

PROGRAMME

**TechnoHeritage 2017, 21-24 May
Cádiz**

May 21

MAIN HALL ,1812 CONSTITUION BUILDING

17.00

REGISTRATION

18.00

WELCOME CADIZ TOUR

May 22

ASSEMBLY HALL, “FACULTY OF PHYLOSOPHY & 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.*
- **R. Giorgi,** E.I. Parisi, N. Bonelli, D. Chelazzi, G.M. Ingo, P. Baglioni: *Film-forming gels for the removal of corrosion products from copper-based artifacts.*
- **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.*
- T. Palomar, B. Ramirez, J.M. Véliz, **E. Cano:** *Evaluation of cleaning procedures for the conservation of tarnished lead.*

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

- **J. Barrio,** M.C. Medina, I. Donate, M. Muñoz, A.I. Pardo: *Conservation of archaeological epigraphs on marble with laser technique.*
- **J.S. Pozo-Antonio,** A. Papanikolaou, K. Melessanaki, T. Rivas, A.J. Lopez, A. Ramil, P. Pouli: *Two wavelength laser cleaning by means of Nd:YAG: its application on graffiti extraction in granitic Cultural Heritage.*
- **M. Castillejo,** M. Oujja, S. Psilodimitrakopoulos, E. Carrasco, M. Sanz, A. Selimis, A. Philippidis, P. Pouli, G. Filippidis: *Non-linear microscopy imaging for studying the process of laser removal of varnishes used in paintings.*
- J.J. Martín-Del Río, F.J. Alejandro-Sánchez, **F.J. Blasco-López,** P. Soler-Núñez y C. Núñez-Guerrero: *Controlling the effectiveness of the cleaning treatments of bronze by using X-ray diffraction: equestrian sculpture of “El Cid Campeador” (Seville).*

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. Bernáldez: *Evaluation of the efficacy of Paraloid B-72® and Nanorestore® 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 alkoxy silanes: Influence of solvent type.*
- **D. Gulotta**, F. Gherardi, S. Goidanich, L. Toniolo: *Evaluation of the consolidation efficacy of artificially aged Italian marbles.*
- **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.*

- **J. Sanjurjo**, M. Couto, C. Alves: *Non-destructive assessment of weathering in granite blocks of historical buildings: in situ gamma-ray spectrometry (GRS)*.
- **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. Díaz-Guardamino-Urbe, 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.*
- **A. Klisinska-Kopacz**, B. Łydzba-Kopczyńska, P. Frańczek, A. Kłosowska-Klechowska, M. Obarzanowski: *Identification of polymers in the cast sculptures from museum collection.*

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

- **G.M. Contreras**: *Application of traditional Japanese technology in large formats 20th century paper.*
- E. Antón-García, **S. Ruiz-de Diego**, S. Muñoz-Viñas: *Impact of dry cleaning conservation techniques on electrophotographic prints.*
- A. Alonso-Durá, **S. Tormo-Esteve**, P. Bértolo-Valero: *The Spanish civil optical telegraphy network. An opportunity for study and conservation.*
- **E. González**, S. Marras, I. Lozano, E. Sánchez: *NanoRestArt - Nano-materials for the restoration of works of art: Cleaning of contemporary art cellulosic supports.*

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

- M. Gomez, D. Reggio, I. Rodriguez-Arias, M.A. López-Quintela, **M. Lazzari (key note)**: *Nanotechnologies for contemporary art conservation: some applications on plastics.*
- **E. Gomez-Sanchez**, N. Ferrer, D. Kirchner, C. Larrue, V. Sainsmith, S. Seidel, J. Fey: *Following the natural degradation of caoutchouc: Material analysis of a diving suit form the turn of the 20th century.*
- **S.A. Ruffolo**, A. Macchia, L. Rivaroli, E. Palermo, M.F. La Russa: *Comparative study of protective coatings for the conservation of Urban Art.*
- I.A. Balakhnina, **N.N. Brandt**, A.Y. Chikishev, Y.I. Grenberg, I.A. Grigorieva: *The problem of dating of 20th Century Russian oil paintings: FTIR microspectroscopy and numerical simulation.*

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.*
- **J.P. Gutierrez-Jiménez**, R. Piñeiro-Martínez de Lecea, L. Echevarría-Giménez, S. Martínez-de Mingo: *Centennial concrete structures.*
- **M. Bouichou**, E. Marie-Victoire, H. Jourdan, B. Thauvin, R. Queguigner, R. Olmi, C. Riminesi: *Measurement of water content and salinity index in concrete by evanescent field dielectrometry.*
- S. Ramos-Cillán, **I. Martínez**, M. Castellote: *Advances in the monitoring of electrochemical chloride removal in corroded reinforced concrete. Application for the rehabilitation of historic buildings.*

16.45-18.00 Oral Session

S4.-20th Century Cultural Heritage IV
(Concrete Conservation)

Chairs: M.T. Blanco & E. Marie-Victoire

- M. Bouichou, **E. Marie-Victoire (key note)**: *Conservation of ancient reinforced concrete: problematics and challenges.*
- **F. Albani**, C. Dusi: *Preserving concrete thin shells. The case of Dietingen sud station by Heinz Isler (1968-1969).*
- **S. Fasana**, M. Zerbinatti: *Buildings for hydroelectric power plants in N.W. Italian Alpine valleys. An open problem of maintenance, conservation and re-use.*
- A.M. Barberena-Fernández, **M.T. Blanco**: *Sculptural ensemble “Hombre y mujer” of MAY Cavestany: materials and deterioration.*
- A. González-Lucas, J. Fernández-Gómez, M. J. Rubio-Encinas, A. Moragues-Terrades, **P. Villanueva-Llauradó**. *Mechanical and durable properties and sustainability evaluation of polymer-modified mortars for structural reparations.*

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.*
- **S.M. Ahmed**, S.S. Darwish, M.A. Adam, M.A. Al-Dosari, N.A. Al-Mouallimi, N.A. Elmarzugi: *Synthesis and analytical characterization of Ca(OH)₂ nanoparticles/(Poly (EMA/MA) nanocomposites for consolidation of Ancient Egypt carbonate stones.*
- **I. de Rosario**, T. Rivas, J. Feijoo, R. Benavides, M.J. Mosquera: *Preconsolidation prior desalation on granitic rocks. a new approach to evaluate the most suitable treatment.*
- **D. Ergenç**, R. Fort-González, D. Sanz-Arauz: *Carbonation of lime mortars in high CO₂ 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 archaeological stones: Durability Assessment after three years of in situ exposure.*
- **M. Remzova**, L.A.M. Carrascosa, M.J. Mosquera, J. Rathousky: *Effectiveness of a new consolidants generation on sedimentary rocks.*
- **L.A.M. Carrascosa**, A. Gonzalez-Sanchez. M.L.A. Gil, M.J. Mosquera: *Long-lasting superhydrophobic coatings for stones.*

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.*
- **N. Badreldin,** L.A.M. Carrascosa, M.J. Mosquera: *Superhydrophobic coatings with self-reparability properties for application on building materials.*
- **M. Botana-Galvin,** L.A.M. Carrascosa, F.J. Botana, M.J. Mosquera: *Superhydrophobic marble by combining of sol-gel coating and laser ablation.*
- **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.*
- **P. Ruiz, J. Aramendia, K. Castro,** N. Prieto-Taboada, J.A. Carrero, G. Arana, J.M. Magariaga: *Ion exchange resins as a solution against atmospheric degradation of CorTen steel.*
- **J. Peña-Poza, F. Agua, J.F. Conde, C. Gil, M.A. Villegas,** M. García-Heras: *Lanthanum-Silica Sol-Gel coatings for protecting metallic materials in museums: approaches to copper, steel, and lead substrates.*

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

- **N. Tello-Burgos**, A. López-Montes, X. Shao, E.M. Valero, J.L. Nieves, M.R. Blanc: *Identification of the evolution of indigo blue by multispectral imaging.*
- **M. Beltrame**, S. Gómez-Martínez, L.J. Gonçalves, J. Rui-Ribeiro-dos Santos, F. Branco, A. Candeias, J. Mirão: *Noninvasive investigation of common, painted and glazed Islamic pottery (IX-XI century) from the cities of Mértola and Évora (Portugal) using portable XRF spectrometry.*
- I.A. Balakhnina, A.A. Mankova, I.G. Shpachenko, E.A. Morozova, T.V. Yuryeva, V.A. Yuryev, A.Yu. Chikishev, **N. Brandt**: *Raman microspectroscopy of blue-green historical beads: comparative study of undamaged and strongly degraded samples.*
- **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).*
- **A.S. Guimaraes**, V.P. de Freitas: *Rising damp in Heritage Buildings hygro-regulated wall base ventilation system.*

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

- **J. Gisbert (key note)**, J. Aguilar, O. Buj-Fandos, B. Bauluz-Lázaro, F. Peddis, F. Cuccuru: *Deterioration caused by dimensional change in stone (EPS pathology): The role of the organic matter - pore network - salt combination.*

- **J.M. Gallardo-Fuentes**, E. Díaz-Gutiérrez, J.A. López: *Marble sculptures cracks fixing by metallic staples.*
- **M. Michette**, H. Viles, C. Vlachou, I. Angus: *The Problem Stone Progressive Survey Technique (ProSt-ProST) A pilot study at the Bell Tower, Tower of London.*
- **E. Parra**: *Chemical composition of embalming substances found in XVIIIth 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 Sofía.*
- **D. Vázquez**, A. Alvarez: *Optimizing damage and colour fidelity in museum illumination with a mathematical model*
- **B. Garcia-Fernandez**, A. Álvarez-Fernandez-Balbuen, D. Vázquez-Moliní: *A new approach for lighting energy management*

ARGUELLES HALL, 1812 Constitution Building

09.00 – 10.15 Oral Sesión

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.*
- **L. Echevarria**, J.P. Gutiérrez-Jiménez, R. Piñero-Martínez de Lecea: *New composite structures for rehabilitation and new constructions: expansive concrete filled tubes.*
- A. Alonso-Durá, A. Almerich-Chulia, **S. Tormo-Esteve**, V. Llopis-Pulido: *Structural analysis model of GFRP bars to reinforce Heritage Buildings.*
- J.P. Gutiérrez-Jiménez, **R. Piñero-Martínez de Lecea**, S. Martínez-de Mingo: *Pathology of masonry brick façades. Applications and repairing solutions.*

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.*
- **R. Vieira**, M. Pazian, A. Pereira, A. Candeias, A.T. Caldeira, M. González-Pérez: *Detecting cells with low RNA content colonizing artworks non-invasively: RNA-FISH.*
- **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?*
- **L. Bruno**, F. Marano, V. Valle, E. Viaggiu, F. Valentini: *The biodeterioration of Cultural Heritages: the need to know, preserve and prevent.*
- **B. Hermosin**, L. Laiz, **M.A. Rogerio-Candelera**: *Microorganisms and monuments: Forty years of Heritage conservation.*
- **H. Paiva-Carvalho**, N. Mesquita, J. Trovão, A.C. Pinheiro, S. Fernandez-Rodriguez, V. Gomes, A. Alcoforado, F. Gil, A. Portugal: *Fungal contamination of paintings and wooden sculptures inside the storage room of a museum. Thoughts on the adequacy of current norms and established reference values.*

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. Martín-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.

- **P. Sanmartín**, D. Vázquez-Nion, M.C. López-Rodríguez, J. Arines, S. Calleja-Vaquero, L. Cabo-Domínguez, B. Silva, B. Prieto: *Light4Heritage: Lighting-based strategies to control biological colonization in built heritage.*
- **J. Galván**, D. Lorenzo, M. Gajú, C. Villagrà, 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

- **R. Zouzelka:** *Self-cleaning and de-polluting stone surfaces.*
- **M. Luna,** J.M. Gatica, H. Vidal, M.J. Mosquera: *Au-TiO₂-SiO₂ photocatalysts for application as self-cleaning and de-pollutant coatings on building materials.*
- **F. Gherardi,** M. Roveri, L. Niccolai, J. Weber, L. Toniolo: *Photocatalytic nanocomposites for the protection of European Architectural Heritage.*
- 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

- **L. Bergamonti,** F. Bondioli, G. Predieri, Y. Paz, L. Fornasini, P.P. Lottici: *Photocatalytic self-cleaning coatings for limestones by N-doped TiO₂.*
- A. Truppi, M. Luna, **F. Petronella,** R. Comparelli, M.J. Mosquera: *Photocatalytic activity of TiO₂/AuNRs - SiO₂ nanocomposites applied to building materials.*
- **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.*
- **C. Ricci,** F. Gambino, E. Matteucci, M. Nervo, A. Piccirillo, T. Rivas, J.S. Pozo-Antonio: *Evaluation of antigraffiti products on ornamental stones.*

11.30 – 12.00

COFFEE BREAK AND POSTER SESSION

12.00– 13.00

SESION 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 sterns 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. Sadori, F. Branco, L. Gonçalves, C. Barrocas 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. McLeod: *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 in 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*
- **J M. Gallardo-Fuentes,** E. Díaz-Gutiérrez, R. Sepúlveda: *Public Institutions as deposits for lean-intensive-care Cultural Heritage objects.*

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.*
- **A.J. Prieto,** J.M. Macías-Bernal, M.J. Chávez, F.J. Alejandre, A. Silva, P. Ortiz: *Fuzzy logic applied to the analysis of the heritage buildings’ performance.*
- **J.A. Ruiz-Gil,** M.L.A. Gil, J.M. Aragon-Cotilla, D. Zorrilla: *Working methodology for the development of a Master Plan of Action on the Historical Inmovable Heritage.*

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. Urzú

- **M. Silva,** M. Gonzalez-Pérez, R. Vieira, D. Teixeira, A. Candeias, A.T. Caldeira: *Green biocides for Cultural Heritage: Biotechnological Approach.*
- **J. Wierzchos,** 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. Sierra-Fernandez,** S. De la Rosa-García, S. Gómez-Cornelio, L.S. Gomez-Villalba, M.E. Rabanal, P. Quintana, R. Fort: *Multifunctional inorganic nanomaterials based on magnesium and calcium hydroxides for heritage conservation.*

- 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.*
- F. De Leo, I. Dominguez-Moñino, V. Jurado, L. Bruno, C. Saiz-Jimenez, **C. Urzi**: *Coniophora marmorata as responsible of a fungal outbreak in the Catacombs of SS. Marcellino and Pietro.*
- **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?*
- **A.Z. Miller**, A. Dionísio, M.F. Macedo, C. Saiz-Jimenez: *Primary bioreceptivity of limestones to phototrophic microorganisms: a laboratory-based stone colonization experiment.*
- **R. Zarzuela**, M. Carbú, M.L.A. Gil, M.J. Mosquera: *Functionalized 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.*
- **T. López-Martínez**, A. García-Bueno, V. J. Medina-Flórez: *Cleaning tests. Elimination of carbonates in the wall paintings of Castulo.*
- **A. Gomez-Moron**, A. Lara-Luque, P. Ortiz-Calderón: *A study of the effect of 1064 nm Nd-YAG laser cleaning of gilding wood support.*
- **L. Ferrazza**: *Scientific evaluation of restoration trataments in polychrome stone.*
- **A. Rodriguez-Rueda**, J. Becerra-Luna, J.M. Martín-Ramírez, A.P. Zaderenko-Partida, M.P. Ortiz-Calderón: *A comparative evaluation between Nano-lime and Nano-silica consolidants on fossils*
- **P. Girginova**, C. Galacho, J. Mirão, R. Veiga, A.S. Silva, A. Candeias: *Micro and nanoparticles based on alkali-earth metal hydroxides for cultural heritage conservation.*
- **A. Murru**, R. Fort, P. Meloni, L. Maiore, M. Arca: *Ammonium Methyloxalate as an alternative precursor of Calcium Oxalate for the protection and consolidation of carbonatic decayed materials in cultural heritage.*
- **A. Calero-Castillo**, A. García-Bueno, V.J. Medina-Flórez: *Previous assays to the consolidation of pictorial layers in plasterwork using a twelve-month cycle of natural aging. courtyard of the maidens alcazar of Seville.*
- **C. Cardona**, D. Vella: *Evaluating the performance of calcium tartrate as a consolidant for soft Limestone.*
- **R. Basile**, L. Bergamonti, F. Fernandez, C. Graiff, A. Haghghi, C. Isca, P.P. Lottici, B. Pizzo, **G. Predieri**: *Preparation and characterization of cellulose nanocrystals for decayed old wood consolidation.*

- **I. de Rosario:** *Evaluation of the effectiveness of a surfactant-synthesized PDMS/Silica nanomaterial in granitic rocks.*
- **F. Sbardella,** M.P. Bracciale, M.L. Santarelli, J.M. Asua: *Synthesis and characterizations of polyacrylate/silica hybrid films for coating applications in Cultural Heritage.*
- **F. Petronella,** A. Pagliarulo, M. Striccoli, A. Calia, M.T. Lettieri, D. Colangiuli, M.L. Curri, R. Comparelli: *Colloidal Nanocrystalline Semiconductor Materials as Photocatalysts for Environmental Protection of Architectural Stone.*
- **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 Srair (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.*
- M. Nunes, S. Costa, C. Miguel, A.T. Caldeira, **T. Ferreira:** *A non-destructive approach to the study of 20th century gelatine negatives.*
- **J.G. Coneo,** F. Elhaddad, M.J. Mosquera: *Producing Hydrophobic Concretes.*
- V. Flores-Alés, F.J. Alejandro, R. Villegas, **F.J. Blasco,** J.R. Baeza: *Concrete facade conservation of the Peru Pavilion of Seville (1927). Analysis of decay and evaluation of protection treatments.*
- **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-Martínez:** *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

- **J.M. Gallardo-Fuentes**, M. Hunt, E. Díaz-Gutiérrez: *Isotopic composition of Lead used in the El Giraltillo Casting.*
- 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-García, 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. Biscconti, V. Fiocchi-Nicolai, S. Cascioli, S. Bellagamba: *RAMAN/LIF non-invasive microanalysis of frescoes from St. Alexander catacombs in Rome (ITALY).*
- **M.D. Robador**, L. de Viguerie, M.A. Garrote, J. Castaing. J.L. Perez-Rodriguez: *Analytical investigation of Mudéjar polychrome on the carpentry in Mudejar Palace of Alcazar of Seville using non-invasive analytical techniques.*
- 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 (Vetulonia, 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 Media as a point of meeting between international 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.*
- K. Elert, **A. Herrera**, A. Garrido, I. Guerra, C. Cardell: *Influence of cinnabar particle size on pigment-binder interactions during photo-chemical aging.*
- R. Bellopede, N.M. Luodes, P. Marini, **L. Zichella**: *Natural stone: artificial ageing test versus natural weathering.*
- **J.A. Dassow**, A. Leslie, S. Hild, P. Harkness, L. Naylor, M. Lee: *New approaches to assess building stone decay.*
- M. Nunes, S. Costa, C. Miguel, A.T. Caldeira, **T. Ferreira**: *A multi-analytical study on 19th century ambrotypes.*
- **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).*
- **A. Durante-Macias**, S. Domínguez-Bella, D. Bernal: *The Mosaic of Baco (Puente Melchor, Cádiz), an archaeometric approach.*
- **S. Dominguez-Bella**, L. Criach, J. Martínez-López: *Ship ballasts in the Bay of Cadiz: their use as pavements in the Cadiz Old City quarters during XVII-XIX centuries. Petrological and Archaeometric approach.*

S7. Biodeterioration: fundamentals, present and future perspectives. Session in honour of Prof. Cesáreo Sáiz Jiménez

- **A.C. Coba**, I. Martín-Sánchez, A. García-Bueno: *Identification of fungi present in the paneled ceiling of the Maidens' courtyard.*
- V. Jurado, M. Hernandez-Marine, **C. Saiz-Jimenez**: *Biodiversity and cleaning of phototrophic biofilms in Cueva del Tesoro, Rincón de la Victoria, Málaga, Spain.*

- **T. Rosado**, M. Silva, A. Galvão, J. Mirão, A. Candeias, A. T. Caldeira: *Stone biodegradation and mitigation – the case of Convent of Christ, Portugal.*
- **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-Ríos, **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.*
- **N. Macro**, C. Sbrana, S. Legnaioli, E. Galli: *Antimicrobial activity of essential oils: a green alternative to treat cultural heritage.*
- **S. Cuezva**, J.C. Cañaveras, V. Jurado, A. Fernandez-Cortes, D. Benavente, S. Sanchez-Moral, C. Saiz-Jimenez: *Cave microorganisms and their role in the conservation and effective management of wild and show caves.*
- 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*
- A. C. Pinheiro, N. Mesquita, C. Coelho, **F. Soares**, H. Paiva-de Carvalho, F. Gil, L. Catarino, G. Piñar, J. Trovão, I. Tiago, A. Portugal: *Coupling air and surface samples: input on the study of biodeteriorated limestone and public health analyses.*

SUMMARY PROGRAMME

May 21

17.00	MAIN HALL	Registration
18.00	“1812 CONSTITUTION BUILDING”	Welcome Cadiz Tour

May 22

9.00-9.30	ASSEMBLY HALL			Opening Ceremony
9.30-10.00	“FACULTY OF PHYLOSOPHY & LETTERS”			Plenary Session
“1812 CONSTITUTION BUILDING”	LEQUERICA HALL	BOLIVAR HALL	ARGUELLES HALL	MAIN HALL
10.15-11.30	S1 Nanomaterials	S1 New Tech.	S1 20 th century	
11.30-12.00				Coffee break poster session I
12.00-13.15	S2 Nanomaterials	S2 New Tech.	S2 20 th century	
13.15-15.30	LUNCH PARADOR HOTEL ATLANTICO			
15.30-16.45	S3 Nanomaterials	S3 New Tech.	S3 20 th century	
16.45-18.00	S4 Nanomaterials	S4 New Tech.	S4 20 th century	
18.00-18.30	Session Tech. Net.			
18.45-21.45	GONZALEZ BYASS TIO PEPE WINE TOUR			

May 23

9.00-10.15	S5 Nanomaterials	S5 New Tech.	S5 20 th century	
10.15-11.30	S6 Nanomaterials	S6 New Tech.	S1 Biodeter.	
11.30-12.00				Coffee break poster session II
12.00-13.15	S7 Nanomaterials	S1 Det. Cult her.	S2 Biodeter.	
13.15-15.30	LUNCH PARADOR HOTEL ATLANTICO			
15.30-17.00	S8 Nanomaterials	S1 Significance	S3 Biodeter.	
16.45-17.45	Session E-RIHS			
20.30-	GALA DINNER WITH FLAMENCO SHOW "BALUARTE DE LA CANDELARIA"			

May 24

9.00-10.15	S9 Nanomaterials	S2 Significance	S4 Biodeter.	
10.15-11.30	S10 Nanomaterials	S3 Significance	S5 Biodeter.	
11.30-12.00				Coffee break poster session III
12.00-13.00	Session H2020			
13.00-15.15	LUNCH PARADOR HOTEL ATLANTICO			
15.15-16.30	S1 Underwater	S4 Significance	S6 Biodeter.	
16.30-17.30	CLOSING SESSION			
17.30-18.00	CLOSING CEREMONY			
18.00	GUIDED VISIT TO THE PHOENICIAN ARCHAEOLOGICAL SITE GADIR			