

# Conservation Office Annual Report | 2011-2012





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## Message from the Head

Dear readers,

I am pleased to share with you our latest Annual Report, which we have for the first time produced as a standalone version so as to offer a more comprehensive review of our work. I very much hope the Report will give you an informative overview of our work in the past year. Looking forward, we welcome your suggestions as to how we can further strengthen our services in the future.

To retain our cultural legacy, we continue to offer a high standard of conservation practices while serving public museums and related cultural organizations. In this Report, you can understand more about the various aspects of our work portfolio, from restoration of historic relics and exhibits to preventive conservation or research activities.

In addition to our regular work, we engage volunteers to take part in our conservation programmes. I am grateful for their contributions and assistance, and most glad to learn that our volunteers have found their learning experiences rewarding and enjoyable.

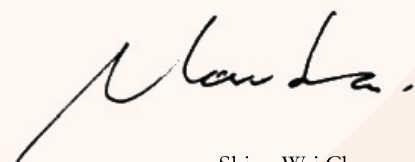
Always committed to promoting conservation awareness, we have strengthened our ongoing extension and education programmes to inspire public interest in conservation, including organizing more behind-the-scene laboratory visits as well as workshops and seminars for students and interest groups. Our programmes for the School Culture Day Scheme and International Museum Day are particularly welcomed by the participants.

In order to address the lack of adequate space to house our museum collections, we are planning to build a Central Repository in Tin Shui Wai for shared use by different public museums, the Film Archive, and the

Antiquities and Monuments Office. The Repository will provide a total floor area of at least 18,700 sq. m., encompassing 600,000 museum items, archaeological finds and historical relics. The whole will be equipped with the requisite climatic control and collection management system.

To promote professional excellence, we are collaborating with the International Institute for Conservation of Historic and Artistic Works (IIC) in hosting a major international conservation conference in Hong Kong in September 2014. The first of its kind in Southeast Asia, this biennial conference, “2014 IIC Hong Kong Congress”, is due to attract over 400 international delegates to discuss the latest advances in conservation as well as to share their best practices. We will take the opportunity to promote our conservation work and museum endeavours as well as illustrate for the delegates the cultural developments in Hong Kong.

In anticipation of the substantial conservation support required for various stellar exhibitions to celebrate the 15th anniversary of the Hong Kong Special Administrative Region of the People's Republic of China, we look forward to an exciting and challenging year ahead. I am confident we will grow from strength to strength to meet the demands of our client museums while maintaining quality standards in our conservation services.



Shing-Wai Chan  
Head of the Conservation Office

## Conservation Tasks

An essential function of museums, conservation is a vital process in revitalizing a museum collection as well as in restoring and preserving the conditions of artefacts that have artistic, historic and cultural significance. As necessitated by the material nature of the diverse museum collections, we have eight in-house teams, namely, Paintings, Photographs & Prints, Historical Documents, Textiles & Natural History Specimens, Organic Materials, Ceramics & Inorganic Materials, Metals and Archaeological Finds. These teams undertake the day-to-day conservation programmes in their fields for the objects that come under their purview.

Over the past year, our staff have conserved nearly 2,000 precious objects and exhibits with the goal of presenting these items in their best conditions for public appreciation. Thanks to the perseverance and professional competence of our teams, all of the challenging conservation projects were successfully performed to the desired effect. Other than restoring items that have undergone degradation over time, we are also dedicated to the preservation of exhibits for the long term by adopting thoughtful, protective measures. In the following sections, we will share with you our project highlights.

### Conservation Tasks Highlights

#### Paintings

The Paintings team treated some 70 China trade export paintings for the Hong Kong Museum of Art. These export paintings vividly portray the lives and customs of Chinese people in the 19<sup>th</sup> century as well as depict genre scenes of treaty ports. The paintings had, however, suffered serious damage and staining over the past century. In order to revive their artistic merits and restore their conditions for display at the *Ultimate South China Travel Guide – Canton* exhibition (Episode I and II), we carried out intensive conservation treatments. These included the washing, bleaching, backing and lining of the paintings with the aid of specialist equipment. One crucial stage was the removal of stains and harmful materials embedded in the paintings. To achieve this, the paintings were washed with a solution containing a suitable bleaching agent on a suction table, designed to generate a controllable, mild suction. The brown stains were oxidized and removed with the drainage of the solution under suction. Ultimately, the unsightly brown stains on the paintings were strikingly diminished.



Before treatment



After treatment

▲ The original tone of a China trade painting (circa 1846) is revived after bleaching

The team also succeeded in reviving a century-old archive — the first register of inpatients in 1917 of Kwong Wah Hospital. With the participation of volunteers, the 210-page register was restored using a purpose-designed method and custom-made materials. As a pilot project, it will assist Tung Wah Group of Hospitals in identifying the methodology and resources required to conserve the bulk of 159 registers of a similar nature and condition. This meaningful project not only represents the joint efforts of the charitable organization and the Government in preserving our local cultural properties, but also reflects the commitment and contribution of our conservation volunteers.

In support of the *Imprint of the Heart: Artistic Journey of Huang Xinbo* exhibition, the Paintings team undertook intensive treatment on five oil paintings by Huang Xinbo before they were put on display. Since the paintings were rolled up or folded when the artist returned from Hong Kong to his home in Guangzhou in 1949, much of the paint along the fold lines had peeled off. To prevent further flaking and loss of paint, the paintings were first stabilized with sturgeon glue. This was followed by relaxation and flattening of the creases over a period of several weeks. After the treatment, the paintings were remounted with new custom-made frames with protective glazing and backing boards.



▲ Dyeing and preparing the backing paper for subsequent application to the first inpatients register of Kwong Wah Hospital



▲ Remounting the Huang Xinbo woodblock prints for exhibition

## Photographs and Prints

For the Photographs and Prints team, one of their remarkable projects was improving the look of prints for the *Imprint of the Heart: Artistic Journey of Huang Xinbo* exhibition. One aspect of that show was to highlight the significance of early wood block printing as a medium of folk art in Hong Kong.

The exhibits were in varied conditions upon their arrival — some prints were newly produced specifically for the exhibition, while others were historical prints. Possibly stored previously in an unfavourable environment, these historical prints had suffered various mishaps including fungal attacks, discolouration and embrittlement. In order to achieve an aesthetically pleasing display, the team carried out de-acidification and bleaching treatment on nearly 200 prints to remove the unsightly deterioration. As a result, the artworks were not only restored to a more desirable appearance, but were set to enjoy a longer life.

## Historical Documents

Among 159 objects treated by the Historical Documents team last year, the most interesting one was a tax stamp found during the treatment of a cashier machine, donated by a retailer selling electrical appliances. This rare tax stamp dated back to the 1930s and had a face value of 15 cents. Sadly, over the years, dirt and grease had accumulated on the stamp's surface and concealed its fine details. Dry cleaning with a chemical sponge and the application of cotton swabs of white spirit were used to clean the stamp. The porous chemical sponge absorbed dirt into its cells and the white spirit removed many of the grease marks. The fine craftsmanship and the significance of the stamp could only be revealed after the conservation treatments.



▲ Details of the stamp are discernible after surface cleaning



▲ Relaxing and flattening the creases on an embroidered silk hanging



▲ Stitching the supporting fabric onto a silk embroidery to reinforce the torn areas



▲ Mounting Lam Ka Sing's "Butterfly-like Costume" for exhibition

## Textiles and Natural History Specimens

The oldest and largest textile piece treated by the Textiles and Natural History Specimens team during the year was an embroidered silk hanging dating back to the 11<sup>th</sup> year of the Tongzhi reign of the Qing dynasty (1872). Celebrating the 60<sup>th</sup> birthday of a noble elder from the Tang Clan, the hanging was embroidered with gold metal threads, inscription in gold leaf, and decorated with longevity motifs. Measuring 2.8m x 4.3m, the hanging was so massive that it had to be handled by at least three persons. Although structurally sound, there were a few minor cracks on the painted motifs and evident creases on the object. Those minor cracks were duly repaired with heat-activated adhesive. To avoid any tidemarks or stains on the silk fabric and any discoloration of the running dye, a water mist was employed – but not the direct application of water – with the aid of an ultrasonic humidifier and Gore-Tex film in order to relax the creases. A different method was used when treating a beautiful silk embroidery panel produced in 1890. The panel was a gift presented by some Chinese merchants to Sir George William Des Voeux, the 10<sup>th</sup> Governor of Hong Kong, to thank him for his contribution and wish him early recovery from illness before he left Hong Kong for the United Kingdom. The silk panel was probably suspended by nailing since the top and bottom borders were seriously torn with evident holes. The torn areas were in-filled and reinforced by stitching in custom-dyed silk fabric.

Other than handling period garments, the team also restored contemporary costumes of local artists. For example, Lam Kar Sing's Cantonese Opera costumes were carefully re-shaped and embroidery threads were secured, before they were put up for display in the *Virtuosity and Innovation - The Masterful Legacy of Lam Kar Sing* exhibition at the Hong Kong Heritage Museum. One of the most eye-catching exhibits included the well-known "Butterfly-like Costume", the signature piece in Lam's opera *A Heartbreaking Reunion*.

## Organic Materials

Our team of conservators took great care in treating a wooden statue, *Kui Xing*, before it could be displayed in the *Knowledge Power: The Imperial Examination System of the Qing Dynasty* exhibition at the Hong Kong Museum of History. When we first received the wooden statue from its owner, Liu Man Shek Tong Ancestral Hall, the statue's right hand was already broken while some paints appeared unstable. To arrest an active insect infestation, the statue was subjected to an extremely low oxygen environment (less than 0.3%) for 21 days to eliminate the pest problem. Polyvinylacetate emulsion was then used to re-attach the broken hand to its position, before the surface was retouched to match the original colouration.

When it comes to preserving contemporary objects, we must mention the work performed on the gold- and nickel-plated discs awarded to Roman Tam, the late Canto-pop legend by the International Federation of the Phonographic Industry (IFPI). When these discs were donated to the Hong Kong Heritage Museum, green corrosion and white mouldy residues were generally found on the discs and the inner surface of the encasing glass. To reveal their original bright and lustrous appearance, the discs were unframed and cleaned, while the acidic cardboards inside the frame – the source of the corrosive reaction – were replaced with archival materials to prevent future damage.



▲ Stabilizing the flaking paints on the statue of *Kui Xing*



▲ Removing corrosion products from the surface of a gold disc

## Ceramics and Sculptures



▲ Re-gilding the “Rhythm and Performances” sculpture with gold foil

Responsible for conserving the city's public artworks, the Ceramics and Sculptures team helped restore the former glory of several sculptures located at the open-air piazza of Kwai Tsing Theatre. For instance, the stainless steel and copper sculpture “Rhythm and Performances” produced by Hong Kong artist Leung Kui-ting, was found to suffer from extensive surface corrosion and a noticeable loss of gold in the gilded copper. The artwork had previously been displayed for a long time in a humid, outdoor environment. To revive the sculpture's glory, the corrosion products were removed mechanically using fine graded sand papers and an abrasive paste. A protective coating was then applied onto the stainless steel part of the sculpture. To further resume the original appearance of the sculpture, the residual gold leaves and paint from the corroded copper surface were removed, and the sculpture was re-gilded with gold foil to ensure a quality outcome.

Similar conservation treatment was carried out to restore the deteriorated bronze sculpture “Architecture, Art and Public” by another Hong Kong artist Chu Ching-sze. The ingrained dirt and corrosion products of the sculpture were removed mechanically, followed by a thorough rinsing with solvent so as to reveal the original appearance of the sculpture. In the final process, multiple layers of transparent protective coatings were applied to the sculpture as an added precaution against oxidation.

## Metals



▲ Regular maintenance of the Fireboat Alexander Grantham

The Metals team offered treatment to support the preservation work of a wide range of metallic museum exhibits, ranging from handy copper coins to sizeable, outdoor ethnographic items. In addition, the team retrieved the historical evidences about some 200 ancient coins excavated from various archaeological sites in Hong Kong, including sites at So Kwun Wat and Chek Lap Kok.

Elsewhere, the stability and structural safety of sizeable metal works on open display were regularly monitored and treated according to their needs. These include the ex-regiment military vehicles on outdoor display at the Hong Kong Museum of Coastal Defence; train coaches at the Hong Kong Railway Museum; a 511-tonne historic fireboat, Alexander Grantham, at Quarry Bay Park; and a good number of cannons at various venues. Through mapping out the causes for deterioration, we also designed specific programmes to meet the conservation needs of these items. This was done with a view to devising effective preventative measures to address areas of concern.

In the course of treating 200 archaeological copper coins we were heartened to retrieve the historical evidence of a 1-mil coin (equivalent to a thousandth of a dollar) – one of the earliest coinages manufactured by the first mint in Hong Kong in 1866. When the coin first arrived at our laboratory it was covered with green corrosion products and soil. It was only after an x-radiographic analysis that we came to know that the coin was of such high historical value. It took the team some four hours to carefully remove the soil from its surface under the microscope. Using a chemical gel containing weak polyaminocarboxylic acid, the team cautiously eliminated the green corrosion products in another eight hours. Only then did the inscription on both sides of the coin become visible to the naked eye. As revealed after the conservation treatment, the information on the coin has proven very useful to museum curators for their study of Hong Kong currency.



Before treatment



After treatment

▲ The inscriptions on an archaeological coin are revealed upon removal of the corrosion and soil accretions



## Archaeological Finds

The Archaeological Finds team restored a rare clay statue, *Wen Pang Guan*, by means of a pioneering conservation methodology described as “Cocktail Therapy”. Originally situated at I Shing Temple, Wang Chau, Yuen Long, the statue suffered from serious structural damages when it was delivered to the conservation laboratory. The lower part of the wooden skeleton supporting the statue was almost gone owing to serious termite attacks. As a consequence, the statue’s head was knocked off from the main body caused by a fall from height. And paints were peeling off the statue. Endoscopic examination confirmed that the clay fabric of the statue was reinforced by plant fibres, gunny and straw. While silicic acid ester could be used for consolidating the loose clay matrix, the considerable amount of plant fibres embedded inside the clay complicated the consolidation process. After extensive research and testing, the team developed the “Cocktail Therapy”, which combined the use of oxazoline-based polymer with silicic acid ester as the main constituents of the newly formulated consolidant. The method, first used in Hong Kong for restoring a clay statue, has proven to be very successful.



▲ Retouching the *Wen Pang Guan* clay statue to restore its original coloration



▲ Preserving a century-old newspaper embedded in the ceiling of the Tung Wah Museum

In special circumstances, the size or nature of the historic object may warrant conservation *in-situ*. One of our particular challenges was to restore a century-old newspaper found in the concrete ceiling of the Tung Wah Museum – a building converted from the main hall of the former Kwong Wah Hospital in 1972 and declared an historical monument in 2011. While repairing the hall ceiling, a worker found the 1908 newspaper embedded in the concrete. The newspaper could have served as a casual facing material for the ceiling concrete at the time of construction. Since the newspaper bears testament to the history of the building, it was decided it should be preserved *in-situ* for public viewing. After arresting the corrosion of the steel materials, a transparent silioxane-based coating was applied to the exposed newspaper to protect it from possible weathering and at the same time enhancing its tensile strength.

## Supporting Services

While our key responsibilities lie in developing and implementing conservation programmes for museum artefacts and heritage objects, we are also tasked to provide supporting services to museums, utilizing our in-house resources and the expertise of our team members.

### Supporting Thematic Exhibitions

One important aspect of our work is to provide support for thematic exhibitions, such as preparing the exhibits and advising on the environmental conditions for the objects on display.

Exhibition mounting involves careful planning and design in order to showcase the exhibits in their optimum condition. In two key exhibitions held at the Hong Kong Museum of Arts during 2011, *Wu Guanzhong: Painting, Dance, Music* and *Johnson Chow Su-sing: A Tranquil Heart in Art*, our conservators helped restore the dimensional stability of some cockled scroll paintings by relaxing the paintings and applying a thin layer of Chinese wax to their back, which also served to prevent moisture from permeating into the paintings from the wall during display. We also overcame the difficulties in mounting oversized ink paintings for *Re-vitalizing the Glorious Tradition: The Retrospective Exhibition of Pan Tianshou's Art*. Balancing the aesthetic and technical requirements, the massive paintings were attached on strong, sturdy polycarbonate boards for easier handling and to avoid any undesirable tension on the paintings during the set-up.

*Pixar: 25 Years of Animation*, held at the Hong Kong Heritage Museum, was another major exhibition featuring a large variety of exhibits such as polyurethane models, sketches in charcoal, pastels, watercolours and inkjet prints. Strict environmental requirements were imposed, including the need to minimize fluctuation in temperature and relative humidity that might cause damage to the exhibits. Working closely with the museum team and the site engineer, we succeeded in providing a very stable environment for the exhibits throughout the exhibition period.



▲ Mounting a massive painting by Pan Tianshou onto the wall, with the support of a tailor-made polycarbonate board



▲ Rubbing Chinese wax onto the back of a hanging scroll to protect the exhibit from moisture

### *Supporting the Display of Special Exhibits*

It is our foremost concern to ensure structural safety of massive exhibits. With this goal, our Metals team collaborated with the Hong Kong Polytechnic University and the Hong Kong Science Museum to devise a non-destructive Structural Health Monitoring (SHM) system to monitor the structural conditions of the suspension system for DC-3 Betsy, which is a 20m-long and 11-tonne founding aircraft of Cathay Pacific Airways donated to the Science Museum some 20 years ago for permanent display. Despite the on-going preservation programmes, it was decided that Betsy would require a more specific conservation plan from a holistic perspective in order to preserve it for posterity. Supported by aircraft engineers from Cathay Pacific Airways, the aircraft will be inspected in detail by zones every five years to assess its structural integrity, while appropriate conservation work will be implemented upon each periodic inspection.



▲ Inspecting the condition of the hanging gears of Betsy, a DC-3 airplane

### *Supporting Travelling Exhibitions*

Our conservation team lends support to museums not just locally but for exhibitions staged overseas. Among some 400 exhibits lent to various museums in the past year, the set of 60 Chinese paintings dating back to the Ming Dynasty on loan to the Metropolitan Museum of Art in New York were of exceptional value. To ensure that the loan exhibits would be displayed under proper condition, our conservators prepared detailed condition reports for individual objects after thorough inspection, designed custom-made shipping crates, and devised safe and effective packing methods to transport the exhibits from Hong Kong to New York. We are delighted to learn that our work was much appreciated by our overseas counterpart.

### *Pest Management*

Given that a wide range of museum objects are susceptible to pest infestation, pest control is a necessary precautionary measure. By subjecting the infested objects to an extremely low oxygen environment for 21 days, we can effectively eradicate all life stages of insects that may exist in the infested objects. In the past year, 10 operations had been conducted to eliminate the infestation problems for over 3,000 items including furniture, wooden sculptures, textiles and paper objects from various museums, archives, libraries and the Antiquities and Monuments Office.

## Other Projects

Other than regular conservation work and supporting services, we actively plan and implement projects in line with our mission and strategic development in the long term. Among the projects of particular importance are the planning for a Central Repository to address the need for more space to house the ever-growing museum collections, and the exhibition at Hong Kong International Airport to promote Hong Kong's rich cultural heritage to a world audience.

### Central Repository

Collections form the core of a museum and, in order to maintain this corpus, quality space for holding the collections is essential. To accommodate the anticipated growth of our museums' collections, we pro-actively undertook the planning on how to expand inventory capacity.

After thorough research, a substantial site – Area 109 Tin Shui Wai, measuring 5,000m<sup>2</sup> – has been identified for the construction of a Central Repository to house the extended collections of all of the public museums managed by the Leisure and Cultural Services Department. The Repository will be purpose-designed and equipped to cater for the preservation needs of a diverse range of collection materials. Besides serving its inventory function, the Repository will feature an exhibition gallery, two multipurpose activity rooms, as well as a resource centre and study room to enhance public access to our cultural artefacts.

Once the necessary endorsement is sought and funding is secured, the construction of the Central Repository will commence in 2017 and be completed by 2020 the earliest to resolve the long-standing and acute shortage of space to contain our museum collections.

### Airport Displays

Hong Kong has a wealthy and abundant cultural heritage, and to showcase this to a wider audience from around the world, we staged a series of thematic exhibitions, in collaboration with our museums, at several prominent locations at Hong Kong International Airport in 2011.

Entitled *Glimpses of Hong Kong*, this exhibition series included *Theatre Art of Cantonese Opera*, *The Art of Cantonese Opera*, *Bits of Old Hong Kong*, *Memories We Share* and *Tea through the Ages*.



▲ *Theatre Art of Cantonese Opera* gives air passengers an idea of the different male and female roles in Cantonese opera



▲ *The Art of Cantonese Opera* spotlights the use of various stage properties, scripts, song books and musical instruments

In addition to selected exhibits drawn from our various museum collections, the exhibition series also drew on an exciting range of media, from graphic design, historic images, audiovisual materials, to props and instruments, offering a refreshing cross-section of Hong Kong's history and culture to airport passengers and tourists. Thoughtfully designed and executed, this exhibition series made use of the airport as a focal exhibition space. Given its significance as a meeting place for people from all nations, *Glimpses of Hong Kong* attracted as many as 1.7 million visitors.

Encouraged by the positive response from viewers, we will continue to organize more exhibitions at the airport on a regular basis.



▲ *Bits of Old Hong Kong* features memorable scenes of Hong Kong in the early 20th century



▲ *Tea through the Ages* showcases special tea wares from different dynasties

## *Education and Extension Activities*

To promote the concept and value of conservation to the public, we organized a wide range of stimulating, interactive programmes including workshops, guided tours and behind-the-scene visits throughout the year. Through such varied education and extension activities, we hope to arouse participants' awareness and interest in conservation work.

### *Educational Workshops and Laboratory Tours*

As part of the School Culture Day Scheme, experiential workshops and laboratory guided tours were organized to provide students with an opportunity to experience first-hand the fun and challenge of conservation work. Over the past year, more than 300 students and teachers coming from nine schools participated in the programme. Among others, the workshops on "Understanding Conservation of Oil Paintings" and "Anatomy of Textiles" were particularly well-received. Students not only learnt how to preserve oil paintings and textiles but also had the opportunity to make a frame for an artwork or dye a piece of textile under the guidance of our conservators.



▲ Student visitors learning about the conservation of textiles in a laboratory tour



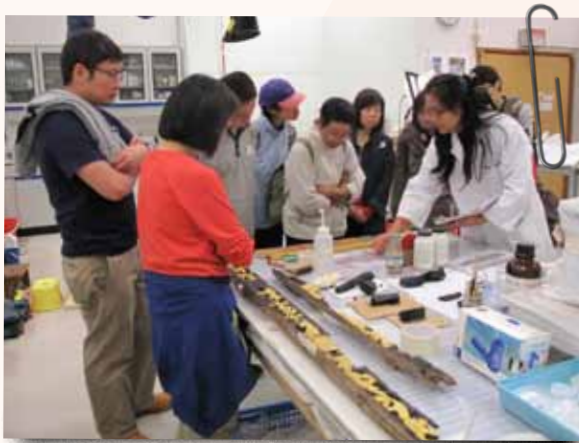
▲ Students experiencing fabric dyeing in a conservation DIY workshop under the School Culture Day Scheme

## Thematic Workshops

To encourage the general public and families to participate in our conservation extension activities, we organized four thematic workshops as part of the celebration of International Museum Day 2011. Entitled “Goodbye Sellotape” and “Wonder Plaster”, the events offered 80 participants the opportunity to experience the enjoyment and challenges in conservation work within a relaxed learning environment. In the activity “Goodbye Sellotape”, participants were briefed on the conservation approach in dealing with tears on paper objects as well as the remedial measures to tackle areas requiring repair. In “Wonder Plaster”, participants were led to explore the casting and gold gilding techniques on plaster through hands-on practical work.



▲ Kids collaborating on making starch paste in an International Museum Day activity



▲ Heritage Fiesta participants viewing the consolidation tests performed on various wooden accessories in a behind-the-scene tour

## Behind-the-scene Tours

To coincide with the International Conference on Heritage Conservation 2011, we staged eight behind-the-scene tours as part of the “Heritage Fiesta” series for three consecutive weekends in December, attracting well over 100 participants. During the tours, participants were able to visit our purpose-equipped laboratories and meet our conservators in person, hence gaining further insights into our work.

## Internship and Volunteering Programmes

As our contribution to the sector, we offer internships to students in conservation or a related discipline so as to help them broaden their exposure in the field. Likewise, it is also our aim to engage the wider community, helping them understand what conservation entails and garner their support for our work. To serve our goals, we have designed internship and volunteering programmes for those interested in getting involved in conservation at different levels.

### Internships for Students

Last year, we took on five interns from Finland, UK, Canada and China for internship programmes lasting from one to five months. Based on their individual learning backgrounds and areas of interests, they were mentored by different specialist conservators in the treatment of museum exhibits, preservation programmes, analysis and research, exhibition mounting and conservation documentation.

Olli Petteri Peri, a student from Finland who majors in conservation at the Helsinki Metropolia University of Applied Sciences, studied the physical and optical properties of plastic-based objects throughout the purpose-designed ageing process during his three-month internship. His work has contributed useful information to our ongoing preservation programme on plastic collections.

A graduate from the Institute of Archaeology in London, Melany Wan, was involved in the restoration of a wooden statue and several oil paintings while she worked as an intern at our Organic Laboratory for six weeks.

Pleased with the learning experience, Melany remarked, “I was introduced to conservation materials that I hadn’t used before. I learnt many new techniques and different approaches which I found very useful in making conservation decisions. Now I feel ready to take on other more complicated projects.”

Chuan Yan, a graduate from China Central Academy of Fine Arts and The Hong Kong Polytechnic University, harbours a special interest in Chinese paintings and, in her five-month internship, she was given the opportunity to get involved in the intricate processes in preserving and mounting Chinese paintings, as well as provide conservation support for exhibitions.



▲ Olli Petteri Peri conducting mechanical strength tests on synthetic polymers after accelerated ageing





▲ Chuan Yan lining a piece of Chinese calligraphy

Chuan found her internship experience highly rewarding, “I am touched by the openness and receptivity of the conservation team, who so generously shared with me their experience. I was given extensive opportunities to get exposed to a variety of projects, which were beneficial to a fresh graduate like me with no practical work experience.”

We also offered a one-month internship to Dorcas Tong, a chemistry graduate who went on to study art conservation at Queen’s University in Canada. During the time she spent with us, Dorcas worked with our specialist team in providing conservation support for the staging of thematic exhibitions.

### *Conservation Volunteers Scheme*

We believe it is immensely important to promote the awareness and value of conservation among the community, so that our work may be better received by the society at large. One of the most effective means to achieve the goal is through community engagement.

In the past year, we continued to implement the volunteering scheme to engage the general public. Some 50 volunteers were recruited during the past year, devoting a total of 2,230 service hours to support our work. In particular, the volunteers contributed considerably towards the restoration of historical cannons, archaeological coins and ethnographic objects in collaboration with our specialist conservators.

In recognition of their contribution and distinguished performance, 11 volunteers were presented with the “Outstanding Conservation Volunteer” Award at the 2012 Conservation Volunteer Briefing Session.



▲ Volunteers collaborating on the conservation of a bamboo basket



▲ Volunteers applying a protective coating to the surface of a historic cannon

## Research and Publications

High on our agenda is our pursuit for professional excellence. We actively develop conservation expertise through continued research, applying science and technology in relevant projects. Moreover, we maintain regular exchange with overseas counterparts through publication of our research achievements.

### Research Highlights



▲ Analysis of dyes using liquid chromatography - mass spectrometry

### Advances in Analysing Organic Materials

Last year, we equipped the conservation research laboratory with a liquid and gas chromatograph with mass spectrometer to analyse the composition of art and historical objects. The technique is particularly useful when studying organic dyes and pigments in historical textiles and paintings that would be difficult to identify otherwise. Using the new instrument, we successfully determined that the red colouring on a clay statue in I Shing Temple, Yuen Long, contains a mixture of Lithol Rubine and Toluidine Red. The information gained helped us formulate an appropriate methodology to preserve the statue.

### New Findings on Bronze Objects

With the use of scanning electron microscopy, x-ray diffractometry, and energy dispersive x-ray spectrometry, our conservators conducted an intensive study to identify the composition of corrosion products for ten bronze objects including a bowl, arrowhead, sword, hook and pin excavated from So Kwun Wat. The interesting findings of mould lines, polishing and wear-and-tear marks helped to explain how bronze artefacts were made and used in the past. The bronze casting technique identified in the study shed light on the settlement history in early Hong Kong, as well as provided evidence of exchanges between people in different regions in Southern China.



▲ The filing marks on a metal pin discovered under a microscope offer a clue about the early techniques of making bronze wares

### *Research Study on Cantonese Opera Costumes*

Lavishly decorated with micro-spheres and sparkling flakes, about ten costumes donated by an early twentieth century female Cantonese opera artist Soo Chow-mui to the Hong Kong Heritage Museum are a rarity. As observed under the microscope, the painted areas of the costumes were layered with micro-transparent solid glass spheres of diameter ranging from 200-700  $\mu\text{m}$ , together with various ornaments of varied thickness 0.5-50  $\mu\text{m}$  sprinkles. The chemical composition of the painting materials and embellishments of the costumes were identified with the help of instrumental analysis. Further analysis would be required to map out a conservation strategy to capture the deteriorating condition of the composite objects.



Gown front view



Paint examined under a microscope

▲ Micro-spheres and cracks are found in the paints of a gown under magnification

### *The Art of Restoring Mural Paintings*

As part of the project to restore Chik Kwai Study Hall in Sheung Tsuen, Pat Heung, which dates back to the 1890s, our conservators carried out extensive research as well as a series of tests on the materials used on the mural paintings. As a result, a purpose-built solvent system was developed to remove the soot, dirt and contaminants which had considerably marred the painting surface. With the concerted efforts of the archaeological finds and scientific research teams, the vivid colours and former glory of the mural paintings were finally restored.



Before treatment



After treatment

▲ Details of a mural painting at Chik Kwai Study Hall are revealed after removal of the surface dirt

### *Preventive Care for Paintings*

Last year, we made an enhancement to the showcases displaying large format paintings, by replacing the old fabric materials used on the fabric-mounted wall panels with linen cloth. We subsequently recoated the exposed wall panels inside the showcases with a wall paint that was environmentally friendly. In order to ensure the materials were safe for use from the conservation point of view, we conducted a series of tests and analysis to confirm the levels of volatile organic compounds (VOC) emitted from the paint were below the highest acceptable range as per the recommendations and guidelines drawn up by leading museums overseas. Meanwhile, we will continue to monitor the display ambience of the paintings and make necessary rectifications to ensure they are being displayed in an optimum environment for the sake of their long term keeping.

### *Publications and International Exchange*

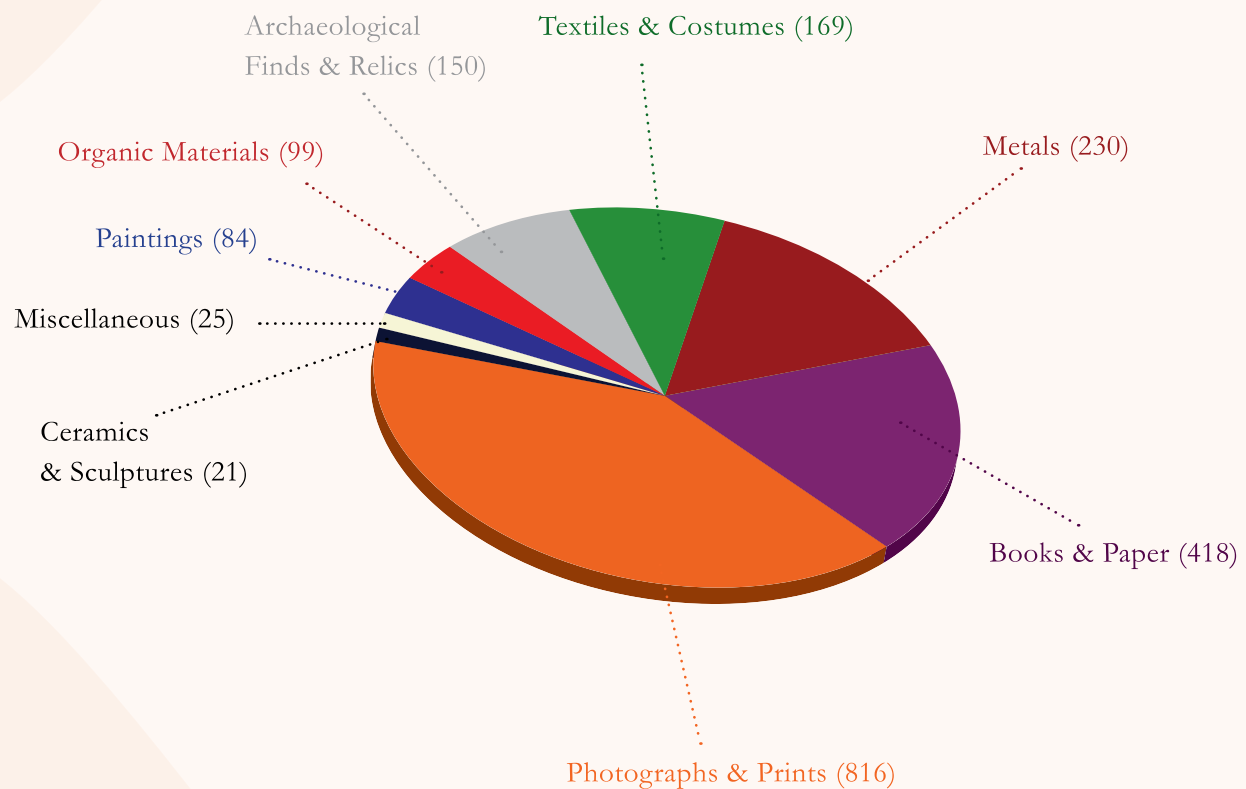
To contribute to the development of the conservation sector, we welcome opportunities to share our knowledge and experience with counterparts from around the world, fostering professional exchange and upholding standards of excellence. In July 2011, we were invited to attend an international seminar “Sharing Conservation Decisions - Current Issues and Future Strategies” convened by the International Centre for the Study of the Preservation and Restoration of Cultural Property (ICCROM) in Rome. There we presented a paper on “Value Fallacy: Preservation of Street Graffiti” which discussed the dilemmas and challenges we had encountered in preserving a few of the graffiti works produced by the late Tsang Tsou-choi. We were also represented at the Restoration and Conservation of Oil Paintings - International Academic Week held at the Museum of Guangzhou Academy of Fine Arts in September 2011.

Elsewhere, our paper entitled “Museum Object Conservation Documentation System in Hong Kong” was accepted for presentation at the 16<sup>th</sup> International Council of Museums - Conservation Committee Triennial conference in Lisbon in September 2011. The paper describes the use of Java web-based technology in the development of an in-house conservation documentation system for the museum collections.

## Performance Summary

In total, we successfully restored 1,928 museum objects during fiscal year 2011 - 2012. They are classified into eight categories based on the nature of their materials, ranging from 2D objects such as photographs and prints to 3D artifacts including ceramics and sculptures.

### Objects Conserved during the Year





*The Conservation Team*

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