

Blue Whale Project **wins** **2016 IIC Keck Award**



LOS ANGELES - During the IIC Los Angeles Congress that took place from the 12th to 16th September, the *Blue Whale Project* was announced as the winner of the 2016 IIC Keck Award.

The cash award is presented every two years at the IIC Congress to the individual or group who has, in the opinion of the Council, contributed most towards promoting public understanding and appreciation of the accomplishments of the conservation profession. A list of past award winners can be seen at:

<https://www.iiconservation.org/about/awards/keck>

Preservation of GPPS sculptures -

The student poster winner at the 2016 IIC Los Angeles Congress with updated results. Feature from page 8

Dyeing textiles in the Ming and Quing dynasties-

Jing Han unveils the secrets of textile dyeing in ancient China. Full article on pages 12-15

Water and paper conservation principles-

A workshop review from Laura Dellapiana. Read the review from page 16

The Fellowship Corner -

Introducing *NiC's* new space dedicated to IIC Fellows
From page 22

**The project**

In September 2015, the Natural History Museum's conservation team began the work of checking, cleaning and dismantling a 25 metre long, 4.5 tonne blue whale skeleton. The specimen had been on public display in the Mammals Hall of the Museum since 1934, and will be re-suspended from the ceiling of the Museum's main Hintze Hall from the summer of 2017. The whale will take the place of the Diplodocus cast that has stood in the Museum's main entrance for 35 years.

The Blue Whale Project was an opportunity to promote the Museum's conservation work. There had already been a large amount of media coverage

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Looking into the pop-up conservation lab

about the move, and the team have embraced the project's engagement potential through many channels. This includes paper presentations, installation of a "pop-up" Conservation studio, lectures and informal chats with the public, the use of social media and the museum's film production team as well as international media team producing a documentary. Due to the size of the skeleton the conservation team worked across three sites, including the newly installed pop-up conservation studio in the Museum's Darwin Centre. Visitors are able to watch the conservation work on the individual bones and talk to the team directly about their work. Further signage outside and within the pop-up studio promotes the background story of the blue whale and the conservation work.

The conservation story of the Blue Whale is also being documented in a series of films by the Museum's broadcasting unit. These films can be found on the Museum website as well as through the Museum's YouTube channel. An international media team are also following the team throughout the two-year project from dismantling to installation.

This project has provided the conservators with a unique opportunity to engage with the public in new and exciting ways. The team working on the project have a strong commitment to promoting and sharing the importance and relevance of conservation more widely and will continue to do so on other projects in the future. It has provided an opportunity to share the ethical and practical issues that every conservator has to face when completing a project and is helping to give the public a new in-depth insight into the world of conservation.

To learn more about this project and to watch the videos of conservators in action visit:

- www.nhm.ac.uk/whaleteaser
- www.nhm.ac.uk/whalemove

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Editorial

Welcome to the October issue of *NiC*.

The 2016 IIC Congress that took place in Los Angeles just concluded and as I look once again at the titles of the papers and posters presented during this edition, I can't help feeling overwhelmed by the realisation of how far the field of contemporary art conservation has come in the past few years. In particular I am so very impressed by the work students and emerging conservators are doing and I'm happy to have this space allowing me to share some of these projects with an ever expanding audience.

One of the main features in this issue is an updated version of the Student Poster winner at the Congress, a project presented by Raimundo Milton and Joana Lia Ferreira on the preservation of Polystyrene sculptures from Portuguese artists Ângelo de Sousa.

Following, Jing Han talks about her research on techniques for dyeing textiles during the Ming and Qing Dynasties in China.

Laura Dellapiana attended the workshop "Water and paper conservation principles" and kindly reviewed it for *NiC*.

NiC has a new section – *the Fellowship Corner*. As the title suggests, the space is dedicated to IIC Fellows, old and new. In this space we will be celebrating newly nominated Fellows as well as publishing any other news, projects or whatever else Fellows want to share.

Happy reading!

Barbara Borghese
Editor

World Monument Fund secures funds for five heritage sites

NEW YORK – Five heritage sites, located in Cambodia, India, Portugal, Romania and Spain, have been granted vital new funding thanks to the World Monument Fund (WMF), a private non-profit organisation founded in 1965 by individuals concerned about the accelerating destruction of important artistic treasures, and the *Robert W. Wilson Challenge to Conserve our Heritage*.



©World Monument Fund

A general view of the northeast corner of Phnom Bakheng, Cambodia, looking towards the northwest taken in 2015

The original Wilson Challenge - a \$100 million programme established in 1998 - allowed WMF to conduct conservation work at 201 sites in 51 countries. In 2015, the Robert W. Wilson Charitable Trust extended the challenge with an additional \$10 million in multi-year funding. Intended to support conservation of heritage sites internationally while simultaneously helping WMF expand its donor base, this new gift matches, dollar-for-dollar, first time gifts to WMF and increased gifts from current donors. Gifts will leverage additional matching funds when deployed at conservation projects, making the impact of new or increased gifts 2:1.

This new round of grants reflects the vision and generosity of the Wilson Challenge, while also representing the contributions of new donors and the increased commitment of existing donors.

The five sites are: Phnom Bakheng (Cambodia), Osmania Women's College (India), Jerónimos Monastery (Portugal), the Great Synagogue of Iași (Romania), and Medina Azahara (Spain).

To learn more about the individual projects visit WMF website at: <https://www.wmf.org/>



News in Brief..

Controversy over restoration of Great Wall of China

BEIJING – There has been controversy over the restoration of a portion of the Great Wall of China, the monument stretching more than 8 thousand kilometres that was started in the fourteenth century and which runs through 15 Chinese provinces. The complaint, reported by news network CNN, comes from the director of the Great Wall of China Society, the company that deals with the preservation of the historical monument.

The focus of the criticism is the work carried out on the Great Wall in 2014 on the border between the provinces of Liaoning and Hebei. The intervention covered the upper part of the wall with a layer of concrete.

The work, which was carried out starting in 2014, had become necessary to stop the deterioration of several sections of the monument due to weathering but also theft, as bricks from the structure are often stolen and used to build new housing by locals.

According to China state broadcaster CCTV, Ding Hui the deputy Director of the Liaoning's Department of Culture admitted: "The repairs really are quite ugly".

The Great Wall is not a single unbroken structure but stretches for thousands of kilometres in sections from China's east coast to the edge of the Gobi desert.

Around 30 percent of China's Ming-era Great Wall has disappeared over time as adverse natural conditions and human activities erode the UNESCO World Heritage site



©Beijing News

The portion of the Great Wall covered by concrete



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Crowds on the monument while conservation is taking place

Fashion house Bulgari funds restoration of the Spanish Steps

ROME – One of Rome's most visited tourist attractions, the Spanish Steps (Italian *Scalinata di Trinità dei Monti*), will be officially re-opened to the public after a £1.3 million (€1.5 million) conservation project.

The city's newly elected mayor, Virginia Raggi, pledged to protect the monument from further damage by stepping up controls to avoid overcrowding of tourists and residents and control damaging behaviour by stationing extra police around the 18th century baroque monument. She was however dismissive of suggestions to close access to the steps, saying that the city was fundamentally opposed to closing off areas to tourists and that she was adamant that people should be allowed

to use Rome's cultural heritage assets.

The monumental stairway is composed of 135 steps and was built in 1723–1725 to link the Bourbon Spanish Embassy, and the *Church of Trinità dei Monti* that was under the patronage of the Bourbon kings of France.

The intervention focused on the cleaning of the travertine steps, the removal of excess vegetation that had grown between the cracks and the installation of new surveillance equipment.

The project was funded by fashion house Bulgari.



Devastating Earthquake hits Myanmar

BAGAN — Two hundred Buddhist pagodas and temples dating back to the 10th century were damaged in a 6.8 magnitude earthquake that devastated central Myanmar, causing at least four deaths in August. The quake hit the region just hours after an unrelated devastating earthquake hit central Italy.

It is not the first time that Myanmar, and in particular the area of Bagan, is hit with earthquakes: in 1975, over half of the estimated 3,000 pagodas and temples were damaged following a similar event.

Many of the dilapidated structures were subjected to reconstruction by the former military regime, and these were said to be the most damaged structures.

In recent years some more sympathetic conservation work has been carried out with aid from UNESCO although the organization has denied the country's inclusion in its list of World Heritage Sites due to the way the area is managed by the government.



A view of the Bagan area before the earthquake

Recovery operations under way in Earthquake areas in central Italy

ITALY - A team of restorers from the Italian Ministry of Cultural Heritage (MiBACT), assisted by the Technical Institute for Conservation and Restoration, have successfully completed the recovery operation of the content of

the church of *St Maria della Misericordia* in Accumoli, severely damaged when the structure collapsed during the recent earthquake that obliterated entire villages in central Italy.

The project was made possible thanks to the constant support of the fire brigade, the police force *Carabinieri of the Cultural Heritage Supervision* and civilian volunteers.

During the operations, two Immaculate Conception altarpieces (oil on canvas, sec. XVI) and the paintings *Our Lady of Mercy*, and the *Saints Anna, Francesco and Giacomo Maggiore* (oil painting on canvas, dated between 1635 and 1649, by Alessandro Turchi) were recovered. Other works saved from the rubble included the painting of *St. Nicholas* (Roman school, XVII sec.), two paintings of the *Sacred Heart of Jesus* and *Our Lady of Sorrows* (sec. XVIII-XIX) and



©Segretariato Regionale per i Beni del Lazio MiBACT

One of the paintings saved after the Earthquake

various liturgical furnishings including some relics of the eighteenth century and a set of four altar candlesticks in silver foil embossed and chiselled (sec. XVIII). Works continues in other churches in Accumoli and neighbouring villages.

The works removed were packed in suitable containers and transferred to a temporary shelter.

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Memling's Triptych of Jan Crabbe reunited at The Morgan



Hans Memling (Flemish, ca. 1440–1494), *The Triptych of Jan Crabbe*, ca. 1467–70.
 ©Pinacoteca Civica di Palazzo Chiericati, Vicenza. Left and right panels:
 ©The Morgan Library & Museum, Photography by Graham S. Haber

(IRR), Memling's graphic style can be seen in the lively underdrawings that lie beneath the layers of paint. Differences between the underdrawings and painting show that Memling made changes to the initial composition. X-radiographs show that he also made changes during the actual painting process

The portraits in the two wing panels that belong to the Morgan are as crisp as if the brush had just been lifted from them. By contrast, certain faces in the large Crucifixion panel look indistinct, as if they'd been worn down by some light but persistent pressure. That panel also seems to have been technically disadvantaged from the start. It's made from three joined oak planks, and join lines are visible in the paint surface, suggesting that whoever laid down the initial, levelling ground did so incompletely or with an inferior primer.

This exhibition will be on view to January 8, 2017. For more information please visit:

<http://www.themorgan.org/exhibitions/hans-memling>

NEW YORK- Hans Memling's Triptych of Jan Crabbe will be reunited in all its component for the first time for an exhibition taking place at The Morgan Library & Museum.

Completed around 1470 in Bruges, the triptych was dismantled centuries ago and the parts were scattered. The inner wings owned by the Morgan, will be displayed alongside other elements of the famous triptych: the central panel from the Musei Civici in Vicenza, Italy, and the outer wings from the Groeningemuseum in Bruges, Belgium.

The complete altarpiece was originally commissioned by Jan Crabbe, Abbot of the Cistercian monastery of Ten Duinen, near Bruges, Belgium.

Technical study of the Jan Crabbe panels has revealed fascinating aspects of the altarpiece's evolution. With infrared imaging

Ancient library in Fez to reopen after restoration

FEZ - The oldest working library in the world, the ancient al-Qarawiyyin Library in Fez re-opened its doors to the public after a restoration project led by Aziza Chaouni.

Founded by Fatima El-Fihriya, the daughter of a rich immigrant from modern-day Tunisia in 859, the complex includes a mosque, a library and a university. The library holds ancient manuscripts that date as far back as the 7th century.

The buildings were falling into disrepair when in 2012, the Moroccan Ministry of Culture asked Chaouni to take on the task of rehabilitating the library so that it could reopen to the general public.

Chaouni said: "When I first visited, I was shocked at the state of the place, in rooms containing precious manuscripts dating back to the 7th century, the temperature and moisture were uncontrolled, and there were cracks in the ceiling".

Funds for the project were provided by a grant from Kuwait's Arab Bank.



A courtyard part of the building complex of al-Qarawiyyin



Ancient skeleton discovered on Antikythera shipwreck

GREECE - An international research team discovered a human skeleton during its ongoing excavation of the Antikythera Shipwreck (circa 65 B.C.) a ship discovered and salvaged in 1900 by Greek sponge divers and considered the largest shipwreck ever discovered.

The shipwreck, which holds the remains of a Greek trading or cargo ship, is located off the Greek island of Antikythera in the Aegean Sea. The first skeleton recovered from the wreck site during the era of DNA analysis, this find could provide insight into the lives of people who lived 2100 years ago.

Led by archaeologists and technical experts from the Hellenic Ministry of Culture and Sports and Woods Hole Oceanographic Institution (WHOI), the team excavated and recovered a human skull including a jaw and teeth, long bones of the arms and legs, ribs, and other remains. Other portions of the skeleton are still embedded in the seafloor, awaiting excavation during the next phase of operations.

When first discovered, the wreck contained the *Antikythera Mechanism*—an astounding artifact known as the world’s first computer.

The Antikythera research team generates precise three-dimensional digital models of every artifact, allowing discoveries to be shared instantly and widely even if the objects remain on the sea floor. Several 3D models of the skeletal remains are available for researchers and the public to view on the Antikythera Project webpage at: <http://www.whoiedu>



© Brett Seymour, EUA/WHOI/ARGO

Archaeologists Brendan Foley, Theotokis Theodoulou and Alex Tourtas excavate the Antikythera Shipwreck skeletal remains, assisted by Nikolas Giannoulakis and Gemma Smith



© Shitkaprajna CC BY-SA 3.0 via Wikimedia Commons

One of the tombs at the Qutub Shahi Heritage Park

Restoration project near completion in Qutb Shahi Heritage Park

INDIA - The Qutb Shahi Heritage Park, a monumental complex located close to the famous Golkonda Fort in Hyderabad, is the object of a conservation plan that will span a period of 10 years aiming at repairing cracks and bulges, and replacing missing architectural elements like stone or stucco plasterwork. To maintain the authenticity of the monuments, only original materials are being used such as lime mortar and stone.

The site is made up of 75 monuments spread across 108 acres and comprises of 40 mausoleums and 23 mosques.

Traditional craftsmen will be employed to execute the work particularly the most delicate parts of the reconstruction using hand tools. Conservation work on the monuments standing within the Park include removal of modern cement layers to reveal and restore original Qutb Shahi architectural elements and materials.

The site was established in the 16th and 17th centuries, and also includes six step-wells, a hammam, and pavilions as well as water and garden structures. The restoration project was signed by India’s Department of Archaeology and Museum (DAM), Quli Qutb Shah Urban Development Authority (QQSUDA) and the Aga Khan Trust for Culture (AKTC) in 2013, but significant restoration works were undertaken last year with additional funding from the Indian government as well as the US Ambassador’s Fund for Cultural Preservation.



Preservation of General Purpose Polystyrene (GPPS) sculptures – heat modelling in “Pequenas Esculturas” (1975) by Ângelo de Sousa

by Raimundo Milton + Joana Lia Ferreira



This article is an updated text version of the poster presented by Raimundo Milton and Joana Lia Ferreira at the IIC Los Angeles Congress. Their work was selected as the winner of the Student Poster prize. This version contains an update to the project's results.

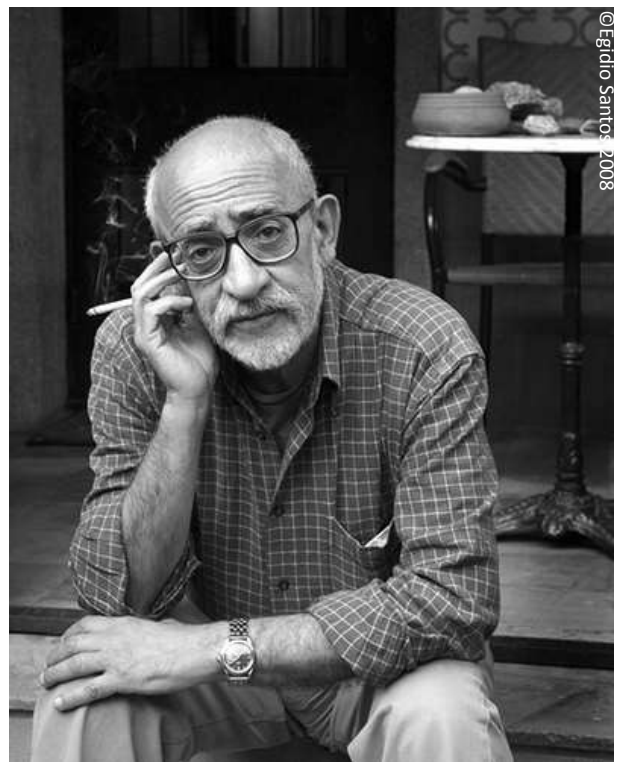
Introduction

Ângelo de Sousa (1938-2011) is one of the major Portuguese contemporary artists. Ângelo, as he chose to sign his works, graduated from the School of Fine Arts in Porto (Portugal) where he became a professor from 1963-2000.

His works cover various art forms such as painting, sculpture, drawing, photography and film. Since the early 1960s Ângelo chose synthetic paints as his painting medium and his curiosity led him to occasionally explore plastics in sculpture, as in the series of General Purpose Polystyrene (GPPS) sculptures *Pequenas Esculturas*, 1975.

The access to the naturally aged dated material references found in Ângelo's studio has been extremely important for the development of the present work.

The main focus of this work is to evaluate whether the heat modelling process of GPPS will undermine the preservation of *Pequenas Esculturas* in the future. For that matter, an investigation on the materials and techniques employed in the manufacture of GPPS yogurt and butter containers in the 1970s has been carried out and complemented by material characterization of the artist's reference pots, and of the sculptures by ATR-FTIR (Attenuated Total Reflectance Fourier Transform Infrared Spectroscopy) and EDXRF (Energy Dispersive X-Ray Fluorescence Spectroscopy). Also using ATR-FTIR, the main photo degradation products were identified and compared with



Ângelo de Sousa (1938-2011)



artificially aged samples modelled and un-modelled GPPS pots. FORS (Fibre Optics Reflectance Spectroscopy) has been a useful tool to detect the earliest stages of colour change.

Ângelo de Sousa's creative archive and creative process



Top image-Infrared Heater found in the artist's studio.

Bottom image - Cellulosic paint found in the artist's studio

Ângelo cherished his creative freedom. This could only be possible if the artist had different materials in large quantities. Therefore, he assembled a large materials' archive in his studio. For making the sculptural set *Pequenas Esculturas*, Ângelo collected un-modelled containers.

There is no record of the manufacturing process of these sculptures, however some heat sources like a 1998 infrared heater, which could be an upgrade for what he had previously owned, can be found in his studio.

Other hypothetical heat sources were found in Ângelo's studio, like a fireplace the artist claims to have used, and a tiled stove suggested by his son. Likewise, he also stored cans of industrial cellulosic based paints and airbrushes which may have been used to paint the sculptures, as they match the identified paint.

The GPPS sculptures: *Pequenas Esculturas*, 1975

Pequenas Esculturas is a series of small sized sculptures made of heat-modelled GPPS containers. There are 27 known sculptures divided into two sets, 18 of them belonging to the artist's personal collection (presented in this case study) whereas 9 pieces are part of the Fundação de Serralves collection (Porto, Portugal). A total of 21 sculptures are painted.

Ângelo de Sousa softened and modelled yogurt and butter pots using a heat source, and letting them take the form of what he referred to as "ears". The series presents, in some cases, signs of flaking of the paint layers as well as yellowing of the plastic surface.

Investigation of aged GPPS

Despite *Pequenas Esculturas's* relatively stable condition, there is no long-term prediction for the evolution of the degradation processes identified in this research. For that matter a study on the photo-oxidation (visually detected by strong yellowing) of un-modelled and modelled GPPS through accelerated ageing was undertaken, using Infrared and Fibre Optics Reflectance Spectroscopies to better evaluate the set's condition as well as to monitor it in the near future.

New GPPS heat modelled and un-modelled samples were artificially aged under a Xe-arc lamp ($\lambda > 300\text{nm}$). Visual changes were detected after 120 hours. FTIR-ATR spectra analysis of both types of samples show formation of hydroxyl and carbonyl groups.

The comparison of the spectra suggests that while un-modelled samples upon degradation first form carbonyl species at 120 hours, hydroxyl groups are the first new species identified in degraded modelled samples, already after 48 hours. The formation of these species was observed in the artist's naturally aged reference containers as well. The reflectance spectra obtained for both un-modelled and modelled samples show a new band at higher wavelengths, revealing the formation of new chromophores since the early degradation steps.



Reproduction of the Heat Modelling Process

Ângelo de Sousa created *Pequenas Esculturas* using heat. Being a thermoplastic, the GPPS containers change their shape after a few seconds when heat is applied (about 75°C). To comprehend the production process, the potential heat sources were tested: 1- Infrared electric heater (in front of it) 2- Fireplace (inside of it) 3- Tiled stove (on top of it).

* The reproductions that were produced on a fireplace show burned areas, which none of the sculptures exhibits. In the tiled stove the reproductions have been difficult to model. The infrared electric heater has been the one to offer the closest results to the appearance of the original set.

** Reproduction with a metal plate over fire.



Reproduction of three proposed heat-modelling processes

Conclusions

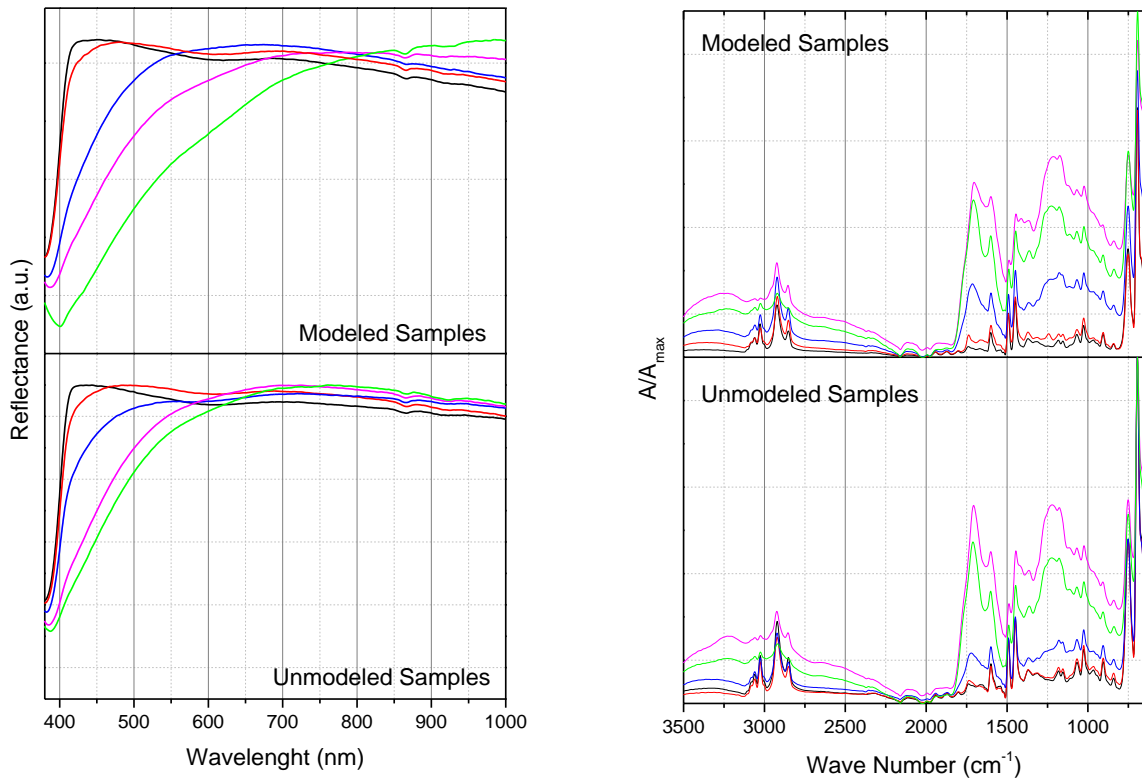
- With no similar art pieces in Portugal exploring the shaping of industrial plastic materials, this important research uniquely combines the study of the artwork with the artist's documentation and material archive.
- This study contributed to the knowledge of Ângelo de Sousa's creative and production processes, as well as for the understanding of the behaviour of GPPS in *Pequenas Esculturas*.
- As revealed by infrared spectra, chemical changes in modelled GPPS are occurring even when not seen by the naked eye.
- ATR-FTIR and FORS are powerful tools to monitor the evolution of GPPS degradation processes, leading to the formation of new carbonyl and hydroxyl groups, as well as other new chromophores (possibly conjugated C=C bonds) with the consequent yellowing.
- With the data obtained so far Ângelo's production of *Pequenas Esculturas* series does not seem to be accelerating the photo-oxidation process. Mechanical testing will be fundamental to further assess this hypothesis.
- The next step will be the study of adequate preventive conservation measures in order to extend the life span of these artworks

Update to conclusion

After this poster was submitted to the panel of the 2016 IIC Los Angeles Congress, further progresses was made. The samples were re-analysed by ATR-FTIR and FORS since the three-dimensionality of the samples challenged the reproducibility of the techniques.

The new results show that molecularly, modeled samples present an evolution of the hydroxyl group at 48 hours of irradiation and un-modelled samples only at 285 hours of irradiation. Plus, the carbonyl group is present before artificial ageing started, since these are commercial samples and may have impurities.

Reflectance spectra reveal an accentuated evolution in the modelled samples, making the heat modelling process, used by Ângelo de Sousa, likely to accelerate the photo oxidation process.



Milton Raimundo graduated in Conservation and Restoration in 2014 and is currently finishing a Master in Conservation and Restoration at the Faculty of Sciences and Technology – NOVA University of Lisbon (FCT NOVA). His Master's thesis focuses on the creative process of the sculptural set *Pequenas Esculturas*, made by the Portuguese artist Ângelo de Sousa (1938-2011). Milton's main interests are Art and Technology History, Contemporary Art and Conservation of synthetic materials. From 2014 to 2016 he was an active member of the Faculty's Students' Union, being coordinator of the Culture and Social Action departments. Since 2011, he has been developing work around the DCR's and the Faculty's pedagogical issues.

Joana Lia Ferreira graduated in Conservation and Restoration in 2001 and holds a PhD in Conservation Science (2011). Currently she is an Invited Professor at the Department of Conservation and Restoration from the Faculty of Sciences and technology - NOVA University of Lisbon, focusing on modern and contemporary art. Since 2004 Joana has lectured courses on Polymers in Conservation and History of Art Technology and Materials, also at NOVA University. From April 2011 until June 2013 she developed her Post-Doctoral research work at the Museu do Design e da Moda, Coleção Francisco Capelo (MUDE) and REQUIMTE – FCT NOVA. More recently she has become engaged in the preservation of the Estate of the Portuguese leading artist Ângelo de Sousa (1938-2011) co-ordinating a project devoted to the study and conservation of its collection. Working mainly with synthetic materials, her current research interests include the study of the technology of plastic materials and its impact on the preservation of contemporary art; and also the correlation between the molecular condition of the polymer and its physical performance.



Unveiling textile dyeing techniques in the Ming and Qing Dynasties in China

by Jing Han



This newly-completed interdisciplinary doctoral research undertaken at the Centre for Textile Conservation and Technical Art History, University of Glasgow, built up the first complete picture of textile dyeing techniques in the Ming and Qing Dynasties (1368-1911), China, which not only significantly contributed to textile history, but is also very helpful for a better understanding, exhibition and preservation of historical and archaeological textiles of this time period.

During the Ming and Qing Dynasties in China, imperial textile handicrafts reached its production peak. However, little is known about dyeing techniques in this time period except for few isolated studies on dye recipes or dyestuffs on textiles. This doctoral research set out an unprecedented comprehensive investigation of dyeing techniques of the Ming and Qing Dynasties, by combining the archival research of documented dye recipes, the chemical analysis of dyestuffs on historical and archaeological textiles, as well as art historical, botanical and colour studies.

Innovative chemical and botanical research on traditional Chinese dyestuffs

Fundamental research on the chemical characterisation of reference dyestuffs and their botanical provenance was undertaken for accurate understanding of the dyestuffs and robust identification of dye sources. Ultra-high performance liquid chromatography coupled with

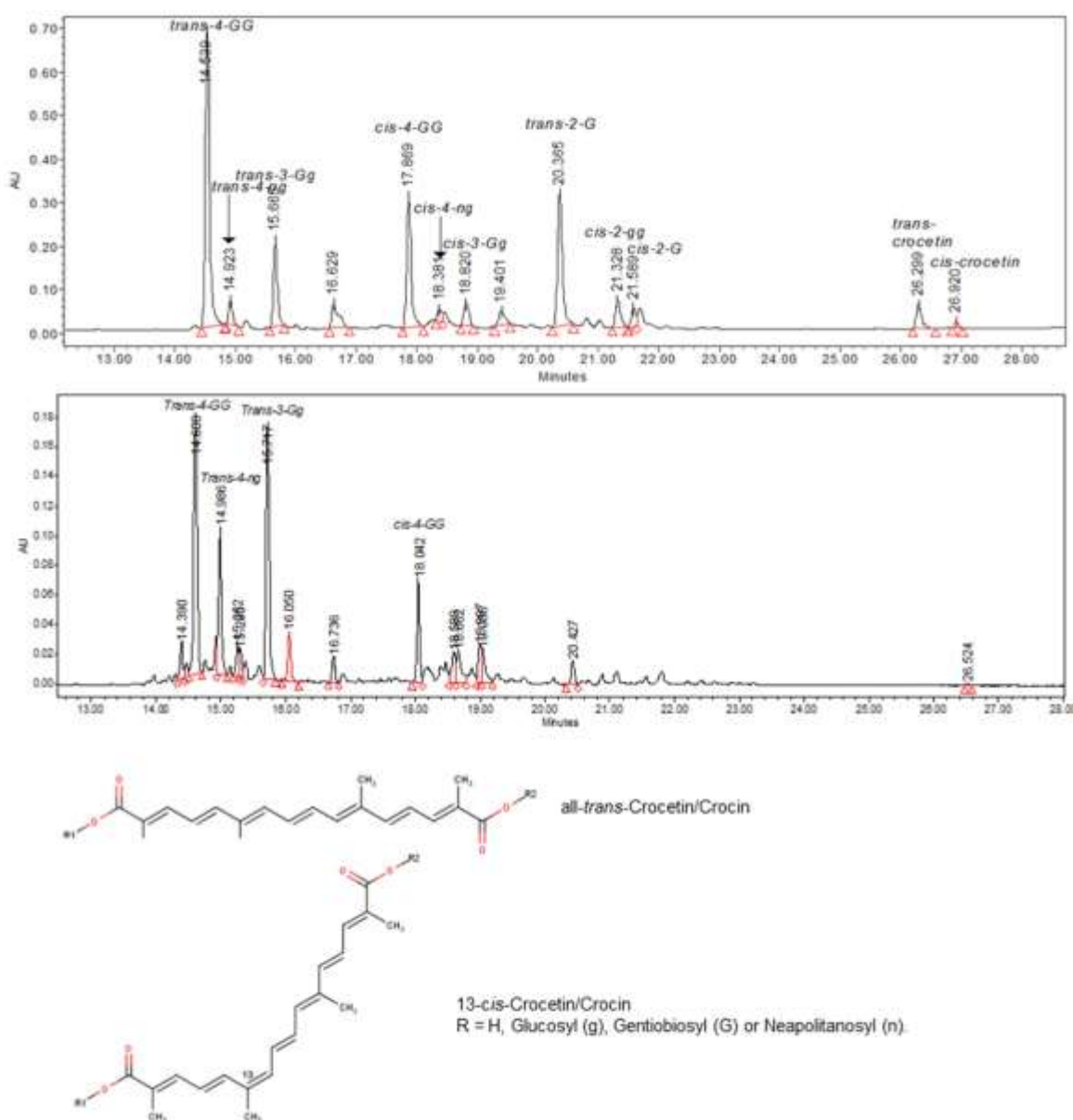


Fig. 1 Bright yellow embroidered silk robe with dragons among clouds. Made for an Empress. 1770-1820 (embroidered)

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Photodiode array detector and Mass spectrometer (UHPLC-PDA-MS), and three different extraction methods were first applied to dyed silk samples prepared with 22 individual reference dyestuffs to separate and identify their characteristic components.

The first database of the chemical profiles of dyestuffs in ancient China was established. Moreover, the esterification and isomerisation patterns of the dye constituents of gallnut, gardenia and saffron, and the dye composition of acorn cup dyed silk were clarified for the first time, which helps better identification of dye sources containing tannins and crocins (Fig. 2). 6-Hydroxyrubiadin and its glycosides were unprecedentedly reported on a dyed sample with *Rubia cordifolia* from China, which contributes to the provenance of different *Rubia* species as dye sources in Asia. Additionally, ethnographic dyed samples and dyestuffs from Li group in south China were chemically studied as modern references and compared with the above results, marking the start of the chemical research of ethnographic dyeing in China.



UHPLC-PDA chromatograms (monitored at 425 nm) of the extracts of gardenia (top) and saffron (middle) dyed silk, showing different crocin compositions, and the glycosyl esterification of crocin (bottom)

Another major innovation was integrating research from botany and Chinese herbal medicine with research into dyeing properties to provide botanical provenance for the dyestuffs. The botanical provenance of 12 significant historical Chinese dye plants was achieved for the first time, and five cases of confusions in the naming of dyestuffs in historical records were clarified, for example, the mixed-up of *hong hua* (safflower) and *fan hong hua* (saffron). Reasons for the confusion of plant names and the level of classification were discussed.



Dyestuffs and dyeing methods uncovered from the first systematic study of primary sources of documented dye recipes and dyes on historical and archaeological textiles

Four important historical dye manuscripts were systematically examined, including *Duoneng bishi* (Various arts in everyday life) and *Tiangong kaiwu* (Chinese Technology in the Seventeenth Century, Fig. 3) of the Ming Dynasty, and *Neiwufu quanzong dang'an*, *Zhiranju buce* (Complete File of the Imperial Household, Volume of the Weaving and Dyeing Bureau) and *Bu jing* (The Cloth Classic) of the Qing Dynasty, respectively recording the dye recipes of 13, 27, 40 and 66 colours involving 14, 13, 11 and 18 dyes. The former two manuscripts are integrated works on various crafts published to the general public, while the latter two manuscripts are specialised books on textile handicrafts, mostly for internal circulation within the textile production institutes. Based on the examination of the reliabilities of these sources, the dyestuffs and dyeing methods recorded were compared and analysed.

Alongside the archival research, 216 dyed yarn samples from 63 pieces of provenanced historical and archaeological textiles from 11 collections and archaeological institutes in China, the UK and Ireland including The Palace Museum, The V&A Museum and The National Museum of Scotland, were collected and chemically analysed. Samples of 5 – 10 mm length of loose thread per colour of interest from the reverse side of the textiles were carefully selected and taken. By UHPLC-PDA analysis, the dye sources of up to 89 % historical samples were identified with confidence, and evidence of dyestuffs was detected in some archaeological samples, depending on the burial environments and the preservation state of the textiles.

Overall, a limited number amounting to nine dyestuffs were commonly used during this time period, namely safflower, sappanwood, indigo, Chinese cork tree, pagoda bud, acorn cup, turmeric, smoketree and gallnut (Fig. 4, from left to right, top to bottom). Uncommon dyestuffs including lac and cochineal identified in historical textiles may help provenance the production of the textiles. Several early synthetic dyes were identified alongside natural dyes in late-Qing textile samples, which promoted or confirmed the dating of the textiles, based on the dates when these dyestuffs were first synthesis and put into market. Dyestuffs were chosen to obtain various shades mainly according to the colour groups they belong to. Statistical analysis showed that with the development of dyeing techniques, better dyestuffs and dyeing methods were adopted, and colours were enriched by variations in the combination and quantity of different dyestuffs and mordants.

Further understanding of the textiles and dyeing handcraft in the social and global contexts

Knowledge about dyestuffs can promote the understanding of textiles in areas such as the determination of ownership, dating and provenancing. Take determining ownership as an example - in the Qing Dynasty, yellows were regulated as colours used especially by the imperial family: bright yellow was worn by emperors, apricot yellow by crown princes (later abandoned), golden yellow by princes, and women’s clothes were regulated accordingly. Dye recipes of the imperial weaving and dyeing bureau shows these yellows were obtained by different dyestuffs to show significant colour difference to differentiate statuses in the court. The detection of pagoda bud alone from the yellow ground samples of four pieces of dragon robes and a dragon badge, with comparison to the imperial dye recipes for the yellows, confirmed their original bright yellow colour (one of the dragon robes is presented in Fig. 1), even though the textiles were more or less faded. This thus confirmed that these five pieces

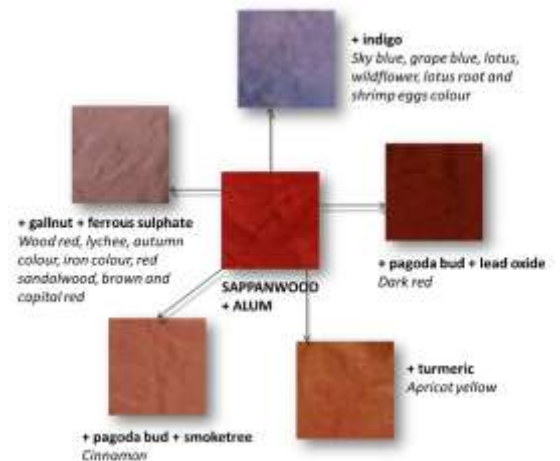


Fig.3 Silk samples dyed with sappanwood and alum together with other dyestuffs and mordants according to the dye recipes studied, and various shades obtained by these combinations recorded



Fig.4 Photographic images of nine common dyes used in the Ming and Qing Dynasties.

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belonged to emperors or court dowagers of the highest rank. This is also a piece of evidence that dyeing handicraft developed with the evolvement of colour decrees for textiles.

By examining Chinese dyeing in the global context, it was also concluded that dyestuffs specific and indigenous to China could help provenance Chinese textiles from textiles from other origins. Exchange in dyeing between China and Europe during the Ming and Qing Dynasties was limited in terms of dyeing with natural dyestuffs but the invention of synthetic dyestuffs in Europe and trade with China greatly changed the landscape of dyeing in China from the late 19th century.

Preservation of the dyed textiles

The results of accelerated light ageing study of reference dyed samples showed that among the common natural dyestuffs, safflower and turmeric are the most light-sensitive, and thus light exposure on textiles with these dyestuffs needs to be strictly limited to slow down fading. It is to be noted that almost all the red and pink samples analysed in this doctoral research involve safflower, and it is therefore highly likely that red and pink colours on Chinese textiles of the Ming and Qing Dynasties with unknown dye sources were dyed by safflower and thus are light sensitive.

Overall, this research built up the first complete picture of dyeing techniques in the Ming and Qing Dynasties by innovative methodologies and based on abundant primary sources, filling major gaps in textile history, colour history and plant history. For the excellence of this research, the researcher was selected by the China Scholarship Council for a prestigious National Excellent Self-Funded Students Scholarship.

The author would like to acknowledge the supervision of Dr Anita Quye and Professor Nick Pearce, and financial support from the Textile Conservation Foundation, the Swire Charitable Trust, the Sino-British Fellowship Trust, the Great Britain-China Educational Trust and the Sym Charitable Trust for this doctoral research.



Jing Han gained a Bachelor degree and a Master degree in conservation science from the School of Archaeology and Museology, Peking University respectively in 2009 and 2012. She completed this doctoral research on Ming and Qing dyeing history at the Centre for Textile Conservation and Technical Art History, University of Glasgow early this year. Currently she is involved in short-term postdoctoral research and teaching at the Centre.



Reviews

'Water and paper conservation principles'- review of the Icon Scotland Group workshop

by Laura Dellapiana

In September 2016, the city of Edinburgh hosted the course "Water and Paper Conservation Principles", organised by The Scottish Conservation Studio (www.scottishconservationstudio.co.uk) in association with ICON Scotland Group. Due to the number of participants, the course ran twice, one session on 6/7th September (kindly hosted by [The Scottish Conservation Studio](#)), and the other one on 8/9th September (hosted by the [National Library of Scotland](#)). The tutors were paper conservators Doris Müller-Hess (private conservator from the [Institute for Paper Conservation Schloß Schönbrunn studio](#) in Vienna) and Hildegard Homburger (private [paper conservator](#) from Berlin).

The aim of the course was to study and discuss the principles behind the interaction of cellulose and water, and the resulting behaviour of paper-based materials in contact with water during degradation mechanisms and conservation procedures. Various references were discussed, but the most important source was the fundamental publication "[Paper and Water: a Guide for Conservators](#)" (Banik and Brückle, Routledge 2011).

Each day the topics were firstly analysed theoretically, then some of the conservation techniques were demonstrated by the tutors.

I took part in the 8/9th September session at the National Library of Scotland, in a group of 16 conservators both from institutional and private conservation studios.

On the first day, after a short introduction, a very intense theoretical session explored the chemical and physical properties of water, cellulose, and the interaction mechanisms between the two elements at a chemical level and, specifically, during conservation treatments of paper such as humidification and washing.



Participants at the 6/7th September session. Photo courtesy of Helen Creasy

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We then received a demonstration of humidification systems (in particular, using a damp pack with *GoreTex*® or *SympaTex*®) and washing methods (washing with blotting paper, float-washing with a silk screen, and capillary washing with Paraprint OL60). The group discussed their personal experiences of using *SympaTex*® and *GoreTex*®, and many agreed that they found *GoreTex*® was most suitable for slow and controlled humidification of very reactive paper-based artefacts.

Hildegard Homburger talked about an impressive four year-long project undertaken by the Federal Cultural Foundation and Akademie der Künste for the conservation of the Hans Scharoun archive, described in the publication [“Paper – Line – Light. The Preservation of Architectural Drawings and Photoreproductions from the Hans Scharoun Archive”](#) (Barkhofen, Brueckle, Glueck, Grzimek, Homburger, Hummert, Konarzewski, Kuehner, Lohrengel, Morgenstern, Penz, Simmons, Akademie der Künste, 2012). One part of this project involved the treatment of thousands of rolled architectural drawings on tracing paper that needed to be flattened before storing. An effective and relatively fast one-side damp pack and felt-layered drying process was developed. The best



Capillary washing on the *Paraprint OL60* sheet

results were obtained with the use of a *GoreTex*® membrane. Concerning the washing methods, the one that involves the use of *Paraprint OL60* was, in my opinion, the most interesting and a new discovery for most of the participants. Discussed in-depth in the publication [“Aqueous Treatment of Water-Sensitive Paper Objects”](#) (Schalkx, Iedema, Reissland, van Velzen in *Journal of Paper Conservation* Vol. 12 -2011, No. 1, pp.11-20), this method takes advantage of the orientation of the extremely absorbent vertical acrylate-bonded viscose fibres that form the *Paraprint OL60* sheet, and the capillary force that transports water from one side of the sheet to the other with a certain orientation. A tray of water was placed on a raised surface, and a rigid support with a sheet of wet *Paraprint OL60* laid onto it, with a portion directly immersed in the water. Another empty tray was positioned on the opposite side of the rigid support, lower down. The method works using gravitational force. The artefact that needed to be washed (in our case, a small print with gouache painting) was gently humidified, then placed directly onto the wet *Paraprint OL60* sheet; after a while we could clearly see the brown degradation products from the paper (removed thanks to the action of water) slowly moving from the print along the *Paraprint*, transported by capillary force along the vertically oriented fibres. Fifteen to twenty minutes later, the water with the degradation products from the print reached the empty tray; the

process continued until no more yellow product was visible. I did not notice any alteration/discolouration of the gouache colours. This capillary washing method may be really useful for treating artefacts with water-sensitive media. As the water removed the degradation products from the paper, moving not through but under the artwork, this mechanism avoids the possible risk of deposits of unwanted acidic elements being carried from one point of the artefact to another during washing.

On the second day, the tutors explained the importance of the quality of the water used in conservation treatments (presence of unwanted ions, and products residual from the industrial “refining” methods), and the advantages/disadvantages of the different kinds of water purification (filtration, activated carbon filtration, distillation, demineralisation, reverse osmosis). Moreover, a theoretical and practical analysis of the process of paper drying was offered. We studied the chemical and physical behaviour of paper fibres when water is added and removed, the reasons under the most common problems that conservators encounter (rolled works, creases, distortions, cockling), and the pros and cons of different methods of drying paper.

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A very important concept outlined by Hildegard Homburger and Doris Müller-Hess was the difference between actual and potential shrinkage of paper fibres during humidification and drying, and why conservators should pay attention to that during treatments and how we can take advantage from it in certain cases.

The afternoon of the second day was dedicated to practical demonstrations of some of the drying techniques studied. The National Library of Scotland conservation studio kindly made available a *Karibari* screen for a demonstration of drying techniques in which no pressure but tension is involved.

I found particularly interesting the “hard-soft sandwich” pack, and the so-called “friction drying” technique. At the end of the demonstrations, every one of us had the opportunity to ask questions and talk about personal experiences in a very friendly and stimulating environment. We also received samples of some of the materials mentioned during the course, generously provided by the German company [GMW](#).



Hildegard Homburger demonstrates a drying technique with a *karibari* screen

The course offered me the opportunity to review what I learned during my Degrees in Italy some years ago, and think about these fundamental topics from perspectives that I had not fully considered before. I particularly appreciated that, after a very clear and focused theoretical approach, our tutors and all the participants shared their extensive knowledge and experience, talking about practical cases and giving very useful tips and thoughts.

In conclusion, my experience with this course was absolutely positive, and I really encourage paper conservators to keep an eye on what happens in Europe and attend this workshop, or to contact the tutors to organise a session in their city!



Laura Dellapiana has an MA in Conservation and Restoration from the Academy of Fine Arts of Turin, Italy. She is specialised in conservation of books and paper-based materials and worked on European and Asian artefacts. In 2013 she completed a four-month internship at the Laboratorio di Restauro Polimaterico at the Vatican Museums, Vatican City, for her MA Thesis. In 2015, she was a Postgraduate Fellow in Conservation of Museum Collections at the Smithsonian Institution Archives in Washington, DC, studying a new method for the stabilisation of modified iron gall inks in letterpress copybooks.

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IIC News

Good bye Los Angeles! A look back at the IIC 2016 Congress

The 2016 IIC Los Angeles Congress 'Saving the Now – Crossing Boundaries to Conserve Contemporary Works' concluded with the announcement that the 2018 Congress will take place in Turin, Italy. We are all looking forward to more details that will undoubtedly come later in the year – watch this space!



Meanwhile let's look back at the LA event which saw 500 conservators from 50 countries meet to share, learn, mingle and enjoy the art that the rich programme offered.

The kick off came courtesy of IIC President Sarah Staniforth addressing the room and emphasizing the importance of the event as a mean to create dialogues and interactions.

Sarah's address was followed by Tom Learner, Head of Science at the Getty. Tom explained how the congress theme came to be, and the issues that we are having to deal with in contemporary art conservation.

Co-sponsor at the Congress was INCCA, the International Network for the Conservation of Contemporary Art www.incca.org, represented by Tatja Scholte who welcomed participants on the first day of the event.

Over 100 registered students attended the event and this is very exciting for the profession, as students are the next generation of professionals that will have to deal with the issues presented at the Congress.

The Forbes Prize Lecture was awarded to Carol Mancusi-Ungaro, Head of Conservation at the Whitney Museum of American Art in New York with her talk, "The Falsification of Time", delving into the philosophy and ethics of contemporary art conservation. For an interesting review of this talk visit [the IIC Blog](#) to read what Julian Bickersteth thought of the lecture.

We've asked a few of the participants to tell us what their experience of the Congress was like and following are some of the comments we received and would now like to share:

Tanya Nakamoto: *"The IIC 2016 Congress in Los Angeles brought together an incredibly diverse crowd of people together to discuss "Saving the Now: Crossing Boundaries to Conserve Contemporary Works." Boundaries were crossed to discuss the theme not only through the international representation of guests and speakers, but also by the variety of disciplines present. The congress was a very informative and engaging experience. It was an opportunity to learn about conservation and collections from around the world, as well as hearing from guests and*

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speakers ranging from private, sculpture, objects, painting and paper conservators along with the interesting assortment of materials and people they have all worked with. The congress allowed for cross-cultural and cross-discipline connections that inform growth and career paths within the museum and conservation fields.

Kate Moomaw presented a paper on [collecting participatory art at the Denver Art Museum](#). In relation to the paper I presented with Jane Henderson on dialogue in conservation decision making, I found Kate's paper to be intriguing regarding the involvement of artists and communities in conservation actions. The paper notes that participatory works, like several other types of artworks in museum collections, represent clear conservation issues. There is a need for conservators, communities that may be involved, and the artist to be open to the conservation process. This conservation of complex work requires collaboration and flexibility among new approaches and resources. This idea of disciplinary and community diversity in consultation during the conservation process has been something widely mentioned at the congress. As an emerging conservation professional, I am reminded to consider the variability of people involved just as much as the type of materials conserved, and the openness with which to include others in order to conserve challenging work."

Longyu Wan – "The congress is fantastic, the staff is so kind, and there are coffee breaks during the presentations! We've also had an interesting night at the MOCA. As for the student meeting, I was so lucky that the IIC president, Mrs Sarah Staniforth was beside me, we've enjoyed a wonderful lunch. If I could pick a paper that I feel will influence/change the way I work or improve my knowledge I think it would be [Conservation from Conception: Commissioning an installation by Cai Guo-Qiang](#) by Elizabeth Wild, Amanda Pagliarino & Russell Storer, as the idea is so inspiring that conservation could be a highly collaborative process before the artwork was completed."

Austin Nevin: "I thoroughly enjoyed the 2016 IIC Congress in Los Angeles. I spent almost two years with the Technical Committee in the arduous task of selecting and editing contributions and then, perhaps the most challenging, creating a coherent programme (together with Tom Learner), and co-editing the proceedings which are now available for all IIC members to read here <http://www.tandfonline.com/toc/ysic20/61/sup2>. It was thus with real satisfaction that I witnessed each day how well the sessions coalesced into focussed and thought-provoking panels. Although I was familiar with the written texts I found the presentations very satisfying - full of insights and richer in content, images and context than is ever possible in proceedings, and the atmosphere of real engagement was palpable. There were many memorable laughs during the conference - including the fabulous description of chocolate and wine which wet our appetite for 2018 IIC Congress in Turin! The social events throughout the week were seamlessly orchestrated by the Local Organising Committee and we all felt very privileged to have exclusive access to such marvellous collections. Time over coffee and even breakfast to meet colleagues and make new contacts were highlights in their own right. As a Council Member I was very pleased to hear from so many how much they were enjoying the event.



Having trained as a Wall Paintings Conservator I found the panel on street art particularly relevant - and I was very impressed with Maria Chazidakis' presentation [Street art conservation in Athens: Critical conservation in a time of crisis](#) - her reference to the "kindness of strangers" in the conservation of public street art was apt and insightful, and the images she showed of paintings in Athens are some I remember and others I want to see when I return. I also really appreciated and profited from Nora Kennedy's witty talk *The future is not what it used to be: [Changing views on contemporary colour photography](#)* that has had immediate relevance to my work and teaching and my understanding of a subject that is far from my professional training but that poses such fascinating questions about replication and reproduction as well as the degradation of materials. In my work as a Conservation Scientist I am currently involved in projects on Wall Paintings and Photographic Materials, hence the overviews I gained at the IIC Congress will be invaluable and have already influenced the way I formulate new research questions. For these many reasons, I believe the congress was a great success.



Year 2016 marks the 25th anniversary of the work of the International Trust for Croatian monuments

Jadranka Beresford-Peirse, Trustee of the International Trust for Croatian Monuments, sent NiC an update on the activities of the Trust. Here we report some of the highlights but the full text can be accessed in the online version at: [insert link](#)

Jadranka Lady Beresford-Peirse was the recipient of a Special Mention at the Vicko Andrić Awards, given annually by the Ministry of Culture to individuals and institutions for their efforts in the preservation of Croatian cultural heritage.

Lady Beresford-Peirse visited the Town Museum in Sisak, Roman Siscia, a treasure trove of archaeological finds, from all periods, including Roman, who were settled there from the 1st to the 4th century AD. The Museum had recently employed a conservator and wanted to establish a conservation workshop, to be able to do at least some work at home, instead of sending to other workshops. But they needed equipment for their workshop and applied to our Trust for funding.

Further visits included ILOK, Croatia, to visit the Town Museum, Odescalchi Palace, recently restored.

In March this year, Osijek had a very special visit from Their Royal Highnesses the Prince of Wales and the Duchess of Cornwall. During their brief visit to Croatia, which also included Zagreb, Their Royal Highnesses saw in Osijek a display of photographs of damage to the cathedral of SS Peter and Paul, especially to its stained glass windows. During their time here, they also visited several important cathedrals with stained glass workshops.

In May the Trust visited the Benedictine Sisters in Trogir to see the work done to the structure of their convent of St Nicholas with the generous donation from the Headley Trust. There is no doubt that the Sisters, working together with the conservators, have done extremely well in restoring their building. The Vitturi Tower now looks splendid, admired by all.

A visit was made to the hinterland of Split to see the Museum of the Republic of Poljica in a small village called Gata. The Museum in the village of Gata, although very small, consisting of just one room, with no curator or any "facilities", the local priest opens its doors on request, is of interest. Following was a visit to Šibenik and its town library "Juraj Šizgorić" which was flooded in the autumn of 2015 and the Franciscan friary of St Lawrence.

In September last year, Professor Nicholas Pickwood and two of his colleagues held The Ligatus Summer School in Zagreb under the auspices of the Croatian National Archives and with help in funding from the Trust. The course was well attended and much appreciated by all who were able to take part in it.

The Trust has continued giving support to Croatian scholars to attend international meetings and present their findings.

In January this year, Donal Cooper gave an illuminating talk on Lovro Dobričević, 1420–1478, at the Croatian Embassy in London, "Master Painter of the Dubrovnik Renaissance and His Work in Croatia, Italy and England". It is hoped that a visit to Rangers House to see his painting of Annunciation will be organised at some point in the future.



©International Trust for Croatian Monuments



The Fellowship corner

Where we keep you up to date with IIC's new Fellows
and their achievements

This issue *NiC* congratulates new Fellows:

Tom Learner is head of the Science department at the Getty Conservation Institute (GCI) in Los Angeles. He oversees all the Institute's scientific research, developing and implementing projects that advance conservation practice in the visual arts. He was a GCI senior scientist from 2007 to 2013, overseeing the Modern and Contemporary Art Research initiative, during which time he developed an international research agenda related to the conservation of modern paints, plastics, and contemporary outdoor sculpture.

Prior to his arrival at the GCI, he served as a senior conservation scientist at Tate, London, where he developed Tate's analytical and research strategies for modern materials and led the Modern Paints project in collaboration with the GCI and National Gallery of Art in Washington DC.

He was a GCI Conservation Guest Scholar in residence in 2001. Learner is both a chemist and a conservator, with a PhD in chemistry from Birkbeck College, University of London, and a diploma in the conservation of easel paintings from the Courtauld Institute of Art.



Dr Marcelle Scott is a conservator with over thirty years of experience across the sector, working in State institutions and with community museums, prior to leading the development of academic programmes at the Grimwade Centre for Cultural Materials Conservation, at the University of Melbourne.

She has been past President of Australian Institute for the Conservation of Cultural Materials (AICCM) and Editor of the AICCM Bulletin, and in 2007 she was a Conservation Guest Scholar at the Getty Conservation Institute for research in the areas of conservation pedagogy and inter-disciplinarity.

In 2015 she was honoured to receive the AICCM Award for Outstanding Contribution to the Conservation Profession, and the Award for Outstanding Research in the Field of Material Conservation.

She is currently a Postdoctoral Fellow at the Centre where her research focusses on conservation theory, ethics, and pedagogy, examined in her research through a citizen conservation model.

To all IIC Fellows – This space is for you! Send your updates and news you want to share at news@iiconservation.org and remember - you've won your bragging rights...



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getty.edu





Call for Papers – News in Conservation

News in Conservation (*NiC*), the e-paper from the International Institute for Conservation of Historic and Artistic Works, is looking for contributions in the form of articles, long features, news, and reviews to be published in one of the future issues. Topics of interest can be discussed with the editor and can range from treatment papers to opinion pieces.

NiC enjoys a wider international audience from very diverse backgrounds. Published six times per year in digital format, it is delivered via an email alert to members and freely downloadable from the IIC website in open access.

NiC is an evolving project, one that exists thanks to the support of authors and writers that contribute articles and other informative material guaranteeing a steady flow of relevant content. IIC aims to mould our e-paper to fit our community's evolving interests and preferences; for this reason we invite comments and feedback and we maintain a continuous link with our social media activities.

Since being launched as an electronic publication, *NiC* has been growing steadily and in the past year has increased its readership and its overall reach. *NiC* has been praised on various social media networks by comments left by users and often cited as a good example of successful conservation outreach effort.

With continuous help and support, *NiC* will continue to deliver conservation news to the world of conservation, aiming to grow and reach further afield.

If you want to contribute please contact Barbara Borghese

news@iiconservation.org

To download a free issue visit: <https://www.iiconservation.org/publications/nic>

What's on + NiC's List

Call for papers

CIPA 2017 Symposium - Call for Papers

28 August - 1 September, 2017

Ottawa, Canada

Deadline for submission: 10 February, 2017

For further information

visit: <http://cipaottawa.org/>

TechnoHeritage 2017 - 3rd International Congress: Science and Technology for the Conservation of Cultural Heritage

20-23 May, 2017

Cádiz, Spain

Deadline for abstracts: 15 November 2016

For more information

visit: <http://technoheritage2017.uca.es/>

DCH 2017 Digital Cultural Heritage Conference

30 August – 1 September, 2017

Staatsbibliothek Berlin, Germany

Deadline for abstracts: 27 March 2017

For more information visit: <http://dch2017.net/>

Conferences/Seminars

Conserving Textiles and Costumes in South East Asian Collections

24 October - 11 November, 2016

Antigua, Guatemala

For further information [click here](#)

Euromed 2016: 6th International European-Mediterranean Conference on Cultural Heritage Documentation, Preservation And Protection

31 October - 5 November, 2016

Cyprus

Further information visit: <http://euromed2016.eu/>

A comprehensive list of events taking place around the world, in and around the field of conservation. Write to news@iiconservation.org if you wish to add your event

Cultural Heritage: Disaster Preparedness, Response and Recovery

3-4 November 2016

Lisbon, Portugal

For further information [click here](#)

The Flood in Florence, 1966: A Fifty-Year Retrospective

3-4 November, 2016

Ann Arbor, Michigan, USA

For further information [click here](#)

African Rock Art: research, digital outputs and heritage management

4-5 November, 2016

British Museum, London, UK

For further information visit:

www.africanrockartconference.com

22nd NYCF Conservation Science Annual at EAS

15 - 16 November, 2016

New Jersey, USA

For further information see: <http://www.eas.org>

Symposium on Science4Arts

17-18 November, 2016

Rijksmuseum, Amsterdam, The Netherlands

For further information visit:

<http://www.rijksmuseum.nl/nl/science4arts>

Cultural Heritage: Reuse, Remake, Reimagine

21-22 November 2016

Berlin, Germany

For further information [click here](#)

13th International Symposium on Wood and Furniture Conservation

18-19 November, 2016

Amsterdam, The Netherlands

For further information visit: www.ebenist.org

**Conservation, Education and Training in India:
preparing a road map for the future**

5-6 December, 2016

Lucknow, India

For further information visit:

<https://www.iiconservation.org/node/6579>

**Catastrophe and Challenge: Cultural Heritage in
Post-Conflict Recovery**

5-7- December 2016

Berlin and Cottbus, Germany

For further information [click here](#)

**INTERWOVEN: Indigenous and Western
knowledge in archaeology and heritage**

6-8 December 2016

Terrigal, NSW, Australia

For further information [click here](#)

Quintas Jornadas de Patrimonio y Arte Litúrgico

10 -11 November 2016

Centro Internacional para la Conservación del
Patrimonio, CICOP

Córdoba, Argentina

For further information [click here](#)

CIC24 : Twenty-fourth Color and Imaging e

7-11 November 2016

San Diego, USA

For further information [click here](#)

**Past Forward 2016 National Preservation
Conference**

15-18 November 2016

National Trust for Historic Preservation,
Houston, Texas

For further information visit:

<http://www.pastforwardconference.org/pastforward2016/>

**2nd International Conference on Art &
Archaeology 2016**

11-14 December, 2016

Jerusalem, Israel

For further information [click here](#)

**Paintings on Copper (and other Metal Plates):
Production, Degradation and Conservation
Issues**

27- 28 January 2017

Valencia, Spain

For further information [click here](#)

Courses/Workshops

Workshop on Glass Conservation

24- 28 October, 2016

Ottawa, Canada

For further information [click here](#)

**Preservation of Digitally Printed Materials in
Libraries, Archives and Museums**

25-27 October, 2016

Rochester Institute of Technology, New York

For further information visit:

<https://www.iiconservation.org/node/6138>

**Ship model conservation course: Understanding
techniques for research and conservation**

7-10 November, 2016

Amsterdam, The Netherlands

For further information visit:

<https://www.rijksmuseum.nl/en/ship-models>

**For more information about
these conferences and courses
see the IIC website:
www.iiconservation.org**