PROGRAMME

TechnoHeritage 2017, 21-24 May
Cádiz

May 21

MAIN HALL , 1812 CONSTITUITION BUILDING

17.00
REGISTRATION

18.00
WELCOME CADIZ TOUR

May 22

ASSEMBLY HALL, “FACULTY OF PHYLLOSOPHY & LETTERS”

09.00 – 09.30
OPENING CEREMONY

09.30 – 10.00
PLENARY SESSION

P. Baglioni: Materials and methods for the conservation of cultural heritage.
LEQUERICA HALL, 1812 CONSTITUTION BUILDING

10.15 – 11.30 Oral Session
S1.-Nanomaterials and other Products for Conservation I
(Products and Techniques for Cleaning)
Chairs: P. Baglioni & J. Rathousky

- J. Rathousky (key note): Smart materials for the cleaning and protection of the surfaces of Culture Heritage artefacts.
- J. de Groot, K. Seymour, D. de Man: Removal of varnish residues and overpaints from a fifteenth century Spanish tempera and gilded panel painting with a Pemulen TR2 gel.

11.30 – 12.00
COFFEE BREAK AND POSTER SESSION

12.00 – 13.15 Oral Session
S2.-Nanomaterials and other Products for Conservation II
(Products and Techniques for Cleaning)
Chairs: P. Baglioni & J. Rathousky


13.15 – 15.30
LUNCH, “PARADOR HOTEL ATLÁNTICO“
15.30–16.45 Oral Session  
**S3.- Nanomaterials and other Products for Conservation III**  
*(Innovative Consolidants and Multipurpose Products)*  
Chairs: P. Maravelaki-Kalaitzaki & G. Predieri

- **P. Maravelaki-Kalaitzaki** *(key note):* *Nanomaterials for monument conservation: applications as additives in mortars, consolidants and self-cleaning protectives*
- **M. Zuena,** P. Tomasin, D. Costa, J.D. Rodrigues, L. Storaro, E. Zendri: *Study of calcium alkoxides as new conservation product for consolidation of historical limestone*
- **M. Oriola,** G. Campo-Francés, C. Ruiz-Recasens, A. Nualart-Torroja: *Canvas consolidation survey and treatment requirements for the NANORESTART project*
- **J. Pozo-Canales,** J. Romero-Noguera, E. Bernádez: *Evaluation of the efficacy of Paraloid B-72\(^\circ\) and Nanorestore\(^\circ\) in the consolidation of carbonated fossils*

16.45–18.00 Oral Session  
**S4.- Nanomaterials and other Products for Conservation IV**  
*(Innovative Consolidants and Multipurpose Products)*  
Chairs: P. Maravelaki-Kalaitzaki & G. Predieri

- **G. Predieri** *(key note):* *Polyamidoamines as functional polymers for wood and paper protection.*
- **B. Sena-de Fonseca,** A.P. Ferreira-Pinto, S. Piçarra, M.F. Montemor: *The efficacy of stone consolidants based on alkoxysilanes: Influence of solvent type.*
- **M. Martino,** M.J. Mosquera, R. Giarrusso, G. Milazzo, P. Livreri: *Evaluation of ammonium phosphates as consolidating agent for carbonatic stone used in Sicily.*

18.00 – 18.30  
**SESSION DEDICATED TO TECHNOHERITAGE NETWORK**

**BOLIVAR HALL, 1812 CONSTITUTION BUILDING**

10.15 – 11.30 Oral Session  
**S1.- New Technologies for Analysis, Protection and Conservation I**  
Chairs: L. Lagostena-Barrios & L. Esquivias

- **L. Lagostena-Barrios** *(key note),* J.A. Ruiz-Gil: *A methodological proposals on GPR Techniques.*
- **J. Valles-Iriso,** T. Chapa, J. Matesanz, M.A. Maté: *Combined application of Multi-Channel 3D GPR and photogrammetry from UAVs for the study of archaeological sites.*

• L. Esquivias, I. Romero-Hermida, V. Flores-Alés, V. Morales-Flórez, A. Santos: Technological proposals for recycling industrial wastes for environmental applications.

11.30 – 12.00
COFFEE BREAK AND POSTER SESSION

12.00 – 13.15 Oral Session
S2.-New Technologies for Analysis, Protection and Conservation II
Chairs: L. Lagostena-Barrios & L. Esquivias

• J. Sanjurjo, C. Arce-Chamorro, C. Alves, J.C. Sánchez-Prado, R. Blanco-Rotea: In situ gamma-ray spectrometry (GRS) use for non-destructive archaeological exploration.

• J.A. Ruiz-Gil, L. Lagostena-Barrios: Digital Heritage on SW Spain: The UCA Agenda.

• L. Barbero, J.A. López-Ramírez, L. Talavera: Unmanned aerial systems as research tools in archaeology and cultural heritage.

• R. Rubio-Díez: LiDAR technology applications for the study of roman mining landscapes: The case of river Sil upper basin (León, Spain).

13.15– 15.30
LUNCH, “PARADOR HOTEL ATLÁNTICO“

15.30– 16.45 Oral Session
S3.-New Technologies for Analysis, Protection and Conservation III
Chairs: M. Castillejo & L. Barbero

• J. Peña-Poza, S. San José, C. Gil, M.A. Villegas: Environmental pH monitoring with optical sensors at the Monastery of Santa María la Real de Nieva (Segovia, Spain).

• A.M. Tirado, R. Ortiz, P. Ortiz: 3D Laser scanning applied to diagnosis in vault.

• B. Notario-Collado, M.I. Sarró-Moreno: The use of micro-computed tomography as a means for studying the Cultural Heritage.

• R. Lopez–Guzman, A. Contreras-Guerrero: Virtual expositions and educational methodology research: an americanist case of study.

16.45 – 18.00 Oral Session
S4.-New Technologies for Analysis, Protection and Conservation IV
Chairs: M. Castillejo & L. Barbero

• B. Campanella, E. Grifoni, S. Legnaioli, G. Lorenzetti, S. Pagnotta, V. Palleschi: 3D Multispectral Imaging.
M.A. Rogerio-Candelera, L. García-Sanjuán, M. Diaz-Guardamino-Uribe, D.W. Wheatley: Were Late Prehistoric stelae painted? Digital image analysis-based research of the Late Prehistoric stelae of Mirasiviene (Lora del Río, Sevilla) and Montoro (Montoro, Córdoba), South Spain.


ARGUELLES HALL, 1812 CONSTITUTION BUILDING

10.15 – 11.30 Oral Session
S1.-20th Century Cultural Heritage I
(Conservation of Modern Materials)
Chairs: S.A. Ruffolo & M. Lazzari


11.30 – 12.00
COFFEE BREAK AND POSTER SESSION

12.00–13.15 Oral Session
S2.-20th Century Cultural Heritage II
(Contemporary Art Conservation)
Chairs: R. Giorgi & M. Lazzari

13.15– 15.30
LUNCH, “PARADOR HOTEL ATLÁNTICO“

15.30– 16.45 Oral Session
S3.-20th Century Cultural Heritage III
(Concrete Conservation)
Chairs: M.T. Blanco & E. Marie-Victoire

- J. Murcia, M.T. Blanco (key note): Modern concrete and its evolution from the standpoint of the built heritage.

16.45-18.00 Oral Session
S4.-20th Century Cultural Heritage IV
(Concrete Conservation)
Chairs: M.T. Blanco & E. Marie-Victoire

- S. Fasana, M. Zerbinatti: Buildings for hydroelectric power plants in N.W. Italian Alpine valleys. An open problem of maintenance, conservation and re-use.

18.45 – 21.45
GONZALEZ BYASS TIO PEPE SHERRY WINE TOUR.
May 23

LEQUERICA HALL, 1812 CONSTITUTION BUILDING

9.00-10.15 Oral Session
S5.-Nanomaterials and other Products for Conservation V
(Innovative Consolidants and Multipurpose Products)
Chairs: J. Delgado-Rodrigues & M. Martín-Gil

• E. Valentini, A. Benincasa: Portable device for drilling resistance test method.
• D. Ergenç, R. Fort-González, D. Sanz-Arauz: Carbonation of lime mortars in high CO$_2$ environment.

10.15–11.30 Oral Session
S6.-Nanomaterials and other Products for Conservation VI
(Hydrophobic, Superhydrophobic and Omniphobic Products)
Chairs: I. Karapanagiotis & F. Fernandez

• I. Karapanagiotis (key note): Superomniphobic coatings for the protection of stone monuments.
• F. Elhaddad, M.J. Mosquera: Effectiveness of a novel consolidant/hydrophobic nanomaterial applied on archaeologic stones: Durability Assessment after three years of in situ exposure.

11.30 – 12.00
COFFEE BREAK AND POSTER SESSION
12.00–13.15 Oral Session
S7.-Nanomaterials and other Products for Conservation VII
(Electrochemical Process, Hydrophobic, Superhydrophobic and Omniphobic Products)
Chairs: I. Karapanagiotis & F. Fernandez

- **T. Rivas** (key note): Electrochemical methods in conservation of cultural heritage.
- J. Matas, H. Bagan, E. Marin, C. Sistach, **J.F. García**: Chemical equilibria in deacidified corroded manuscripts including Iron Gall ink.

13:15–15.30
LUNCH, “PARADOR HOTEL ATLÁNTICO“

15.30–17.00 Oral Session
S8.-Nanomaterials and other Products for Conservation VIII
(Self-cleaning, Depolluting and Anticorrosion Products)
Chairs: G. di Carlo & T. Rivas

- **G. di Carlo** (key note): Degradation phenomena in copper-based works of art and innovative approaches for a reliable and safe protection.
- **E.A.A. Mohammed**, A. Adriaens: Saturated long chain sodium monocarboxylates for inhibition the corrosion of lead objects in atmospheric conditions and in acetic acid corrosive solution.
BOLIVAR HALL, 1812 CONSTITUTION BUILDING

09.00-10.15 Oral Session
S5.-New Technologies for Analysis, Protection and Conservation V
Chairs: C. Cardell & M.A. Villegas


- **I. Donate**, M. Medina, S. Celestino, E. Rodríguez, C. Pascual, P. Recio, J. Barrio, A.I. Pardo: *How analytical techniques are able to address archaeological questions: a case study of a painted ceramic.*

10.15-11.30 Oral Session
S6.-New Technologies for Analysis, Protection and Conservation VI
Chairs: C. Cardell & M.A. Villegas

- **M.A. Villegas** (key note): *Patinas on stones, metals, glasses and ceramics: a protection strategy?*

- **B. Ramírez-Barat**, A. Crespo, E. Cano: *In situ evaluation of outdoor sculpture with a gel polymer electrolyte cell.*

- J. Peña-Poza, F. Agua, J.F. Conde, **M. Garcia-Heras**, M.A. Villegas: *Scientific and technical study of glasses of a possible Venetian mirror from the Virgen de la Encina Basilica at Ponferrada (León, Spain).*


11.30 – 12.00
COFFEE BREAK AND POSTER SESSION

12.00-13:15 Oral Session
S1.-Deterioration of Cultural Heritage
Chairs: D. Benavente & J. Gisbert


• E. Parra: Chemical composition of embalming substances found in XVIIth century burials at Miguel de Cervantes’ thomb. Effects of boiling on oxidation of several biomarkers.

13:15– 15.30
LUNCH, “PARADOR HOTEL ATLÁNTICO“

15.30– 17.00
S1.-Significance of Cultural Heritage. Policies for Conservation I
Chairs: P. Tiano & F. Palla

• E. Cano (key note), B. Ramírez Barat: European Research infrastructures for Heritage Science: from IPERION to E-RIHS.

• M. Perino: Air tightness and RH control in museum showcases: concepts and testing procedures.

• P. Montero: Risk management in collections: an innovative approach to methodological analysis and technological planning in Museo Nacional Centro de Arte Reina Sofia.

• D. Vazquez, A. Alvarez: Optimizing damage and colour fidelity in museum illumination with a mathematical modelcional

• B. Garcia-Fernandez, A. Álvarez-Fernandez-Balbuen, D. Vázquez-Molini: A new approach for lighting energy management

ARGUELLES HALL, 1812 Constitution Building

09.00 – 10.15 Oral Sesion
S5.-20th Century Cultural Heritage V (Concrete Conservation)
Chairs: Sánchez-Dolado & M. Bouichou

• J. Sanchez-Dolado (key note): Nanoscience and nanotechnology applied to cement-based materials.


• A. Alonso-Durá, A. Almerich-Chulia, S. Tormo-Esteve, V. Llopis-Pulido: Structural analysis model of GFRP bars to reinforce Heritage Buildings.

10:15 – 11.30 Oral Session
S1.-Biodeterioration: Fundamentals, Present and Future Perspectives. Session in Honour of Prof. Cesáreo Sáiz Jiménez I
Chairs: F. Palla & G. Piñar

- **G. Piñar (key note)**, K. Sterflinger: *Two decades using molecular techniques to study biodeterioration of cultural heritage: an amazing biotechnological development.*
- **A. Gorbushina**, F. Villa, F. Capitelli: *Studying colonization of stone surfaces: what can we learn from model biofilms growing in flow-through chambers?*
- **F. Palla**: *From plant to cultural assets.*

11.30 – 12.00
COFFEE BREAK AND POSTER SESSION

12.00-13:15 Oral Session
S2.-Biodeterioration: Fundamentals, Present and Future Perspectives. Session in Honour of Prof. Cesáreo Sáiz Jiménez II
Chairs: M. Hernández & G. Piñar

- **M. Hernandez (key note)**: *Why is it so difficult to prevent biodeterioration?*
- **B. Hermosín, L. Laiz, M.A. Rogerio-Candelera**: *Microorganisms and monuments: Forty years of Heritage conservation.*

13:15– 15.30
LUNCH, “PARADOR HOTEL ATLÁNTICO“

15.30– 16.45 Oral Session
S3.-Biodeterioration: Fundamentals, Present and Future Perspectives. Session in Honour of Prof. Cesáreo Sáiz Jiménez III
Chairs: C. Sáiz-Jiménez & M. Martin-Gil

- **M. Bueso**, D. Durán, F. Gaztañaga, I. Herráez, A. Manrique, **M. Martín-Gil (key note)**, J. Montero, C. Muro, B. Sánchez, N. Nieves Valentín: *Green strategies in the Spanish National Research Plan in*
Cultural Heritage (PNIC). Technologies for the early detection of biological contaminants in display cases.


- J. Galván, D. Lorenzo, M. Gajú, C. Villagrá, M.T. de Troya: *Action protocol against termites in urban areas.*

16.45 – 17.45

SESSION DEDICATED TO EUROPEAN RESEARCH INFRASTRUCTURE FOR HERITAGE SCIENCE (E-RIHS)

20.30

GALA DINNER WITH FLAMENCO SHOW AT “BALUARTE DE LOS MÁRTIRES”
May 24

LEQUERICA HALL, 1812 CONSTITUTION BUILDING

09.00– 10.15 Oral Session

S9.-Nanomaterials and other Products for Conservation IX
(Self-cleaning, Depolluting and Anticorrosion Products)

Chairs: M. Castellote & J.F. García

- E. Jiménez-Relinque, F. Rubiano, M. Castellote: Heterogeneous photocatalysis as a self-cleaning and anti-graffiti technology in cultural heritage conservation.

10.15– 11.30 Oral Session

S10.-Nanomaterials and other Products for Conservation X
(Self-cleaning, Depolluting and Anticorrosion Products)

Chairs: M. Castellote & J.F. García

- G.M.C. Gemelli, F. Elhaddad, F. Fernandez, M.J. Mosquera: Effectiveness of innovative nanomaterials with consolidant, hydrophobic and photocatalytic properties on “Pietra di Noto.

11.30 – 12.00

COFFEE BREAK AND POSTER SESSION
12.00–13.00
SESSION HORIZONTE 2020
WITH THE COLLABORATION OF THE VICE-RECTORATE OF TRANSFERENCE AND
TECHNOLOGICAL INNOVATION OF THE UNIVERSITY OF CADIZ
• Clemente López-Bote, Head of the Division of Coordination, Evaluation and Scientific and Technical
Follow-up. MINECO Spain.
• Nieves González López, NMBP program committee Horizon 2020 at CDTI.

13.00 – 15.15
LUNCH, “PARADOR HOTEL ATLÁNTICO”
15.15 – 16.30 Oral Session
S1.-Underwater Cultural Heritage
Chairs: M.J. Mosquera & L.C. Zambrano

• B. Gasca-Gimenez: Preservation issues in naval museums. The example of two 18th century frigate
stems taken out of the sea 40 years ago.
• E. Aragon, S. Munar, J.R. Rodríguez, K. Yamafune: Underwater photogrammetric monitoring
techniques apply to deep shipwrecks.
• G. Coradeschi, A. Manhita, N. Mota, A. Caessa, C. Nozes, L. Sadore, F. Branco, L. Gonçalves, C.
Barros Dias: Archaeometric study of waterlogged wood from the Roman cryptoporticus of Lisbon.
• L. C. Zambrano, M.L.A. Gil, M. Bethencourt: A general method to recover and stabilize superfragile
materials from underwater archaeological sites.

BOLIVAR HALL, 1812 CONSTITUTION BUILDING
09.00–10.15 Oral Session
S2.-Significance of Cultural Heritage. Policies for Conservation II
Chairs: E. Cano & P. Tomasin

• F. Fernández: Pre-project and diagnosis for restoration of modern architecture.
• L. Nobile: A disaster risk management plan for Suasa Archeological Park (Italy).
• K. Bennett, K. Mc Leod: Preparing cultural heritage for a natural disaster.
• A. Loli, C. Bertolin: Towards zero emission refurbishment in historic urban districts.
• L.E. Fernandez, C. Liñán, Y. del Rosal: The Nerja cave as a model of conservation of the
subterranean cultural heritage oric urban districts.

10.15–11.45 Oral Session
S3.-Significance of Cultural Heritage. Policies for Conservation III
Chairs: E. Cano & P. Tomasin

• E. Yuni-Astuti: Conservation policy for Urban Heritage in Darmo, Surabaya, Indonesia.
• M. Hassan: The current built environment of the medieval forts on Arwad Island in Syria based on summer microclimate measurements.
• M.P. Gallego-Perez: Policies for conservation of Cultural Heritage. The almenara towers of Cádiz province

11.30 – 12.00
COFFEE BREAK AND POSTER SESSION

13.00– 15.15
LUNCH, “PARADOR HOTEL ATLÁNTICO“

15.15 – 16.45 Oral Session
S4.-Significance of Cultural Heritage. Policies for Conservation IV
Chairs: J. Delgado-Rodrigues & M.L.A. Gil

• J. Delgado-Rodrigues (key note): Decision making processes in the conservation of stone built heritage. Laboratory and field perspectives.
• C. Muñoz-Gonzalez, A. León-Rodríguez, I. Acosta-García, M.A. Campano-Laborda, J. Navarro-Casas: Monitoring and modelling, a proposed method to assess the refurbishment projects in historic buildings.

ARGÜELLES HALL, 1812 CONSTITUTION BUILDING
09.00-10.15 Oral Session
S4.-Biodeterioration: Fundamentals, Present and Future Perspectives. Session in Honour of Prof. Cesáreo Sáiz Jiménez IV
Chairs: M. Hernández & C. Urzí

• J. Wierczhos, S. Pérez-Ortega, A. de los Ríos, V. Souza-Egipsy, R. Fort, C. Ascaso: In situ assessment of biocides action on epilithic lichens colonising dolostone.
• A. Slimen, R. Barboux, A. Mihajlovski, S. Moularat, F. Bousta, P. Di Martino: *Investigation of the wood decay by Fungi in the hunting lodge of “La Muette” Saint- German-en-Laye France.*

10.15 – 11.30 Oral Session

**S5.-Biodeterioration: Fundamentals, Present and Future Perspectives. Session in Honour of Prof. Cesáreo Sáiz Jiménez V**

Chairs: M. Hernández & P. Tiano

• **P. Tiano (key note):** CNR-CISC, jointly activities, not only a scientific collaboration.


• J. Trovão, F.Soares, N. Mesquita, C. Coelho, I. Tiago, F. Gil, L. Catarino, G. Piñar, A.C. Pinheiro, A. Portugal: *A multi-analytical approach to study Limestone Biodeterioration and Biological colonization in the Old Cathedral (Sé Velha) of the UNESCO World Heritage site ‘University of Coimbra - Alta and Sofia’.*

• M. Tescari, F. Bartoli, E. Frangipani, P. Visca, L. Rainer, G. Caneva: *New discovery of rosy discoloration in Vesuvian Areas: the study case of “Casa del Bicentenario” (Herculaneum, Italy).*

11.30 – 12.00

**COFFEE BREAK AND POSTER SESSION**

13.00– 15.15

**LUNCH, “PARADOR HOTEL ATLÁNTICO“**

15.15 – 16.30 Oral Session

**S6.-Biodeterioration: Fundamentals, Present and Future Perspectives. Session in Honour of Prof. Cesáreo Sáiz Jiménez VI**

Chairs: C. Urzi & C. Sáiz-Jiménez

• S.O. Sequeira, H. Paiva-de Carvalho, N. Mesquita, A. Portugal, M.F. Macedo: *Fungal stains on paper: What you see is what you get?*


• R. Zarzuela, M. Carbú, M.L.A. Gil, M.J. Mosquera: *Functionalyzed SiO₂-Ag nanoparticles for the production of multifunctional biocide and superhydrophobic coatings for preserving stone.*
LEQUERICA HALL, 1812 CONSTITUTION BUILDING

16:30-17:30
CLOSING SESSION

C. Saiz-Jimenez: The Roman Necropolis of Carmona, Spain: 10 years of research.

17:30-18:00
CLOSING CEREMONY

18:00
GUIDED VISIT TO THE PHOENICIAN ARCHAEOLOGICAL SITE GADIR
POSTER SESSIONS

May 22

MAIN HALL, 1812 CONSTITUTION BUILDING

11.15 – 11.45

POSTER SESSION I

S1. Nanomaterials and other Products for Conservation

- J. Feijoo, I. de Rosario, T. Rivas, J. Taboada: Desalination of granites using poultices made with different components: influence of the properties of the rocks and of the salt system on the effectiveness.


- L. Ferrazza: Scientific evaluation of restoration treatments in polychrome stone.


- C. Cardona, D. Vella: Evaluating the performance of calcium tartrate as a consolidant for soft Limestone.

• **I. de Rosario**: Evaluation of the effectiveness of a surfactant-synthesized PDMS/Silica nanomaterial in granitic rocks.


• **M.P. Sáez-Pérez**: Chromatic reintegration in marble of the historical heritage. Assessment of its effectiveness and durability outdoors.

• **M.P. Sáez-Pérez**: The role of hemp concrete in the sustainable retrofit of the vernacular architectural heritage in the region of Senhaja Sair (Morocco).

**S2. 20th Century Cultural Heritage**

• **C. Garcia, M. Gomez, T. Lopez-Morán M. Lazzari, D. Reggio**: Contemporary paints: materials identification and fabrication techniques.

• **S. Kunz, E. Gómez-Sánchez, J. Pesch**: Some insights on the photoinduced degradation of cellulose nitrate.


• **J.G. Coneo, F. Elhaddad, M.J. Mosquera**: Producing Hydrophobic Concretes.


• **S. Khannyra, M. Luna, R. Zarzuela, M. Addou, M.J. Mosquera**: TiO₂/SiO₂ photocatalysts for application as self-cleaning coatings on historic concrete.

• **G.M. Contreras**: Relation of the presence of iron, copper and zinc in the iron gall inks of the Valencian manuscripts from the 13th to the 17th centuries.

• **G. Fernández-Martinez**: Determination of the presence of wine in the medieval Valencian inks of the Municipal Archive of Cocentaina by HPLC-Ms/Ms.
May 23

MAIN HALL, 1812 CONSTITUTION BUILDING

11.30 – 12:00
POSTER SESSION II

S3. New Technologies for Analysis, GPR applications, Protection and Conservation


- F. Barbosa-Araújo, **C.J. Abreu-da Silva-Costa**: *Renovation project room D. Manuel – national tile museum (lisbomo portugal).*

- **A. Benito**, A. Martínez-Fernández, A.I. Ortega-Martínez, T. Karampaglidis, F. Ruiz-Garcia, M.A. Martín-Merino, I. Campaña, E. Bruner: *3D techniques for the reconstruction and analysis of high sensitive archaeological sites: the Galerías de las Huellas (Ojo Guareña, Burgos, Spain).*

- M. Oujja, M. Sanz, E. Carrasco, V. Detalle, **M. Castillejo**: *Single set-up for pulsed laser excitation of Raman-LIF-LIBS signals: analysis of heritage stone and mural paint samples.*

- **J. Sanjurjo-Sánchez**, C. Alves: *A discussion on gamma radiation hazards related to granitic materials and its implication on historical buildings use.*

- **M.J. Nuevo**, M.A. Ojeda, A. Martín-Sánchez: *Spectroscopic and optical techniques applied to the characterization of an anonymous painting of a Virgin with Child.*

- **S. Almaviva**, R. Fantoni, F. Cola, A. Puiu, F. Bisconti, V. Fiocchi-Nicolai, S. Cascioli, S. Bellagamba: *RAMAN/LIF non-invasive microanalysis of frescoes from St. Alexander catacombs in Rome (ITALY).*


- P. Ortiz, I. Turbay, J.M. Martín, I. Carrasco, A. Fernandez-Ugalde, **R. Ortiz**, P. Ortiz: *Characterization of Granite columns of II Century from Ecija (Spain).*

- S. Rafanelli, **P. Moita**, C. Galacho, M. Beltrane, G. Coradeschi, A. Carvalho, P. Braga, R. Vicente, C. Dias, A. Candeias, J. Mirão: *Etruscan render mortars from Domus dei Dolia (Vetulónia, Italy).*

- **S. Acacia**, M. Casanova: *Georeferencing of historical iconography for the knowledge of the built heritage.*

- L. Bosch-Rubio, **M.A. Gomez-Moron**, P. Ortiz: *Technological characterization of polychromies on a Balearic medieval stone Altarpiece of XV Century.*

- A. Gil-Torrano, **J.M. Martín**, R. Ortiz, M.C. Fuertes-Santos, A. Gómez-Morón, P. Ortiz: *Characterization of mural paintings from the Archaeological Site of Cercadilla (Cordoba, Spain).*
• **G. Mele, L. Gargiulo, B. Di Matteo**: 3D imaging and analysis of the inner structure of the “Tufo Giallo Napoletano”: a contribution to the study of the architectural decay of Castel Nuovo.

• **B. Jigena-Antelo, A. Fernández-Ros, C. Torrecillas, K. Mukanovic, M. Berrocoso**: The global positioning (GPS) and geographic information systems (GIS) applied to old maps georeferencing to obtain information for temporary studies.

• **C. Torrecillas, D. Seda, B. Jigena, I. Barbero, M. Berrocoso**: Near infrared applied to forecasting of pathologies in Alamillo Bridge (Seville, Spain).

• **P. Trapero**: Ways to make history and archaeology with non-invasive techniques. The application of GIS, RPA and GPR in Hasta Regia roman city.

• **E. Carrasco, M. Oujja, M. Sanz, J. F. Marco, M. Castillejo**: X-ray and ion irradiation effects on pictorial samples.

• **A. Kriznar, A. Gómez Morón, L. Nuñez-Casares, E. Fernández-Ruiz, L. Martín M.A. Respaldiza**: Analysis of materials during the restoration of Tota Pulchra by Giuseppe Cesari.

**S4. Significance of Cultural Heritage**

• **J. Sanjurjo-Sanchez, C. Alves**: Stone alteration and tourism.

• **J. Benitez, R. Ortiz, P. Ortiz**: Vulnerability study of three monumental gates from XII century (Marchena, Spain).

• **M.L. Cueva-Ramírez**: Social Medial as a point of meeting between internacional artists.

• **J.F. Reinoso-Gordo**: Surveying buildings as an essential tool for conservation tasks: the case of Royal Hospital in Granada.

• **C. Bandrés**: Analysis and structure of the water distribution system in the distribution depot of the Carmona Gate as a way of supplying water to the Royal Alcazar of Seville.

• **A. Gómez-Bolea, M. Roldán, J. Girbal, P. García, J.F. Ruiz**: Rock art & Biodiversity paradox: synergy for the heritage. The Solana de las Covachas’s case (Albacete, Spain).

**S5. Underwater Cultural Heritage**

• **K. Castro-Ortiz-De Pinedo**: Non-destructive study of the degradation processes in underwater metallic materials
May 24

MAIN HALL, 1812 Constitution Building
11.15 – 11.45
POSTER SESSION III

S6. Deterioration of Cultural Heritage

- T. Rivas, D. Barral, C. Cardell: Deterioration of cinnabar and azurite tempera mock-ups under marine and industrial outdoor exposition.
- A. Herrera, A. Burgos-Cara, K. Elert, N. Navas, C. Cardell: Carbonation of pigments present in paint dosimeters exposed to polluted urban air.
- I. Turbay, R. Ortiz, P. Ortiz: Study of Vulnerability in the historical center of Popayan (Colombia).
- D. Benavente, J.M. Elena-Carbonell, Y. Spairani, C. Pla, C.M. Grossi: Intensive damage due to salt crystallization by rising damp in the Colegio Santo Domingo of Orihuela (Alicante, Spain).


• P. Sanmartín, D. Vázquez-Nion, J. Arines, B. Silva, B. Prieto: Assessing the effect of different coloured lighting in controlling biological colonization.

• S. Gómez-Cornelio, A. Morón-Rios, A. Sierra-Fernández, S. González-Gómez, S. De la Rosa-García, S. Cappello-García, P. Quintana: Effect of multiple interactions between fungal species on the colonization of two limestone lithotypes.

• D. Vazquez-Nion, B. Silva-Hermo, B. Prieto-Lamas: Environmental-like colonization of granitic rocks in laboratory for bioreceptivity studies.


• S.C De la Rosa-García, M. Soria-Castro, Y. Sánchez-Román, U. Zagada-Dominguez, Gómez-Cornelio, A. Sierra-Fernández, P. Quintana: Effect of calcium zincate dihydrate purity synthesized via sol-gel, on its antimicrobial activity

### SUMMARY PROGRAMME

#### May 21

<table>
<thead>
<tr>
<th>Time</th>
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<tr>
<td>17.00</td>
<td>MAIN HALL</td>
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<tr>
<td>18.00</td>
<td>“1812 CONSTITUTION BUILDING”</td>
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### May 23

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### May 24

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