UNIVERSITÀ DEGLI STUDI DI PARMA

COLORE E CONSERVAZIONE

CESMAR7
Centro per lo Studio dei Materiali per il Restauro

Under the patronage of

COMUNE DI PARMA

DIREZIONE REGIONALE PER I BENI CULTURALI E PAESAGGISTICI DELL'EMILIA-ROMAGNA

SOPRINTENDENZA PER I BENI STORICI ARTISTICI ETNOANTROPOLOGICI DI PARMA E PIACENZA

AIAr

Società Chimica Italiana

AIDSI
Associazione Dimore Storiche Italiane

CNA Parma

6th Biennial International Congress "Colour and Conservation 2012"

Before, during … instead of restoration
16th -17th November 2012

University of Parma
University Campus Auditorium
Parco Area delle Scienze 59/A, 43124 PARMA

il prato

With the support of

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For information and updating:
http://cesmar7.org/congresso-cc-2012
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Friday, November 16th

First Day

09.00 **Registration**

10.00 **Welcome**

10.20 **Introductory address: "Before, during and…instead of restoration treatment"**

E. Signorini, CESMAR7 President

First Session – PATHS COMPARED

Chairman: S. Rinaldi, University of Tuscia

10.50 **A conversation with Erasmus Weddigen**

E. Weddigen[1], M. Fratelli[2]

[1] Founder of the first Conservation School of Switzerland and SKR/SCR

[2] Staff Director for Museums, Town of Milan

11.30 **For a conservation ethics: back to the principles**

G. Bonsanti, formerly, Professor of conservation at Turin and Florence University

In this paper, the aim of the Author is to reconsider some of the basic principles of restoration, as they have been establihed until the preseent day. These principles came to converge in the XX Century into the theoretical writings of some scholars. The risk is of resorting to them supinely while in a delicate domain as restoration a critical conscience should always be the main guide.

Poster Session - Opening

Chairmen: C. Lodi, A. Colombo, CESMAR7

11.50 **Poster presentation: brief introduction to the studies by the authors**

12.30 **Lunch break**

Second Session – CHOICES AND METHODS: preservation and environmental control

Chairman: M. Fratelli, Staff Director for Museums, Town of Milan

14.30 **The environmental control in the UNI-NORMAL and in the new European regulations for the conservation of cultural heritage**

D.Camuffo, ISAC-CNR, Padova

The state-of-the-art of the Italian (UNI-NORMAL) and European (CEN/TC346) standardization concerning cultural heritage and environment is presented. The novel standards and those near to conclusion will be shortly illustrated. In particular the updating for Italy will concern not only the novel standards, but also those that have been, or will be, consequently dropped.

14.50 **Some environmental control examples run within the *Climate for Culture* European project**

C.Bertolin[1], I. Bighignoli[2], D. Camuffo[1], M. Tonellato[2], A. Vergottini[2]

[1] ISAC-CNR, Padua,

[2] University of Padua

Examples of Environmental monitoring carried out on collections and buildings within the Climate for Culture European Project are presented. The aim is to illustrate observational methodologies and some results in buildings greatly different in structure, use and geographic location.

15.10 **Assisted monitoring system for the preventive conservation of cultural heritage: from the project to the application**

P. Mandrioli[1], D. Fernandez[2], P. De Nuntiis[1], L. Branzanti[3]

[1] ISAC CNR, Bologna

[2] Universidad de León, Spain

[3] Pegasoft srl, Bologna

The environmental data collected in particular sites as museums, galleries and others allows experts to analyze the causes of deterioration and so adopt the right conservation strategies. The assisted environmental monitoring supplies the full characterization of each individual environment and helps curators and restorers to preserve the works of art under the best possible conditions.

15.30 **Back to the beginning of climate control looking at the technical literature and Modern Age buildings: from data towards further observations**

A. Grimoldi, Politecnico of Milan

The most famous treatises on architecture of the Modern Era never fail to observe precepts to construct buildings consistent with the climate of its regions. Less well known is the more detailed local architecture literature, which also provides real machines, linking to the more specific texts in this field. With the evolution of finishes, including window frames, which contribute to the comfort, this literature allows a much more detailed and aware reconstruction of the climate control in the buildings between the sixteenth and eighteenth centuries.

Case study 1: *Villa Reale* in Milan

A. Luciani, C. Manfredi, Politecnico of Milan

Case study 2: The *Palazzina di Boscofontana* (MN)

D. Del Curto, Politecnico of Milan

16.20 **Conservation and climate control in historical buildings: a Swedish point of view**

A. Luciani, Politecnico of Milan

Researches in progress at the Gotland University on the themes of conservation, climate control and energy efficiency on historical buildings are presented. Different peculiar case studies will be discussed, as well as the methodological approaches.

16.40 **The conservation of historical and artistic heritage: the necessity of an integrated project**

M. Ciatti, O.P.D. Director, Florence

The contribution intends to introduce the methodology applied by the Opificio delle Pietre Dure in Florence, founded on an integrated project in which collaborate in synergistic manner the maintenance, the preventive conservation and the restoration, in relation to the specificity of every single case.

17.00 **Break**

17.20 ***A City for Archives*. Digitalization and preventive conservation: a double strategy for saving our memory**

M. Montanari[1], A. Antonelli[2]

[1] Biologist, CESMAR7 scientific coordinator

[2] Scientific Coordinator of the project "A city for archives", **Bologna**

"Una città per gli archivi" ("A city for the archives"), is a project funded by Fondazione del Monte di Bologna e Ravenna and by Fondazione Cassa di Risparmio in Bologna. A section of the project was dedicated to the development of a protocol for the assessment of the environmental health of the archives and documents stored in them. Prevention measures of the indoor environments of the archives, efficient procedures for inventory and innovative tools for online consultation, may preserve the memory of our archives and at the same time increase their fruition.

17.40 **The *Tüchleine* of S. Nicholas of Bari, Casbas, Huesca: preservation and maintenance plan**

G. Torres Llopis, R. Piquero Fernández

Escuela Superior de Conservaciòn y Restauracion de Bienes Culturales de Aragòn, Huesca , Spagna

Tüchleine are a delicate support, with a painting technique that further emphasizes their fragility, specially, if the artwork has to remain in its original location. Minimal intervention, from our point of view, requires an associated maintenance plan, including the continuous training of non-professional custodians.

18.00 **Determining allowable environments for cultural materials and objects**

M. F. Mecklenburg[1], L. Fuster Lopez[2]

[1]Smithsonian Museum Conservation Institute, Washinghton DC, USA

[2]Departamento de Conservación y Restauración de Bienes Culturales, Universidad Politecnica de Valencia, Spagna

There are many reasons for exploring the environmental ranges that cultural objects are capable of safely withstanding. One of which is the energy consumption associated with tightly controlling a museum environment. The approach to determining the effects of changing temperature and RH on cultural materials can be simplified by making certain worst case assumptions. These assumptions are founded on the basic fact that forces and stresses which cause materials to fail (either plastically deform or crack) result when there are changing environments and the materials are restrained from movement to lesser or greater degrees. This paper exams a wide variety of materials and establishes allowable RH variations for the worst case conditions. As it will be shown, nearly all the cultural materials can withstand RH variations of +/- 15% or greater. Further it will be shown that temperature variations are not significant unless it falls below the glass transition temperature of the different paints. In addition these results will be shown to compare favorably to research results conducted using advanced computer simulations by other researchers.

18.20 **Conclusion**

Saturday, November 17th

Second Day

Third Session – CANVAS AND PAPER SUPPORTS: the choice of methods

Chairman: A. Casoli, University of Parma

9.00 **The de-acidification of canvas paintings**

S. Hackney, Senior consultant for Conservation Science, Tate, London, UK

Concern for physical damage dominates our perception since it is clearly associated with physical events. In comparison, chemical processes of deterioration are relatively slow and difficult to identify with specific events, until they are revealed as physical damage. In most major cities, since the beginning of the nineteenth century, historic paintings have been exposed to long periods of pollution and have over time absorbed sulfur dioxide on their canvases. There is no shortage of evidence from paper science that cellulose deteriorates rapidly in acid conditions and can be preserved by the removal of the acidity. De-acidification of canvas has been practised for many years and long-term harmful effects have not been detected. It might be argued that de-acidification is an irreversible treatment, but acid hydrolysis is a continuing danger and also irreversible.

9.20 **The use of nanomaterials for the deacidification of book and archival products**

R. Giorgi, G. Poggi, N. Toccafondi, P. Baglioni, CSGI & Department of Chemistry – University of Florence

Nanotechnology is providing new materials for the deacidification of manuscripts, books, and other cellulose-based objects. Humble calcium and magnesium hydroxide can be successfully used as a nonaqueous dispersions to control pH acidity and inhibit oxidation processes favoured by iron gall-inks.

9.40 **pH and DP studies of canvas paintings**

M. Oriola[1], M. Strlič[2], G. Campo[1], A. Mozir[3], A. Nualart[1], C. Ruiz[1]

[1] Conservation Section, Faculty of Fine Arts, University of Barcelona, Spain
[2] Centre for Sustainable Heritage, The Bartlett School of Graduate Studies, University College London, UK
[3] Faculty of Chemistry and Chemical Technology, University of Ljubljana, Slovenia

Acidity (pH) and degree of polymerization (DP) are two important parameters to know the condition of the canvas support in a painting. However, not that many paintings have had these two parameters analysed. The present study offers the results of measuring the pH of 179 samples of canvas support and the DP of 95. This allowed us to learn about the typical pH and DP values of paintings, which were mainly from the 19th to the 21st century.

10.00 **Lyophilizing as a method for saving flooded volumes and books subjected to a microfungi attack**

F. Troiano[1], N. Barbabietola[1], P. Colaizzi[1], M. Montanari[2], P. Livi[3], F. Pinzari[1]

[1] ICRCPAL, Ministero per i Beni e le Attivita Culturali, Roma
[2] Dipartimento di Protezione Valorizzazione Agroalimentare, University of Bologna,
[3] Restorer at Frati & Livi s.r.l, Bologna

The present work concern with the effects of freeze drying treatment on biodeteriorating fungi that attack the wet paper. The study is based on the treatment of paper samples infected with fungal filamentous species that are frequent on paper soaked in water. Results indicate that freeze-drying is able to kill or suppress the fungal mycelium, but only in part (and in various ways depending on the species) spores and conidia.

10.20 ***Farnesia Arbor*, painted graphic artwork on lined paper: from preliminary characterization to de-acidification treatment.**

A. Casoli[1], C. Isca[1], F. Romagnoli[3], I. Saccani[2], F. Saggese[1]

[1] University of Parma
[2] CESMAR7
[3] Restorer, Parma

Following chemical and physical analysis on Farnesia Arbor (characterization of paper fibers, glue and materials, surfeace pH mesurements), a new method of deacidification was tested: a water solution of Ca(HCO3)2 was experimented and applied by aersol. This step is a part of a wider conservation path, including a partial removing of the varnish and the flattening of planar deformations.

10.40 **Round table: former speakers facing "Deacidification intervention opportunities" - audience's questions**

11.00 **Break**

11.30 **Giuseppe Pellizza da Volpedo: conservation of graphic artworks related to the paintings *Il Quarto Stato* and *Sul fenile* , from the Atelier-Museum in Volpedo**

C. Frosinini[1], L. Montalbano[2], S. Micheli[3]

[1] Director of Drawings and Prints Conservation Department,Opificio delle Pietre Dure, Florence
[2] Technical Director of Drawings and Prints Conservation Department,Opificio delle Pietre Dure, Florence
[3] Restorer cooperating with Opificio delle Pietre Dure, Firenze

Since 2007 the Department of prints and drawings conservation of OPD in Florence, in collaboration with the Associazione Pellizza da Volpedo, has restored tree preparatory drawings for the paintings “Sul fenile”(1893) and “il Quarto Stato”(1898 e il 1901) of the Volpedo Studio-Museum, taking also care of preservation and exhibition point of view inside the painter atelier, donate by the two Pellizza daughter to Volpedo town in 1966 and open to the public in 1994.

Fourth Session – MATERIALS SURVEY

Chairman: O. Chiantore, University of Turin

11.50 **The influence of size and ground layers of a canvas on its stiffening and orthotropy**

A. Roche, engineer and conservator LARCROA, Paris, France

The qualities of a canvas and the preparation are essential to the conservation works. Coated fabrics must meet certain quality criteria based on the mechanical properties. Once stretched on a frame and prepared, coated canvases are the foundation of the paintings, which guarantee the durability and aging of the paintings in time. This study is divided into two parts: a numerical approach and an experimental approach. The objective of our study is to determine the best criteria for a quality coated canvas can play a better role in the composition of the support. We have therefore chosen for the experimental part 5 linen and 5 polyester fabrics, plain weave, but with different textures. They were chosen among the fabrics used in the field of fine art and conservation. The study guides our choice of fabrics and coatings, for a raw canvas, even though of a good quality, can appear unsuitable, once prepared and ready to use.

12.10 **The choice of consolidating materials: concerns and solutions**

R. Ploeger[1], E. René de la Rie[1], C. McGlinchey[2]

[1] National Gallery of Art, Washington DC, USA
[2] Museum of Modern Art, New York, NY, USA

This international collaborative project aims to understand the chemical and mechanical properties required for an ideal consolidating adhesive, and to develop a new heat-seal adhesive product for the consolidation of paintings. A first step is to investigate BEVA 371, an ethylene-vinyl acetate (EVAc) based conservation adhesive, and to improve its stability while maintaining its useful thermomechanical properties. Preliminary results will be presented.

12.30 **Wood treatment with metal nonpolar matrix chelants and functionalized silica gels Notes on the preparation and chemical-physical characterization**

M. Berlanda[1], G. Predieri[1], O. Allegretti[2]

[1]University of Parma
[2] C.N.R.-IVALSA, Trento

The present research aims to characterize the physical-mechanical characteristics of wood samples processed with experimental preserving products: preservative solutions with zinc chelates and copper amine complexes grafted to functionalized silica gel.

12.50 **Stuffing everything we know about mechanical properties into one collection simulation**

S. Michalski, Canadian Conservation Institute

13.10 **Lunch break**

Fifth Session – HANDLING STRATEGIES

Chairman: A. Giordano, CESMAR7 Vicepresident

14.30 The big canvas from the ceiling of the *Galleria Dorada* of Gandia, Spain. Dismantling and reallocation, restoration and elastic refunctionalization of original stretchers

A. Iaccarino Idelson[1,2], C. Serino[2]
[1] CARLO BO University, Urbino
[2] Equilibrarte s.r.l., Pesaro

The presence of wide gilt frames made the removal and handling of the paintings complex operations. The original strainers were conserved; an elastic system based on the free flow of canvas on perimeter made it possible to reach a negligible sagging with a small, even and measured tension. Rails in the ceiling allowed installing the paintings trough one room, with very limited intervention on the frames.

14.50 Protective facing for big canvas paintings. Survey of the selected materials for the treatment of artworks from *Palazzo Ducale* of Gandia, Spain

S. Martin-Rey, M. Castell-Agustí, V. Guerola-Blay, C. Robles-De La Cruz
University Institute for the Restoration of Heritage, University of Valencia, Spain

In several occasions, the large canvas paintings should be routed to the transport from the initial position to the laboratory where they will be restored. Afterwards, they need to be rolled up again once the restoration has finished, to return to their initial position. During this process, the colour protection and the materials used in each of these two phases, must be clearly different, since the conditions of the work substantially change, before and after the restoration. In this paper we present the results and materials developed by a group of researchers from the Institute of Heritage and Restoration of the Polytechnic University of Valencia (Spain), on the way to study an intervention of a large canvas painting, which can be found on the ceiling of the "Galería Dorada", the Ducal Palace of Gandia in Valencia. We show here the study and formal analysis, performed for the transfer and final assembly on the ceiling of the building. The main objective is to obtain the final protection of these paintings, strong adhesive resistance after the rolling up for their transfer, but at the same time, the lightweight material with the minimum moisture that allow us to remove it, without leaving any residue on the original colour surface. Always emphasizing the requirements and not to cause colour changes on paintings after this operation.

15.10 Non-invasive methods for a safe handling of artworks

D. Riggiardi, Restorer, Milan

During handling or movement, the works of art undergo stresses, strains and sudden changes in temperature and RH. This paper would present shock absorbing and insulating system for artworks, as well as devices to protect them during handling.

Closing Proceedings - Conclusion

Stefan Michalski, Canadian Conservation Institute

POSTER SESSION

1. **Preventive conservation and control methodologies for the exhibition of objects made of plastic. Case Study: the *Museo della Plastica Cannonsandretto*.**
   S. Bassotti[1] , G. Sidoti[2]
   [1] Restorer
   [2] ISCR, Rome

2. **Preventive conservation at the *Museo del Risorgimento Vittorio Emanuele Orlando* in Palermo.**
   M.R. Carotenuto, R. Licciardi, G. Milazzo, M. F. Mulè, D. Pasta, V. Rosselli
   Lab CP S.r.l.– Laboratory for preventive conservation, Palermo

3. **Scheduled maintenance for contemporary artworks: two case studies**
   A. Barbuto, F. Cangià, F. Graziosi
   MAXXI Arte, Rome

4. **Reallocation of a big canvas using innovative supports**
   A.P. Garberini
   Restorer, Tivoli, Roma

5. **The use of magnets as an alternative solution to traditional mounting systems for canvas paintings**
   A. Giordano
   Restorer, Palermo

6. **The IMAT Project: development of a mild heating laminate and the application of carbon nanotubes for the conservation of cultural heritage**
   L. Amorosi [1],L. Conti[2], V. Balzani[3], N. Olsson[4], T. Markevicius[5]
   [1]Conservator, Florence
   [2] Restorer, Florence
   [3] Conservator, Florence
   [4] Restorer, Portland (OR) U.S.A.
   [5] Restauratore, Vilnius, Lithuania

7. **Evaluation of cleaning of antique paper artworks treated with rigid Gellan gels by means of chemical and physical analyses**
   A. Casoli[1], P. Cremonesi [2], C. Isca [1]
   [1] University of Parma
   [2]Conservation Scientist, Cornegliano Laudense, Lodi

8. **Undesired colours: tests for the enzymatic removal of fungal stains from paper**
   M. Fiacconi, P. Colaizzi, D. Ruggiero, L. Botti, F.Pinzari
   ICRCPAL, Rome

9. **Study for the adhesion of painting layers on six oil on canvas paintings relined with glue paste preserved at the *Galleria d'Arte Moderna Ricci Oddi* in Piacenza**
   S. Ottolini[1], L. Fuster Lopez[2], M. Rossi Doria[3]
   [1] Restorer, Piacenza
   [2] Universidad Politécnica de Valencia, Spain
   [3] Restorer, Rome

10. **A systematic procedure for the preparation of model paintings for consolidating adhesive testing**
    C. Carta, R. Ploeger , A. Alba
    National Gallery of Art, Washington DC, USA

11. **Polymeric composites for protection of artworks and restoration**
    A. Cataldi , F. Deflorian , A. Pegoretti
    University of Trento

12. **Monitoring protective treatments on architectural surfaces: the choice of parameters and threshold values**
    dei valori di soglia
    E. Zendri, G. Biscontin, E. Balliana, F.C. Izzo, M. Melchiorre Di Crescenzo, M.Sgobbi, L. Falchi
    Ca' Foscari University, Venice