Bacelar Alves</i>	

Preventive Conservation Plan for a Group of Bronze Sculptures from the Gori Art Collection	501
<i>Sara Croci, Leila Es Sebar, Caterina Gori, Leonardo Iannucci, Emma Angelini, Sabrina Grassini</i>	
Processing of Shaking Table Test Data of a Historic Masonry Structure by Graph-Based Methods	507
<i>Vincenzo Fioriti, Antonino Cataldo, Alessandro Colucci, Chiara Ormando, Fernando Saitta, Domenico Palumbo, Ivan Roselli</i>	
Phyigital Sculptures for Archaeological Dissemination: The Head of Sant'Elena	513
<i>Michele Russo, Luca James Senatore, Raffaella Giuliani, Rocco Bochicchio</i>	
Multi-Technique Approach to Unveil the Composition, Fabrication, and Potential Provenance of a Unique pre-Roman Glass Collection (IV-I BC).....	519
<i>Suset Barroso-Solares, Estefania Estalayo, Elvira Rodriguez-Gutierrez, Violeta Hurtado-Garcia, Ricardo Vicente-Rojas, Oscar Fadon, Julene Aramendia, Jose Carlos Coria-Noguera, Quentin Lemasson, Claire Pacheco, Angel Carmelo Prieto, Carlos Sanz-Minguez, Juan Manuel Madariaga, Javier Pinto</i>	
The Ancient Stone Ship. Integrated Investigations on the Original Morphology of the Tiber Island, Between Legend and Material Consistency	525
<i>Emanuela Chiavoni, Francesca Porfiri, Gaia Lisa Tacchi</i>	
Survey and Analysis of the Fossanova Abbey	530
<i>Roberto Barni, Carlo Inglese</i>	
Integrated Survey for the Modeling of Complex environments.La Grotta Di San Michele Arcangelo a Olevano Sul Tusciano,Salerno	536
<i>Lorena Centarti, Carla Ferreyra, Caterina Gabriella Guida, Marco Limongiello, Barbara Messina</i>	
Characterization of Roman Amphora Sherds Using Terahertz Time-Of-Flight Tomography	542
<i>Min Zhai, Alexandre Locquet, Cesar Carreras Monfort, D. S. Citrin, Haolian Shi</i>	
Terahertz Imaging Super-Resolution for Documental Heritage	547
<i>Danae Antunez Vazquez, Laura Pillozzi, Eugenio Del Re, Claudio Conti, Silvia Sotgiu, Federica Delia, Mauro Missori</i>	
VOLUME 2	
Investigation of Natural and Synthetic Pigments: Terahertz Continuous-Waves Spectroscopy (THz-CW) as a Reliable High-Resolution Approach Applied to the Cultural Heritage Field.....	551
<i>Candida Moffa, Fernando Jr. Piamonte Magboo, Alessandro Curcio, Luigi Palumbo, Anna Candida Felici, Massimo Petrarca</i>	
Terahertz Identification of Characters Written in Iron-Gall Ink on Stacked Paper.....	556
<i>Haolian Shi, Leor Jacobi, Alexandre Locquet, David Citrin</i>	
A THz Scanner to Detect Moisture on Wood Samples	562
<i>Manuel Greco, Fabio Leccese, Emilio Giovenale, Luca Senni, Andrea Taschin, Andrea Doria</i>	
IAEA Fosters the Development and Applications of Accelerator-Based Analytical Techniques for Heritage Science.....	568
<i>Lena Bassel, Alessandro Migliori, Roman Padilla Alvarez, Aliz Simon</i>	
Morphological Analysis of the Kheireddine Palace Converted into the Museum of Tunis City	573
<i>Rym Bouhamed</i>	

The Role of Photogrammetry in the Conservation Management of Al Mahatta Museum, Sharjah, UAE.....	579
<i>Ahmad Badr Aldin Fattal, Rami Al-Ruzouq, Eslam Nofal</i>	
Long-Lasting Methods to Prevent Biodeterioration of Stone Monuments: New Silica Nanosystem Coupled to Natural Biocide	585
<i>Flavia Bartoli, Zohreh Hosseini, Alma Kumbaric, Giulia Caneva</i>	
Microwave Transducers for Moisture Content Characterization of Cultural Heritage Materials	590
<i>Giovanni Gugliandolo, Alessio Altadonna, Adriana Arena, Marina Arena, Luigi Calabrese, Giuseppe Campobello, Giovanni Crupi, Daniela Iannazzo, Francesca Passalacqua, Fabio Todesco, Maria Gabriella Xibilia, Nicola Donato</i>	
Monitoring of Protective Products on Peperino Stone Using Portable Devices	595
<i>Giuseppe Capobianco, Claudia Pelosi, Luca Lanteri, Giuseppe Bonifazi, Oriana Trotta, Silvia Serranti</i>	
The Use of Micaceous Pigments for the Chromatic Reintegration of the Gilded Stuccoes in the Lante Della Rovere Chapel of Palazzo Orsini at Bomarzo.....	601
<i>Elena Testa, Luca Lanteri, Giuseppe Capobianco, Giuseppe Bonifazi, Silvia Serranti, Francesca Montozzi, Paola Pogliani, Claudia Pelosi</i>	
Nano-Hydroxyapatite for the Conservation of Serena Stone	607
<i>Maduka Lankani Weththimuni, Giacomo Fiocco, Francesca Volpi, Marco Malagodi, Maurizio Licchelli</i>	
Unveiling Hidden Insights of Ancient Roman Wall Paintings in Cremona: In-Depth Knowledge Beyond the Surface with Spectroscopic Analysis.....	612
<i>Francesca Volpi, Michela Albano, Giacomo Fiocco, Maduka Weththimuni, Marco Malagodi, Chiara Delledonne, Chaehoon Lee</i>	
The Roman Mosaic in the Nymphaeum of Villa Giulia in Rome. Characterization of the Deteriogen Agents and Preliminary Experimentation of Eco-Sustainable Products.....	617
<i>Miriam Lamonaca</i>	
Indoor Climate Characterisation of the Quarantine Room of NTNU University Library	623
<i>Giulia Boccacci, Francesca Frasca, Chiara Bertolin, Claudio Chimenti, Erlend Lund, Tonje Dahlin Sæter, Anna Maria Siani</i>	
Environmental Tendency from the Retrofit to Current Time: A Case Study in Rome, Italy	629
<i>Beatrice Bartolucci, Francesca Frasca, Chiara Bertolin, Gabriele Favero, Anna Maria Siani</i>	
Cluster Analysis to Identify Microclimate Patterns in a Multi-Room Film Archive	635
<i>Lisa Vergelli, Francesca Frasca, Chiara Bertolin, Gabriele Favero, Anna Maria Siani</i>	
The Diagnostic Study of the Plaster Casts of the Trajan's Column in the Museum of Roman Civilisation (Rome)	640
<i>Federica Bubola, Chiara Coletti, Eleonora Balliana, Claudia Cecamore, Claudio Parisi Presicce, Claudio Mazzoli</i>	
Documentation and Evaluation of Virtual Reconstructions.....	645
<i>Marc Grellert, Markus Wacker, Jonas Bruschke, Wolfgang Stille, Daniel Beck</i>	
Reconstruction Beyond Representation in Notre-Dame De Paris	651
<i>Anaïs Guillem, Antoine Gros, Abergel Violette, Livio De Luca</i>	

Virtual Reconstruction as a Scientific Inquiry Tool: The Late Antique Wall of Aquileia (M2) Using the Extended Matrix	657
<i>Nicola Delbarba</i>	
A New Section of the Extended Matrix Methodology: Transformation Stratigraphic Unit (TSU)	663
<i>Eleonora Scopinaro, Simone Berto, Emanuel Demetrescu</i>	
A Landscape Matrix: The EM Tool and the Via Appia.....	669
<i>Matteo Lombardi</i>	
Building and Reconstructing Contexts. Interdisciplinary Approach to the Enhancement of Phoenician-Punic Archaeological Elements Exhibited in the Museum of Cádiz (SW, Spain)	674
<i>Pablo Sicre-González, Ana María Niveau-de-Villedary Y Mariñas, Juan Ignacio Vallejo Sánchez, María Auxiliadora Llamas Márquez</i>	
The Virtual Recreation of Mani's Auto De Fe (1562): Methodology and Approach to an Historical Event.....	680
<i>Antonio Rodríguez Alcalá, John F. Chuchiak IV, Zoraida Raimúndez Ares, Maria Felicia Rega, Luis Díaz de León, Hans B. Erikson</i>	
When a Painting is a History on the Rock. a Methodological Approach to Rock Art Studies Through the Case of El Alto-Ancasti's Mountain.....	686
<i>Lucas Ignacio Gheco</i>	
An Innovative Neutron Spectroscopic Imaging Technique: Mapping the Elements Distribution Inside the Bulk of Archaeological Artefacts	691
<i>Giulia Marcucci, Antonella Scherillo, Maria Pia Riccardi, Costanza Cucini, Marco Tizzoni, Daniela Di Martino</i>	
Quantitative Criteria to Configure and Characterise Portable X-Ray Fluorescence Spectrometers	696
<i>Eleni Konstantakopoulou, Annalaura Casanova Municchia, Roberto Ferretti, Simone Porcinai, Marco Ferretti</i>	
Proteomics and Spectroscopic Analyses for the Molecular Characterization of Collagen-Based Animal Glues.....	701
<i>Georgia Ntasi, Brunella Cipolletta, Carmen Aprea, Laura Dello Ioio, Celia Duce, Emanuele Crisci, Emilia Bramanti, Alessandro Vergara, Ilaria Bonaduce, Leila Birolo</i>	
A Pre-Restoration Minero-Petrographic, Chemical and Microbiological Analysis of the Sculpture Real Infante Carlo Tito Di Borbone	706
<i>Piergiulio Cappelletti, Francesco Izzo, Concetta Rispoli, Antonino Pollio, Antonino De Natale, Mariagioia Petrarretti, Andrea Carpentieri, Leila Birolo, Giarita Ferraro, Anna Manzone, Alessandro Vergara, Chiara Melchiorre</i>	
Wine Production and Consumption in Context: Organic Residue Analysis in the So-Called Thermopolium V 4, 6-8 at Pompeii	711
<i>Alessandra Pecci, Simona Mileto, Silvia Ritondale, Valeria Amoretti, Luana Toniolo, Daniela Cottica</i>	
The Challenge of Extracting Proteins from Potteries	717
<i>Brunella Cipolletta, Myriam Fiore, Georgia Ntasi, Massimo Botto, Leila Birolo, Livia Tirabassi</i>	
Interpreting Soils. Archaeology and Chemical Analysis: Orgères Site (La Thuile, AO - Italy)	722
<i>Chiara Maria Lebole, Giorgio Di Gangi, Gabriele Sartorio, Marco Ginepro, Giulia Costamagna</i>	

Archaeometric Investigations on Ancient Funerary Stone Elements from the National Archaeological Museum of Adria (Rovigo, Italy)	728
<i>Simone Dilaria, Luigi Germinario, Chiara Giroto, Claudio Mazzoli, Caterina Previato, Giovanna Falezza, Alberta Facchi, Jacopo Bonetto</i>	
Study and Restoration of the Sacra Conversazione by Lorenzo Berrettini and Experimental Tests to Evaluate the Application of Diammonium Phosphate as Consolidant for the Wall Painting	734
<i>Antonio Paucecch, Luca Lanteri, Francesca Montozzi, Paola Pogliani, Claudia Pelosi</i>	
From the Context Knowledge to Assessment of the Architectural Heritage Decay: The Case of Santa Maria Di Vezzolano Rectory (AT)	740
<i>Francesca Alberghina, Valentina Barberis, Patrizia Capizzi, Giulia Comello, Giuseppe Milazzo, Luciana Randazzo, Salvatore Schiavone</i>	
Surface and Stratigraphic Analysis of Black Crusts Using Laser Induced Breakdown Spectroscopy	745
<i>Andrea Bergomi, Valeria Comite, Cristina Della Pina, Paula Maria Carmona Quiroga, Laura Maestro-Guijarro, Mohamed Oujja, Ana Crespo Ibanez, Chiara Andrea Lombardi, Mattia Borelli, Marta Castillejo, Paola Fermo</i>	
Promising Surface-Active Ionic Liquid Coatings for Underwater Cultural Heritage Conservation	750
<i>Marika Luci, Filomena De Leo, Clara Urzi, Christian Galasso, Nadia Ruocco, Donatella De Pascale, Sandra Lo Schiavo, Michela Ricca, Silvestro Antonio Ruffolo, Mauro Francesco La Russa</i>	
Decay Assessment Approach of Building Stones from Cultural Heritage in Freshwater Reservoirs	755
<i>Ada Saez, Natalia Perez-Ema, Monica Alvarez de Buergo</i>	
Preliminary Assessment of Wave Energy Hazards in a Shallow Underwater Water Cultural Heritage Site.....	761
<i>George Alexandrakis, Stelios Petrakis, Nikolaos Kampanis</i>	
Cultural Heritage Safeguard Through Multi-Parameter Air Quality Monitoring	766
<i>Mattia Borelli, Andrea Bergomi, Valeria Comite, Vittoria Guglielmi, Chiara Andrea Lombardi, Maria Grazia Perrone, Paola Fermo</i>	
Air Quality Assessment in Cultural Heritage: The Case Study of the Amalfi Cathedral (Amalfi, Salerno, Italy).....	771
<i>Daniele Sofia, Maria Ricciardi, Oriana Motta, Antonio Proto</i>	
Protecting Art and People: Environmental Monitoring of Beata Vergine Dei Miracoli Sanctuary for Health and Heritage Conservation.....	777
<i>Antonio Spagnuolo, Andrea Bergomi, Carmela Vetromile, Antonio Masiello, Noemi Mantile, Mattia Borelli, Chiara Andrea Lombardi, Valeria Comite, Paola Fermo, Carmine Lubritto</i>	
Preventive Conservation of the Pictorial Evidence in the Church of Sotterra (Paola, Italy): A Microclimatic Investigation in a Hypogeum Environment	782
<i>Maria Antonietta Zicarelli, Michela Ricca, Silvestro Antonio Ruffolo, Raffaella Greca, Mauro Francesco La Russa</i>	
A Metrological Approach to the Study of Ancient Architecture. the Cases of the Grotta dell'Arsenale and the Villas of Gradola and Damecuta in Capri	788
<i>Cecilia Giorgi, Giovanni Caratelli</i>	
Investigation on a Prototype Integrated System for Strengthening and Monitoring Architectural Heritage	794
<i>Stefano De Santis, Giovanni Moretti, Michele Arturo Caponero, Sara Fares, Cristina Mazzotta, Diego Dell'Erba</i>	

The Dynamic Collections Project: Providing Structured Online Access to Digital Replicas	800
<i>Asa Berggren, Marco Callieri, Nicolò Dell'Unto, Paola Derudas, Domenica Dininno, Fredrik Ekengren, Giuseppe Naponiello</i>	
The Survey of the Precious One of Constance. Tools and Techniques for Three-Dimensional Restitution of Complex Surfaces at Sub-Millimetre Resolution	805
<i>Francesco Di Paola, Sara Morena, Sara Antinozzi, Giulio Raimondi</i>	
Ponte San Lorenzo, a Case Study for the Comparison of Image-Based Survey Tools. NeRF as an Alternative to Photogrammetry	812
<i>Maurizio Perticarini, Andrea Giordano</i>	
A Deep Learning Experiment for Semantic Segmentation of Overlapping Characters in Palimpsests	817
<i>Michela Perino, Michele Ginolfi, Anna Candida Felici, Michela Rosellini</i>	
Revealing and Unveiling the Polychromy of the Camponeschi Monument in L'Aquila.....	822
<i>Elena De Panfilis</i>	
A Natural Resins Reference Collection to Identify Organic Compounds in Archaeological Samples	828
<i>Marc Valls Mompo, Gianni Gallelo, Irene Sáez Giménez, Agustín Pastor Garcia, María Oreto Garcia Puchol</i>	
Alpine Archaeology and Everyday Life at High Altitudes: From the Excavation to the Laboratory (Orgères-La Thuile, AO, Italy)	833
<i>Giorgio Di Gangi, Chiara Maria Lebole, Sergio Enrico Favero Longo, Laura Guglielmono, Gabriele Sartorio, Samuele Voyron</i>	
Scribes and Writing Practices in Egypt's Ala Veterana Gallica: A Preliminary Study of Inks from a Military Roll.....	838
<i>Olivier Bonnerot, Leah Mascia</i>	
Leafing Through Time: Ink Analysis of the Longest Qur'ān on Papyrus.....	844
<i>Sowmeya Sathiyamani, Mathieu Tillier, Naim Vanthieghem, Claudia Colini</i>	
XRF Investigation of the Monument to the Fallen of the Great War by Francesco Jerace in San Ferdinando (Reggio Calabria, Italy).....	849
<i>Francesco Caridi, Simona Mancini, Giuseppe Paladini, Pasquale Faenza, Vincenza Crupi, Valentina Venuti, Domenico Majolino</i>	
X-Ray Fluorescence Analysis of Bronze Sculptures by Giuseppe Renda	854
<i>Francesco Caridi, Giuseppe Paladini, Pasquale Faenza, Vincenza Crupi, Domenico Majolino, Valentina Venuti</i>	
Assessment of the Natural Radioactivity Content in Typical Building Materials Employed in the Italian Cultural Heritage	859
<i>Serpil Akozcan, Simona Mancini, Natasa Todorovic, Selin Ozden, Michele Guida</i>	
Monitoring of Indoor Radon in Historical Heritage Buildings by Means of Passive and Active Methods. a Case Study.	864
<i>Simona Mancini, Natasa Todorovic, Serpil Akozcan, Domenico Guida, Albina Cuomo, Michele Guida</i>	
Radioactivity Content in Construction Materials of Assets of Particular Historical-Artistic Interest	869
<i>Francesco Caridi, Giuseppe Paladini, Santina Marguccio, Maurizio D'Agostino, Alberto Belvedere, Vincenza Crupi, Domenico Majolino, Valentina Venuti</i>	

Thermoluminescence Dating of Historical Buildings as a Tool for Assessing Natural Radioactivity Risk.....	874
<i>Rosaria Galvagno, Alessia D'Anna, Anna Maria Gueli, Giuseppe Politi, Giuseppe Stella</i>	
Geophysical and Geoarchaeological Investigations in the Submerged Archaeological Park of Baia (south Italy)	880
<i>Crescenzo Violante, Enrico Gallochio, Fabio Pagano, Nikos Papadopoulos</i>	
IblueCulture - An Innovative Underwater Cultural Heritage Real-Time Streaming System in a Virtual Reality Environment.....	885
<i>Apostolos Vlachos, Stelios Krinidis, Kimon Papadimitriou, Aggelos Manglis, Anastasia Fourkiotou, Dimitrios Tzovaras</i>	
Marine Remote Sensing and Photogrammetric Survey of an UCH Site: A Cluster of Cannons in the SW Gulf of Patras, Greece	891
<i>Alexandros Labrianidis, Elias Fakiris, Georgiou Nikos, Dimitris Christodoulou, Xenophon Dimas, Maria Geraga, Nikos Mavrommatis, George Papatheodorou</i>	
A Low Cost Unmanned Surface Vehicle for Mapping Shallow-Water UCH Sites: Ancient and Historical Shipwrecks in Methoni Bay, Greece.....	896
<i>Vasileios Giannakopoulos, George Papatheodorou, Dimitris Christodoulou, Elias Fakiris, Maria Geraga, Panagiotis Gkionis, Nikos Mavrommatis, Thomas Levy</i>	
Coastal and Shallow Marine Geophysical Investigations in the Roman Site of Baia in Naples, Italy	901
<i>Nikos Papadopoulos, Crescenzo Violante, Dimitrios Oikonomou, George Kritikakis</i>	
Archaeological Predictive Modelling in Underwater Contexts. Utility and Challenges	906
<i>Manuela Ritondale</i>	
Combining Acoustic and Optical Cameras Onboard an ROV as a Detection and Expertise Tool for Underwater Preventive Archaeology: A Case Study off Marseilles (France).....	911
<i>Souen Fontaine, Alex Sabastia, Jérôme Sialelli, Denis Dégez, Alexis Rochat, Marine Sadania</i>	
Garden Heritage and Tourism: Present and Future of Madeira Island as a Garden Destination.....	916
<i>Susana Silva, Paulo Carvalho</i>	
Preserving and Valuing Historic Gardens: An Analysis of Projects Under the Portugal 2020 Investment Framework (2014-2020)	922
<i>Susana Silva, Paulo Carvalho</i>	
Identification of Plant Elements Represented in the Suburban Villa Della Piscina Di Centocelle (Rome, Italy) as a Source of Reconstruction of the Ancient Gardens	928
<i>Alma Kumbaric, Flavia Bartoli, Zohreh Hosseini, Giulia Caneva</i>	
The Fathers' Cell Gardens of the Charterhouse of Calci-Pisa in Tuscany (Central Italy): Pollen and Multidisciplinary Reconstruction	934
<i>Eleonora Clò, Gabriele Gattiglia, Eleonora Rattighieri, Francesca Anichini, Antonio Campus, Marta Rossi, Mauro Buonincontri, Anna Maria Mercuri</i>	
Acoustic Characteristics and Defects of Adhesion of Ancient Construction Materials Using the PICUS System.....	939
<i>Francesca Mariani, Giosuè Caliano, Stefano De Angeli, Paola Pogliani</i>	
The Via Severiana and Its Representation in the Tabula Peutingeriana.....	944
<i>Enrico Petritoli, Fabio Leccese</i>	

First Results of Plant Processing on Ground Stone Tools: Phytolith Evidence and GC-MS from Archaic Messapian Settlements - San Vito Dei Normanni and Cavallino (Puglia, Italy).....	949
<i>Gaia Sabetta, Grazia Semeraro, Florinda Notarstefano, Marta Portillo</i>	
Isotopic Analysis of Black Crust Samples from the Monza Cathedral (Italy): A Preliminary Study	954
<i>Maria Ricciardi, Valeria Comite, Andrea Bergomi, Chiara Andrea Lombardi, Paola Fermo, Antonio Faggiano, Antonino Fiorentino, Concetta Pironti, Luana Bontempo, Federica Camin, Oriana Motta, Antonio Proto</i>	
Diagnostic Study and Efficiency Evaluation of Treatments Against Rising Damp and Salts Crystallization in Ornamental Stones: The Case of the Green Stone Sacristy Washbasin in the Church of San Domenico in Cosenza (Calabria, Italy)	959
<i>Michela Ricca, Raffaella Greca, Carlo Riente, Donatella Barca, Luciana Randazzo, Silvestro A. Ruffolo, Mauro F. La Russa</i>	
GP-NEP: A Prototype of an Assistant for Non-Experts in Photogrammetric Survey	964
<i>Luisa Ammirati, Bianca Magliocchetti, Simone Berto, Emanuel Demetrescu</i>	
New Green Solvents for Cleaning and Conservation of Cultural Heritage: Deep Eutectic Solvents (DESS)	970
<i>Romina Strangis, Mauro Francesco La Russa, Andrea Macchia, Giorgia Salatino, Anna Arcudi, Raffaella Mancuso, Chiara Biribicchi</i>	
Diagnostic Investigation on a Sorel and Portland Cement Boiserie at Palazzo Fizzarotti (1850-1908, Bari).....	976
<i>Marica Liano, Tiziana E. De Lillo, Annarosa Mangone, Alessandro Monno, Rocco Laviano, Stefano Roascio, Giocchino Tempesta, Giacomo Eramo</i>	
Preliminary Investigations of the Action of Nanostructured Materials for the Conservation of Fresco Paintings in High-Humid Environments.....	982
<i>Chiara Tuccio, Francesco Armetta, Maria Luisa Saladino</i>	
Study of Historical Mortars from the Roman Villa of Frielas (Loures, Portugal)	985
<i>Tanzil Ahmed, Cristina Galacho, José Quaresma, Patrícia Moita, A. R. Silva</i>	
Seismic Refraction Tomography and Multichannel Analysis of Surface Waves for Imaging Offshore Cultural Heritage in Very Shallow Water: Results from a Synthetic Study and Real Data	991
<i>P. Bilio Markasioti, George Kritikakis, Antonios Vafidis, Nikos Papadopoulos</i>	
Satellite-Derived Bathymetry for the Islands of South-Eastern Crete	997
<i>Daniel Lassak, Anna Novikova, Athanasios Argyriou, Nikos Papadopoulos</i>	
Geophysical Investigation on the Presumed Appian Way	1003
<i>Lara De Giorgi, Dora Francesca Barbolla, Ivan Ferrari, Francesco Giuri, Iliaria Miccoli, Giuseppe Scardozzi, Chiara Torre, Giovanni Leucci</i>	
Electromagnetic Survey at the Messapian Necropolis in Alezio (Lecce, Italy).....	1009
<i>Lara De Giorgi, Ivan Ferrari, Francesco Giuri, Dora Francesca Barbolla, Chiara Torre, Giovanni Leucci</i>	
The Acait of Tricase (LE, Puglia, Italy): An Agricultural Cooperative for Tobacco Production. Surveys and Conservation Status	1014
<i>Francesco Giuri, Angela Calia, Ivan Ferrari, Antonio Monte, Giovanni Quarta, Emilia Vasanelli</i>	
Ground Penetrating Radar Survey at the Basilica of San Paolo Fuori Le Mura (Roma, Italy)	1020
<i>Salvatore Piro, Nicola M. Camerlenghi, Daniela Mondini, Giorgia Pollio, Daniela Zamuner</i>	

Instability Assessment of Grotta Della Poesia (Lecce, Italy)	1025
<i>Lara De Giorgi, Dora Francesca Barbolla, Chiara Torre, Giovanni Leucci</i>	
Geophysical Investigation at Castle of Canossa	1030
<i>Annalisa Capurso, Lara De Giorgi, Ivan Ferrari, Francesco Giuri, Giovanni Leucci</i>	
The Roman Amphitheater of Venosa (Basilicata, Southern Italy): 3D Survey and Reconstruction	1035
<i>Ivan Ferrari, Francesco Giuri, Maurizio Lazzari</i>	
Geophysical Surveys at the Roman Aqueduct Aqua Virgo (Roma, Italy)	1041
<i>Vincenzo Di Fiore, Michele Punzo, Daniela Tarallo, Maria Elisa Amadasi, Giovanni Leucci</i>	
The Digital Database of Dovecote Towers in Salento (Southern Italy)	1047
<i>Maurizio Delli Santi</i>	
From Knowledge to Conservation: The Hypogeum Trappeto of Melpignano (LE, Apulia, Italy)	1053
<i>Francesco Giuri, Giorgia Di Fusco, Ivan Ferrari, Annalisa Malerba, Antonio Monte, Giovanni Quarta</i>	
Geophysical Investigation at the Roman Amphitheatre (Lecce, Italy)	1059
<i>Lara De Giorgi, Immacolata Ditaranto, Giovanni Leucci, Iliaria Miccoli, Giuseppe Scardozi</i>	
Geophysical Investigation at the St. Maria Del Monacato Di Villa Eucheria (Frosinone, Italy)	1064
<i>Dora Francesca Barbolla, Veronica Ferrari, Ivan Ferrari, Francesco Giuri, Iliaria Miccoli, Giovanni Leucci, Giuseppe Scardozi</i>	
Multitemporal Aerial and Satellite Images for the Study of the Ancient City of Albania: Remote Sensing Application at Apollonia and Phoenike	1069
<i>Immacolata Ditaranto, Fiorella De Luca, Pasquale Merola, Iliaria Miccoli, Giuseppe Scardozi</i>	
Conservation of Underwater Cultural Heritage: Preliminary Coatings Testing Within the TECTONIC Project	1074
<i>Antonio Donato, Alex De Salvo, Michal Novák, Marie Nováková, Silvestro Antonio Ruffolo, Mauro La Russa, Andrea Macchia, Michela Ricca</i>	
Integrated Approaches for Architectural Decay Mapping: A Case Study of the Historic Tuna Factory Florio on Favignana Island, Sicily, Italy (IDEHA Project)	1079
<i>Dario Giuffrida, Samuele Barone, Licia Cutroni, Giuseppe Cacciaguerra, Rosina Celeste Ponterio</i>	
Study of the Catalytic Action of Heavy Metals to Understand the Phenomenon of Sulphation and the Formation of Black Crusts	1085
<i>Valeria Comite, Andrea Bergomi, Paola Fermo, Carlo Castellano, Mattia Borelli, Chiara Andrea Lombardi, Matteo Formenti, Cecilia Cavaterra, Cristina Della Pina</i>	
Metallurgical Technology of Coins from Samshilde Fortress (South Georgia, Caucasus)	1091
<i>Natalia Rovella, Michela Ricca, David Berikashvili, Maria Pia Albanese, Mauro Francesco La Russa</i>	
Knowledge and Decay Assessment to Manage a Restoration Plan and to Define a Valorisation Program for a Sustainable CH Conservation: The Experience of the ADELE-RS Project	1096
<i>Maria Alberghina, Michela Ricca, Silvestro Antonio Ruffolo, Mauro Francesco La Russa</i>	
A Portable and Autonomous System for the Diagnosis of the Structural Health of Cultural Heritage (PICUS)	1101
<i>Giosue Caliano, Francesca Mariani, Alessandro Salvini</i>	

Author Index