

## 2nd International Workshop on Science, Technology and Cultural Heritage

The 2nd International “Science, Technology and Cultural Heritage” workshop organised by the Italian Association of Vacuum (AIV) in conjunction with Heritage, The Italian Association of Macromolecules, Museo Diocesano of Catania, Istituto di Fisica del Plasma “Piero Caldirola”- CNR, and the Italian Association of Ecclesiastic Museums, and sponsored by Regione Siciliana, took place in Catania (Italy) between 9th and 11th November 2005.

The purpose of the workshop was to discuss the status of natural sciences as applied to cultural heritage and to encourage collaboration between scientists working in the field of cultural heritage and other museum professionals. The workshop attracted a large group of multi-disciplinary attendees including conservation scientists, researchers, conservators and policy makers. AIV’s first workshop “Science, Technology and Cultural Heritage” in Venice in 2004 was a completely new venture. Its success encouraged the organisers to arrange a similar event for 2005. The format was a 3 day conference with plenary and parallel sessions comprising 29 oral presentations and posters. The conference was attended by around 60 lively participants from throughout Europe. Sessions were chaired by internationally recognised experts to stimulate discussion.

The main conference themes were:

### 1) The degradation of synthetic polymers

Presentations addressed the study of deterioration of plastics in museum collections. As plastics appear to deteriorate faster than other materials and have a useful lifetime of less than 40 years, the research in this field aims at identifying the most effective action to inhibit the major pathways. Research concerning the degradation of poly(ethylene glycol) currently used to conserve waterlogged wooden ships in Scandinavia was also presented.

Another subject which was covered at the conference was the fungal deterioration of paper-based objects consolidated with graft synthetic copolymers.

### 2) The study of natural polymers, their degradation and consolidation

Binding media in paint were investigated at the conference. Innovative plasma processes to conserve biodeteriorated paper-based materials were also discussed.

### 3) Advanced techniques for the study of materials in works of art

Current analytical technologies which are applied to the study of cultural heritage were evaluated. Optimisation and further applications of such techniques were a core interest. Advanced techniques applied to cultural heritage were a common thread in a number of presentations and it was clear that research in this area will yield results in coming years. Such techniques include secondary ion mass spectrometry applied to archaeometry studies and nanotechnologies for wood deacidification.

### 4) Biodeterioration and biotechnologies applied to cultural heritage

While prominent conservators and biologists presented and discussed new research devoted to discovering the causes, mechanisms and control of the damaging effect of microbes on works of art, the innovative use of bacteria to clean surfaces of cultural heritage was presented by a conservation scientist.

To conclude, all participants of the 2nd International “Science, Technology and Cultural Heritage” workshop were agreed on the urgent need for interdisciplinary research into cultural heritage at an international scale, overcoming institutional and political barriers.

*F. Cappitelli*