

International Congress



Cultural Heritage, Science and Technology

Programme and Abstracts
of the Second International
Congress on Science and Technology for the
Conservation of Cultural Heritage

Seville, Spain, 24-27 June 2014

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Cover image: Phototrophic biofilms growing over archaeological substrates
in the House of Bacchus, Antiquarium of Seville.

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Compiled and Edited by Miguel A. Rogerio-Candellera

Instituto de Recursos Naturales y Agrobiología de Sevilla,
Consejo Superior de Investigaciones Científicas

Sevilla, 2014

**Second International Congress on Science and Technology for the
Conservation of Cultural Heritage**

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Venue

*Hotel Sevilla Palmera
Cardenal Ilundain, 28; 41013 Sevilla, Spain*

Programme

Monday 23rd June 2014

17:30-20:30 Registration and Welcome

Tuesday 24th June 2014

Tierra-Mar Hall

09:00-09:30 Opening sesión

09:30-10:30 Plenary lecture. D. Camuffo. Climate change, sea level and impact on monuments in Venice

10:30-11:15 Invited lecture. Topic 1. Environmental assessment and monitoring (pollution, climate change, natural events, etc.) of Cultural Heritage. R. van Grieken: Air pollution and preventive conservation in European museum

11:15-11:45 COFFEE BREAK

11:45-12:05 M. Sileo, M. Biscione, F.T. Gizzi, N. Masini, M.I. Martínez Garrido. Low cost strategies for environmental monitoring of cultural heritage: the crypt of St. Francesco d'Assisi, Irsina (Southern Italy)

12:10-12:30 M.I. Martínez-Garrido, M. Gómez-Heras, R. Fort, M.J. Varas-Muriel. Monitoring moisture distribution on stone and masonry walls.

12:35-12:55 C. Cabello-Briones. The case study of the Bishop's Palace archaeological site in Witney (Oxfordshire, England)

13:00-13:20 C. Cardell, I. Guerra, A. Herrera Rubia, L. Rodríguez Simón, A. Yebra-Rodríguez, N. Navas Iglesias. Preliminary results on the characterization of Paint dosimeters exposed to the urban atmosphere of Granada city

13:25-13:45 J. Peña-Poza, F. Agua, J.F. conde, P. de San Pio, S. García Ramírez, J.M. Álvarez Farfán, J.M. Moreno Martín, M. González Rodrigo, M. García-Heras, M.A. Villegas. Air quality assessment and protection treatments impact on the collection of the Museo Naval (Madrid, Spain)

13:45-15:00 LUNCH

15:00-15:20 T. Fernández-Montblanc, M. Bethencourt, A. Izquierdo. Establishing the relationship between underwater cultural heritage and marine environmental factors: A comparative analysis of Bucentaure and Fougueux sites

Painting woods vulnerability to ultraviolet exposure

M.A. Gómez-Morón¹, A. Tirado², P. Ortiz²

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The present study is based on the evaluation of ultraviolet exposure of painting woods. With this purpose, 2 model painting samples have been developed according to Cennino Cennini with 11 different pigments that were mixed with proteinaceous binding based on eggs and rabbit glue. Pinewood was used as supports.

Pigments, binders and mixtures were characterized before and after laser tests by a X-Ray diffractometer, a FT-IR Spectroscopy with attenuated Total Reflectance (UATR) accessory, an Optical Microscope, an EDS-SEM Microscope and a colorimeter. Special attention was given to surface damage and colour changes.

The laboratory experiments were carried out at a climatic chamber at 20°C and 40% relative humidity. A lamp of 350 nm was employed and the samples were analyzed after 200 and 400 hours of exposure.

After 400 hours of radiation the pigments with the highest color changes are carmine and ultramarine blue, followed by vermilion and indigo. The green earth is the pigment that suffers the smallest color change. Colour variation (ΔE^*) is higher with the egg binder than with the animal glue. An exception to this rule is ultramarine blue with rabbit glue as binder.

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