



ITP International Training Projects

ISTITUTO SUPERIORE PER LA CONSERVAZIONE ED IL RESTAURO

Report 2016 - 2019





ISTITUTO SUPERIORE PER LA CONSERVAZIONE Istituto Superiore per la Conservazione ed il Restauro (ISCR) ED IL RESTAURO



Ministero per i Beni e le Attività Culturali (MIBAC) Direzione Generale Educazione e Ricerca



ALES SpA - Arte Lavoro e Servizi

ITP International Training Projects International Courses of the Istituto Superiore per la Conservazione ed il Restauro

Report 2016-2019

Compiled by Donatella Cavezzali

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The ISCR has planned, coordinated and provided the courses described in this document in keeping with its agreed responsibilities.

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Cover photo: Participants and instructors in the course: *Conservation-Restoration of Mosaics and Wall Paintings in Archaeological Contexts* at the Ostia Antica Archaeological Park, Ostia Marina Site.



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Organisations and units cooperating in classroom training

<u>School of Advanced Education and Research (SAF),</u> <u>ISCR</u>, provision of course classrooms and laboratories

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Conservation-Restoration ISCR Laboratory

Conservation-Restoration Laboratory for Plaster and Casts, ISCR, implementation of ISCR ITP course 5 in 2017 and 2019

Carlo Stefano Salerno (*Laboratory Manager*)

Conservation-Restoration Laboratory for Panel Paintings, ISCR, implementation of ISCR ITP course 16 in 2017 and 2019

Gloria Tranquilli (Laboratory Manager)

Conservation-Restoration Laboratory for Ceramics, Glass, Enamels and Metals, ISCR, implementation ISCR-ITP course 9 in 2017 and 2018 and course 6 in 2018

Ines Maria Marcelli (Laboratory Manager)

Conservation-Restoration Laboratory for Wall Paintings, Plasters and Stuccoes, ISCR, for implementation of ISCR-ITP course 8 in 2018

Maria Carolina Gaetani (Laboratory Manager)

Organisations and units cooperating in on-site visits

to the Roman Villa of the Baths of the Painted Plasters, Tor Vergata

Department of History, Cultural Heritage, Education and Society of the University of Rome 'Tor Vergata' (Giulia Rocco, Marcella Pisani, Margherita Bonanno, Project managers) Istituto Superiore per la Conservazione ed il Restauro

Maria Concetta Laurenti (Conservation-Restoration Project Manager)

to the Domus Aurea, Coliseum Archaeological Park, Rome, MIBAC

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to Palazzo Massimo, the Baths of Diocletian, Crypta Balbi and Palazzo Altemps, of the National Museum of Roman Civilisation, MIBAC

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Alexandra Andresen (Head of Exhibitions)

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at the Roman Villa of the Baths of the Painted Plasters, Tor Vergata, Rome

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Presentation of certificates of attendance - course on Methods and Materials for Conservation of Archaeological Metals





The ISCR has trained over 164 conservator -restorers and experts in the heritage sector from countries around the world





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Introduction to the ITP International Training Projects courses

Course on Conservation-Restoration of Mosaics and Wall Paintings in Archaeological Contexts (visit to the Roman Theatre of Ostia Antica)







The Directorate General for Education and Research established the International Training Projects as part of its mandate within the Ministry of Cultural Heritage and Activities (MIBAC). The aim of the program was to encourage international cultural exchanges through the offer of high level training in sectors where Italy leads the world in knowledge and practice. The ITP international projects were financed by Ministerial Decree of 7 August 2015, drawing on the 2014 revenues of Arte Lavore Servizi SpA (ALES).

The training offer was addressed to countries around the world on the basis of response to requests, and was organised in two main areas:

- the *Cultural Heritage area*, with the training offer developed by the MIBAC advanced education and research institutes (in particular the Istituto Superiore per la Conservazione ed il Restauro and the Opificio delle Pietre Dure), as well as the Central Institute for Cataloguing and Documentation, the Central Institute for Graphic Arts and Documents, and the National Police (Carabineiri) Unit for Cultural Heritage;
- the *Cultural Activities area*, concentrating on the theatre and classical music sectors, with the training developed by leading institutions in this area, in particular the Piccolo Teatro and the Accademia del Teatro alla Scala, both of Milan, and coordinated by the MIBAC General Directorate for Performing Arts.

The seven organisations offered a total of 107 different courses, with a rich and articulated range of contents intended to encourage and stimulate international demand. The Cultural Heritage area was further organised under the three sectors of Conservation-Restoration, Knowledge and Protection of cultural heritage, while the Cultural Activities area was organised under the Performing Arts and Musical Arts sectors. All of the courses were structured for flexible duration, of between one and eight weeks.

A pilot project addressed to the countries of the Caribbean Community (CARICOM) was co-financed by the Italian Agency for Development Cooperation (AICS), in agreement with the MIBAC Directorate General for Education and Research.

As the ITP program comes to a close we would like to thank all those who made it possible, with special acknowledgement to the Ministry of Foreign Affairs and International Cooperation for the support provided through its international network of embassies, cultural institutes, and cooperation services.

Francesco Scoppola

General Director, MIBAC Education and Research







Public institutions involved in the organisation of the International Training Projects ort

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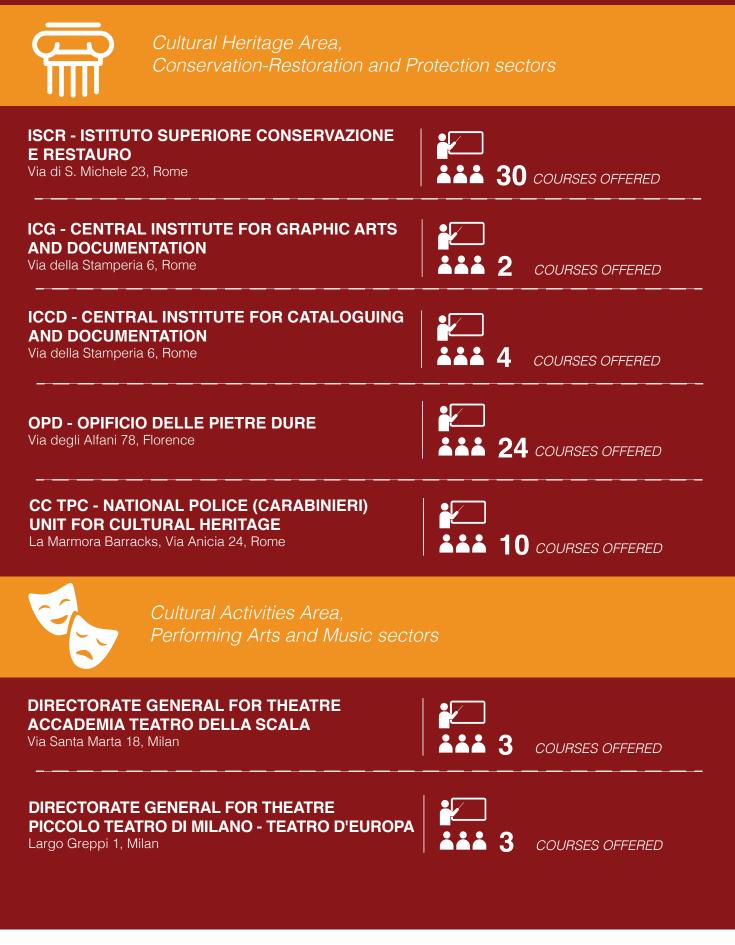
Course on Materials and Methods for Treatment of Archaeological Metals (Restoration Laboratory for Metal Objects, ISCR)







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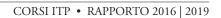




Introduction to the Istituto Superiore per la Conservazione ed il Restauro (ISCR)

18 INTRODUCTION TO THE ISTITUTO SUPERIORE PER LA CONSERVAZIONE ED IL RESTAURO (ISCR)

ISCR headquarters in Rome - facade of the 'Women's Prison' of the San Michele Complex, seen from Porta Portese city gate



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The Istituto Superiore per la Conservazione ed il Restauro is a technical-scientific and advanced training institute of the Italian Ministry of Cultural Heritage and Activities. The institute specialises in scientific research and university-level education in the area of conservation and restoration of cultural heritage. The ISCR is home to the Scuola di Alta Formazione e Studio (School of Advanced Training and Research), which awards the five-year master's-equivalent degree in Conservation and Restoration of Cultural Heritage (Italian legislative classification LMR/02). Since its foundation in 1939 the institute has played a key role in research, conservation and restoration at the international level. The ISCR holds a permanent seat on the ICCROM General Council and participates in numerous projects promoted by the Ministry of Foreign Affairs and International Cooperation, the European Commission and the UNESCO World Heritage Committee, for which the institution is a key reference.

One of the most important aims of international action is the training of technicians capable of dealing with the problems of conservation and restoration of archaeological sites, monuments and movable properties in their home countries. For this reason the ISCR has continually increased its organisation of courses and training opportunities, accompanying its long-standing activities in technical consultancy, direct intervention in particularly important and complex restorations, and development of conservation centres and scientific laboratories in other countries. The institute is recognised world-wide for its high levels of professionalism and technical capacities in treatment interventions, and for this reason often receives requests to export its know-how. Recent actions include the project for the creation of the Central Institute for Conservation (CIK) in Belgrade, Serbia, based on the cultural model of the ISCR, and the many training programmes carried out in other countries, including Jordan, Sudan, Bosnia-Herzegovina, Iraq, Afghanistan, Kosovo, China, Egypt and India.

In this context, from 2016 to 2019, the Istituto Superiore per la Conservazione ed il Restauro has implemented intensive training activities in the framework of the International Training Projects at the request of the nations of Iran, Bosnia Herzegovina, Bulgaria, Libya, Algeria, Pakistan, Egypt, Jordan, South Korea, Georgia, Serbia, and the CARICOM countries. Through this program the ISCR has further developed its extensive network of international cooperation involving conservator-restorers, conservation scientists, administrators, other sectoral professionals and students, as clearly demonstrated by the optimal evaluations of the large numbers of participants. The results of this program are a concrete affirmation of the vitality and effectiveness of the Italian model within the global context of heritage conservation and restoration.

Luigi Ficacci Director, ISCR







The ISCR training activity for ITP courses

Course in Conservation-Restoration of Mosaics and Wall Paintings in Archaeological Contexts (Ostia Marina Educational Excavations)







The ISCR training activity for ITP courses

The ISCR designed a wide-ranging offer of training under the ITP program, comprising 30 specialised courses in four thematic areas, all presented in English language:

- theoretical courses in archaeological heritage conservation;
- theoretical-practical courses in risk prevention and management;
- theoretical-practical courses in conservation-restoration;
- theoretical-practical courses in documentation, survey and photography.

The courses were provided in response to requests submitted to the ISCR through the Italian embassies or institutes of culture. The participants were selected within their home countries and provided with study and travel scholarships under the ITP project budget. The final certificates were issued on the basis of documented attendance.

The ISCR ITP courses dealt with topics and methods that are now consolidated in the Institute's practice, from risk prevention at the territorial level to restoration of metal and plaster objects, from the tratteggio and puntinato techniques of pictorial reintegration to structural restoration of wooden supports, up to the most recent applications of 3D technologies in conservation-restoration.

The individual course contents and teaching techniques were developed by the ISCR experts taking an interdisciplinary approach. The duration of the courses ranged from several days to a maximum of eight weeks. In addition to theoretical courses, the overall program included specialist courses featuring practical training in the institute's scientific and conservation-restoration laboratories.

The program also provided ample coverage of preventive conservation in museums and archaeological sites, including attention to the specific issues of moving and transporting works of art, and the new challenges of conservation of underwater archaeological heritage. The program also dealt with the increasingly important issues of environmental sustainability, including through specific courses on the use of solvents and compounds with reduced ecological impacts.

The theoretical lessons were held in the ISCR classrooms, and in several cases in the Library of Arts of the MIBAC Directorate General for Archaeology, Fine Arts and Landscape. Practical exercises were also provided through collaborations involving the specific ISCR scientific and conservation-restoration laboratories, supplemented by numerous study visits to archaeological sites and museums, in cooperation with the Museums of Lazio, the Archaeological Park of the Coliseum (including Domus Aurea), the Rome Special Superintendency for Archaeology, Fine Arts and Landscape, and the Archaeological Park of Ostia Antica.

In the three-year period 2016-2019, 169 participants from 16 countries of four continents participated in the ISCR ITP courses. The largest national contingents were the 34 participants from Bosnia, 25 from Georgia and 27 from Iran. This participation was also achieved through the activation of a special program with the countries of the Caribbean area (CARICOM), who drew on special co-financing for travel expenses provided by the Italian Agency for International Cooperation (AICS) under an agreement with the MIBAC Directorate General for Education and Research.

The final evaluations provided by the course participants confirmed the high quality of the educational program, returning scores of 88.5% appreciation for the choices of topics covered, 94.%% for the offer of both reference materials and teaching aids, and 97.6% appreciation for the professional exchange between teachers and learners.

These excellent results have been achieved thanks to intense teamwork by all those who contributed to the implementation of the ISCR ITP program, at the technical, scientific and institutional levels. Particular thanks go to the Italian diplomatic representatives who provided their skilled support in communicating the offer of the activities and assisting in the participation from countries with complex socio-political realities, such as Iran, Pakistan and Libya.

Donatella Cavezzali

ISCR International activities coordinator





ISCR ITP COURSES PROVIDED



CONSERVATION-RESTORATION LABORATORIES INVOLVED



LABORATORIES INVOLVED

Course on Methods for Surface Cleaning of Archaeological Metals I Metalwork Restoration Laboratory - ISCR







ITP Courses offered by ISCR

#1	PREVENTIVE CONSERVATION IN ARCHAEOLOGICAL CONTEXTS	15	1		
#2	'FIRST RESPONSE' IN ARCHAEOLOGICAL SITES	10	1		r k
#3	NEW METHODS AND MATERIALS FOR CLEANING MOVABLE PROPERTIES	10	1		۲
#4	TREATMENT OF WATERLOGGED MATERIALS FROM ARCHAEOLOGICAL EXCAVATIONS	4	2		r*X
#5	RESTORATION OF SCULPTURAL WORKS IN PLASTER	2	2		r k
#6	METHODS AND MATERIALS FOR INTEGRATION OF LOSSES IN CERAMIC OBJECTS	3	2		۴
#7	CONSERVATION-RESTORATION OF OBJECTS IN SKIN AND LEATHER	2	8		r k
#8	RECOVERY OF WALL PAINTING		<u>9</u> _9		
#8A	CONSERVATION-RESTORATION OF DETACHED WALL PAINTINGS	6	4		
#9	METHODS AND MATERIALS FOR CONSERVATION OF ARCHAEOLOGICAL METALS	3	3		r k
#10 [*]	CONSERVATION-RESTORATION OF MOSAICS * Course 10 was also provided in version 10A: Conservation-Restoration of Mosaics and Wall Paintings in Archaeological Contexts	10	2		r k





11	MATERIALS AND METHODS OF CONSOLIDATION FOR WOODEN OBJECTS	5	2		r x
12*	CONSERVATION-RESTORATION METHODS FOR WOODEN SUPPORTS * Course 12 was implemented in version 12A: Conservation of Architectural Plasters and Wood in Archaeological Contexts	4	°-° 3		ř */
13	MATERIALS FOR PICTORIAL INTEGRATION OF LOSSES	4	<u>•</u> •• 2		r k
14	REPAIR OF FABRIC SUPPORTS WITH DOUBLE-SIDED PAINTING	4	<u>و ہ</u> 1		r k
15	CONSERVATION-RESTORATION OF TEXTILE OBJECTS	9 3	8		۴
	'TRATTEGGIO' AND 'PUNTINATO' TECHNIQUES OF PICTORIAL REINTEGRATION	9 7	2		r x
17	BIODETERIORATION OF CULTURAL PROPERTIES	• 7	8		ŕx
18	ECO-SUSTAINABLE CONSERVATION-RESTORATION: ALTERNATIVE COMPOUNDS AND SOLVENTS	8			٢
19	ADHESIVES AND CONSOLIDANTS FOR PAINTINGS AND POLYCHROME SCULPTURE	4	2		ŕ
20	CONSERVATION OF UNDERWATER ARCHAEOLOGICAL HERITAGE	10	2		r*/





21 APPLICATION OF LASER TECHNOLOGIES FOR CLEANING OF HERITAGE PROPERTIES	10	2		r k
22 ECO-SUSTAINABLE CONSERVATION-RESTORATION: AQUEOUS CO2 SOLUTIONS	8	<u>و و</u> 1		r x
23 EFFECTS OF POLLUTANTS ON OBJECTS	8	1		r k
24 THE TERRITORIAL INFORMATION SYSTEM, RISK MAP, AND CONSERVATION ON-LINE	8	2		r x
25 [*] PREVENTIVE CONSERVATION: ENVIRONMENT AND CONSERVATION RECORD SHEET * Course 25 was implemented in version 25A: Preventive Conservation in Permanent and Temporary Exhibitions: Museums, Galleries, Exhibitions	6	2		r x
26 PREVENTIVE CONSERVATION: MOVING AND TRANSPORTING WORKS OF ART	4	2		٢
27 TECHNIQUES AND INSTRUMENTS FOR 3D DOCUMENTATION OF THREE-DIMENSIONAL WORKS	10	2		r x
28 PHOTOGRAPHY AND IMAGING IN CONSERVATION-RESTORATION APPLICATIONS	12	2		r k
29 GRAPHIC RECORDING FOR CULTURAL PROPERTIES	8	2		ŕ
30 REINTEGRATION OF SUPPORT AND PREPARATORY LAYERS ON THREE-DIMENSIONAL WOODEN OBJECTS	8	2		r x





The ITP courses in detail

Course on Methods and Materials for Integration of Losses in Ceramic Objects







- To introduce the themes of 'first-response' intervention in excavation and conservation of excavated artefacts, and in particular the issues of musealisation of archaeological areas and sites;
- To provide theoretical and methodological knowledge on the conservation of archaeological sites, using both direct and indirect methods and with particular reference to systems for protection of excavated structures and ruins.

Content

'Preventive conservation' refers to the mitigation or removal of the potential causes of damage to cultural assets in both outdoor and museum contexts. The modern philosophy of in-situ conservation requires complementary strategies for both conservation and consolidation of artefacts and the provision of preventive conservation devices and structures. To be effective, these must designed on the basis of preliminary scientific studies and knowledge of the environment and the conservation characteristics of the artefacts to be protected. The emerging themes in protection systems for archaeological sites concern both architectural roofing and temporary reburial, both of which are the subject of specific research and studies illustrated during the course. Programmed conservation is an aspect of preventive conservation, implemented in archaeological areas according to a protocol designed on the basis of periodic monitoring of the state of conservation and on precise scientific findings. Knowledge of the site and its contents enables preparation of a periodic maintenance program that limits the onset of new degradation phenomena and sustains the benefits of restoration work over time. The Cultural Heritage Risk Map activity of recording the levels of site vulnerability provides a useful tool for monitoring the state of conservation of monuments and archaeological complexes. Case studies were used to illustrate the main methods of conservation and prevention, from seasonal temporary protection to reburial, from architectural roofing to systems for monitoring the conservation status of properties in outdoor contexts. The course was supplemented by educational visits to the archaeological excavations at the Villa of the Baths of the Painted Plasters in Tor Vergata, conducted by the University of Rome 'Tor Vergata', and to the underground archaeological site of the Domus Aurea.

Areas of application

Archaeological sites and parks

Course level

Theoretical course at the intermediate/advanced level, intended for archaeologists, architects, curators, conservator-restorers, scientific experts

Duration

1 week (5 days, 8 hours per day) including classroom lessons and field visits

Maximum participants

15 participants



Ostia Marina educational excavations, Ostia Antica Archaeological Park







Course: **PREVENTIVE CONSERVATION IN ARCHAEOLOGICAL CONTEXTS** Coordinator: **Maria Concetta Laurenti** Assistant/Tutor: **Flavia Puoti** Interpreter: **Silva Sabkova**



Course: **PREVENTIVE CONSERVATION IN ARCHAEOLOGICAL CONTEXTS** Coordinator: **Maria Concetta Laurenti** Assistant/Tutor: **Carlotta Sacco Perasso** Interpreter: **Carlotta Sacco Perasso**



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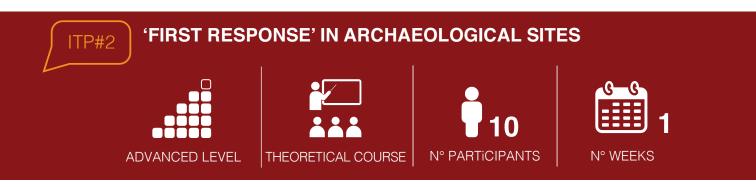
Course: **PREVENTIVE CONSERVATION IN ARCHAEOLOGICAL CONTEXTS** Provided together with *Course 2. 'First Response' in archaeological sites* Coordinator: **Maria Concetta Laurenti** Assistant/Tutor: **Francesco Spagnoli** Interpreter: **Neal Douglas Putt**



Course: **PREVENTIVE CONSERVATION IN ARCHAEOLOGICAL CONTEXTS** Coordinator: **Maria Concetta Laurenti** Assistant/Tutor: **Francesco Spagnoli** Interpreter: **Neal Douglas Putt**



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- To develop theoretical and methodological understanding of the problems of conservation in excavations, particularly as applied to the design of 'first-response' intervention actions for protection of structures and artefacts;
- To illustrate the chemical-physical characteristics of the constituent materials of artefacts, the phenomena of degradation and the standardised procedures for documentation and preliminary investigations, as well as block lifting techniques;
- To understand the limits and cooperation required in operations performed by the archaeologist and those requiring intervention by the conservator-restorer;
- To illustrate the methodologies of laboratory micro-excavation and the appropriate handling and storage techniques for the different classes of materials.

Content

The trend in archaeology towards increasing awareness and management of the site context and territory has led to greater consideration of the conservation problems arising at the moment of excavation. Excavation is a traumatic and essentially destructive moment. The fragility of the finds requires the application of appropriate 'first-response' operations in the field, for prevention of damaging changes in chemical-physical status due to exposure to the atmosphere, desiccation and inadequate handling. The first-response methodologies are those applied in the field to avoid damage in the phases following excavation and during temporary storage. These include operations for recovery and stabilisation of fragile finds, as well as the interventions conducted on structural remains for limitation of phenomena of deterioration. The first-response operations require shared planning and cooperation between the archaeological and conservation disciplines. The course included cases studies of operating methods developed through long experience in funerary contexts and in excavation of ancient residential contexts.

Areas of application

Archaeological contexts of all kinds, in particular those with structural remains including significant decorative apparatus (e.g. stuccoes, plasters) and funerary contexts with heterogeneous funerary materials

Course level

Advanced theoretical course aimed at conservator-restorers, archaeologists and managers responsible for sites and excavations

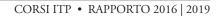
Duration 1 week

Maximum participants 10 participants



Church of Santa Marta. Rome I Course on First Response in Archaeological Sites





Course: 'FIRST RESPONSE' IN ARCHAEOLOGICAL SITES Provided together with Course 1. Preventive conservation in archaeological contexts Coordinator: Maria Concetta Laurenti Assistant/Tutor: Francesco Spagnoli Interpreter: Neal Douglas Putt



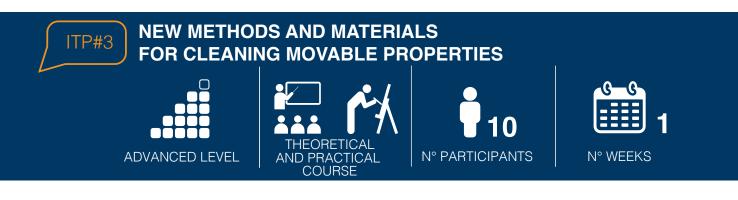








HOURS



To provide professional updating on cleaning techniques, including uses of new materials, aqueous emulsions, water in oil (W/O) and oil in water (O/W) emulsions, chelators, and gels (Carbopol, Vanzan, Gellano, Agar, etc.).

Content

In the conservation-restoration field, 'cleaning' refers to operations aimed at improving the perception of a pictorial image in the case of the presence of materials that compromise its legibility. The very nature of these operations presents risks to the work of art, meaning that that they must be carefully planned and monitored according to principles of selectivity, controllability, gradualness, low toxicity and capacities for removal of the cleaning media. Operators in conservation-restoration require continuous updating of their professional knowledge so that they can continue to address the wide range of issues and master the potential systems and methods, converging theory and experimental practice.

The course drew on scientific support, building on the individual experiences of the participants through laboratory practice and case studies. It offered the opportunity to reflect on the consolidated orientation of 'minimum intervention' and on operational choices that respect environmental and operator safety. The training dealt with both theory and practice, including cleaning tests using different materials on polychrome sculpture and paintings on wood and canvas.

Areas of application

Conservation-restoration of movable cultural properties, including painted furniture, polychrome sculpture, paintings on canvas and wood

Course level

Advanced theoretical and practical course aimed at conservator-restorers with responsibility for direct interventions on cultural heritage

Duration

2 weeks (10 days, including 12 hours of theoretical lessons over three days and 35 hours of laboratory practice over seven days)

Maximum participants

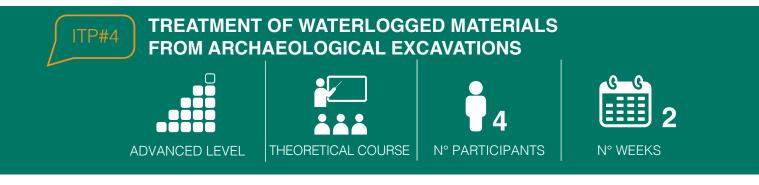
10 participants



Image repertoire restoration ISCR | Rome







To review the range of potential conservation treatments for waterlogged materials, leading to the selection of the methods appropriate to different cases.

Content

This theoretical course provided for the study of three aspects of the treatment of organic materials saturated with water, fundamental to successful conservation.

- Correct recovery from excavation and conservation awaiting restoration The course reviewed the methodologies and details of all phases in recovery of waterlogged materials.
- *The restoration intervention* The course presented the different consolidation methods currently employed and the techniques and products used in recent experimental cases.
- *The drying methods* These are fundamental to the preservation of the cultural property in dry environments, such as exhibition galleries or museums.

Areas of application Waterlogged organic archaeological artefacts

Course level

Advanced theoretical course aimed at conservator-restorers responsible for direct interventions on cultural properties

Duration

2 weeks (12 hours of theoretical lessons over 3 days, 35 hours of laboratory practice over 7 days)

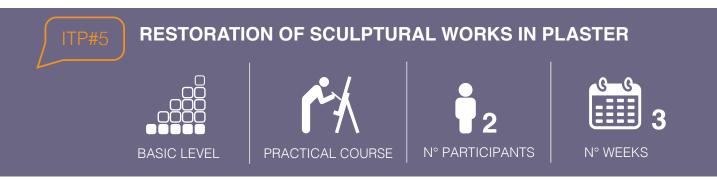
Maximum participants 4 participants



ISCR restoration area | Rome







- To understand the theory of gypsum plaster as a constituent material of works of art, with particular reference to sculptures, moulding and casting, preliminary works and models;
- To assist in applying the theoretical concepts in practical activities of study and treatment for specific works, under the direction of the Instructors.

Content:

Course participants took part in two important restoration projects: restoration of the original plaster model of Luigi Bistolfi's bust of Giuseppe Garibaldi, held at the Istituto Garibaldi in Rome; restoration of the plaster model for the base of the monument to Anita Garibaldi on Gianicolo Hill in Rome, by Mario Rutelli.

The practical restoration exercises concerned the methods and systems for cleaning plaster surfaces, in particular using peeling systems with alginates aimed at removing deposits of foreign materials, such as atmospheric pollutants, grease and tempera touch-ups. The treatment gels were applied repeatedly in localised areas until achievement of a balanced level of cleaning. The bust of Garibaldi was also cleaned mechanically using scalpels to remove tenacious repainting.

Areas of application Sculptural works in plaster; moulding and casting

Course level Basic theoretical-practical course aimed at conservatorrestorers

Duration 3 weeks of theoretical lessons and laboratory activities

Maximum participants 2 participants



Course on Restoration of Sculptural Works in Plaster, ISCR | Rome







Course: **RESTORATION OF SCULPTURAL WORKS IN PLASTER** Coordinator/Instructor: **Carlo Stefano Salerno** Assistant/Tutor: -Interpreter: -



Course: **RESTORATION OF SCULPTURAL WORKS IN PLASTER** Coordinator: **Carlo Stefano Salerno** Assistant/Tutor: **Chiara Compostella** Interpreter: -



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- To review the theory and practice of structural and aesthetic integration of losses in ceramic objects, including the choice of suitable materials and any additional supports depending on the weight and size of the product, and adjustment according to the decoration, surface finish and colour of the ceramic piece.
- To instruct the conservator-restorer in criteria that can guide the choice of integrating materials for the individual artefact, depending on its state of preservation, the extent of the losses and the surface finish.

Content:

The introductory lessons dealt with materials for integration, artefacts consisting of porous materials, and techniques of gap-filling in ceramic objects. The course presented the different integration materials used in conservation-restoration and the range of potential methods for integration of gaps in the different types of ceramic artefacts. The lessons dealt with the problem of the gap and the materials used to fill it. Practical exercises were carried out in the laboratory on various ceramic artefacts. The course also introduced reintegration by means of laser scanning and 3D printing, taught through in-depth case studies using models, as well as the 'dot' technique of applying colour in integration. The participants practiced direct intervention on various ceramic products made available by the ISCR laboratory.

Practical exercises were conducted in the ISCR Ceramics, Glass and Enamels Restoration Laboratory, with supporting theoretical lessons in the ISCR classrooms.

Areas of application Conservation and restoration of ceramic material, primarily in museum contexts

Course level Basic level practical course aimed student and practicing conservator-restorers

Duration 2 weeks

Maximum participants: 3 participants



Restoration operation on a ceramic object, ISCR | Rome







Course: *METHODS AND MATERIALS FOR INTEGRATION OF LOSSES IN CERAMIC OBJECTS* Coordinator: **Maria Elisabetta Prunas** Assistant/Tutor: **Nicola Pagani** Interpreter: -





Presentation of certificates of attendance | Ceramics, Glass and Enamels Restoration Laboratory, ISCR









- To transfer the knowledge gained from long laboratory practice to conservator-restorers interested in deepening their knowledge and experience in practical and operational aspects of conservation for leather goods.
- To communicate the knowledge gained by the ISCR from experimentation with materials and methods for the conservation-restoration of objects fabricated mainly or entirely of leather, including gilded and painted leather such as upholstery and frontals, footwear, containers and ethnographic artefacts.

Content:

The course engages the participants in the treatment of one or more leather items, from preliminary analyses to conclusion, including cleaning, consolidating, reintegration, and potential reconstruction, storage and exhibition measures. The course instructors provide guidance and assistance in the implementation of the different phases of the intervention, including the evaluation and selection of materials and procedures. The course takes a practical approach but includes explanations and information about the techniques of execution, observation of the state of conservation and the specificity of the individual case, leading to the choices of methods to be applied. The course also emphasises the importance of cooperating with other professionals in the restoration process, including historians, scientific experts and photographers, in proceeding through the different phases of the intervention.

Areas of application

Conservation-restoration of leather and leather objects

Course level

Intermediate to advanced practical course for professionals with training, experience or specific interests in the field of conservation-restoration of leather, and who have decision-making and operational responsibility for direct interventions on cultural heritage

Duration 4 weeks

Maximum participants 2 participants



Restoration operations on leather objects, ISCR | Rome







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- To introduce the issues of treatment and recovery of fragments of wall paintings from archaeological contexts;
- To review the theoretical aspects of techniques of execution, aspects of architectural decoration, degradation processes, intervention methodologies, the main problems of in-situ conservation, and the main operations of 'first response' interventions on different materials and components encountered in archaeological sites;
- To support the theoretical lessons with practical laboratory activities.

Content

The theoretical part of the course focused on the history and techniques of execution of wall paintings, then the conservation and restoration interventions with reference to the methodological criteria and materials. The excavations of the Villa of the Baths of the Painted Plasters at Tor Vergata (Republican era, 1st century AD) was used as a case study, with particular attention to the site, the environment and the recovery of fragments, which had been removed to the restoration laboratory situated in the Church of Santa Marta in Rome.



Objectives

- To provide internships for three conservator-restorers from the staff of the leading museums of Cairo, in response to a request from the Italian Ministry of Foreign Affairs and International Cooperation.

Content

The theoretical part of the course focused on the history and techniques of execution of wall paintings and included participation in other ITP theoretical courses. The training also consisted of substantial practical training in the ISCR conservation-restoration laboratories, over a period of six months. The practical activity included restoration of detached medieval frescos originating from the town of Tuscania.

Areas of application

Wall paintings from archaeological contexts

Course level

Advanced level theoretical-practical course for conservator-restorers with previous experience in the sector

Duration

Course 8 - 3 weeks Course 8A - 6 months



ISCR laboratory for conservation-restoration of mural paintings: intervention during ITP course







Course: **RECOVERY OF WALL PAINTING FRAGMENTS** Coordinator: **Maria Carolina Gaetani** Assistant-tutor-interpreter: **Chiara Di Marco**



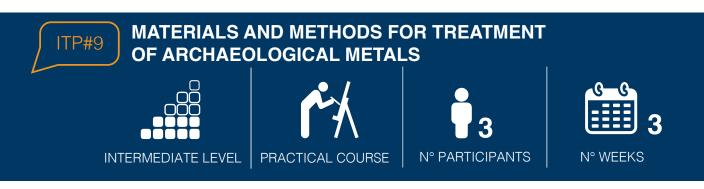
Course: **CONSERVATION-RESTORATION OF DETACHED WALL PAINTINGS** Coordinator: **Anna Maria Marinelli** Assistant/Tutor/Interpreter: **Francesca Mancinelli**











- To provide the theoretical basis and introduce the practical knowledge necessary for direct conservation-restoration interventions on metal objects and artefacts from archaeological excavations;
- To study the concept of the original surface of the objects and the main indicators for its recognition within the corrosion stratigraphy, including through application of restoration techniques on the objects.

Content

The course provided a series of theoretical lessons on the main factors of degradation characterising the atmospheric, burial and underwater environments and the association of these with the possible stratigraphies of corrosion products on metal objects in copper, iron, lead, gold and silver. The lessons introduced the concept of the original surface of the objects and the main indicators for its recognition within the corrosion stratigraphy, as well as the fundamental concepts of patination and stable and unstable patinas. The lessons also dealt with the main cleaning methods, categorised in terms of mechanical, physical, chemical and electrochemical action.

The practical laboratory activities dealt in particular with the application of the different cleaning methods, including consideration of their potentials and limits. Practical activities included tests on limited areas of corroded artefacts in different states of conservation, enabling comparison of the results obtained from the different methods presented in the theoretical lessons.

Areas of application

Conservation-restoration of metal artefacts and composite artefacts containing metals

Course level Intermediate level practical course aimed at professional conservator-restorers

Duration 3 weeks (6 hours daily)

Maximum participants 3 participants



Course on Materials and Methods for Treatment of Archaeological Metals | Rome







Course: *MATERIALS AND METHODS FOR TREATMENT OF ARCHAEOLOGICAL METALS* Coordinator: **Stefano Ferrari** Assistant/Tutor: **Maria Cristina Passeri** Interpreter: -



Course: *MATERIALS AND METHODS FOR TREATMENT OF ARCHAEOLOGICAL METALS* Coordinator: **Stefano Ferrari** Assistant/Tutor: **Maria Cristina Passeri** Interpreter: -





- To transfer knowledge of the theoretical criteria, main methodologies and the technical competencies in the field of mosaic conservation through classroom lessons and direct experience with the works;
- To support participants in acquiring the main theoretical knowledge relating to techniques of execution, technological and conservation aspects of floor and wall mosaics;
- To enable students to evaluate the state of conservation of a mosaic, recognising the different types of damage and the main causes of degradation, in relation to the constituent materials, the environment of conservation and the history of the artefact's conservation.

Content

The training activity included both classroom lessons and activities of direct intervention on the archaeological site of the Villa of the Baths of Painted Plasters at Tor Vergata. The training provided a preliminary theoretical phase aimed at understanding the techniques of execution and constituent materials, the phenomenology of degradation and the methodologies of documentation and intervention on floor and wall mosaics. The lessons utilised audio-visual and computer media to introduce a series of themes related to the methods of intervention, which were then directly applied during the practical activity on the excavation. Case studies of mosaics detached mosaics from their original site were also illustrated. The direct intervention on the work was preceded by an illustration of the operational choices, with particular attention to the selection of products and conduct of preliminary tests. An assistant-coordinator/tutor supported the participants throughout their conduct of the intervention activity.

Areas of application

Conservation-restoration of detached and *in-situ* floor and wall mosaics

Course level

Advanced practical course for conservator-restorers with university level training and practical experience in restoration of stone materials and decorated architectural surfaces and at least basic theoretical knowledge of mosaic techniques

Duration 2 weeks

Maximum participants 10 participants

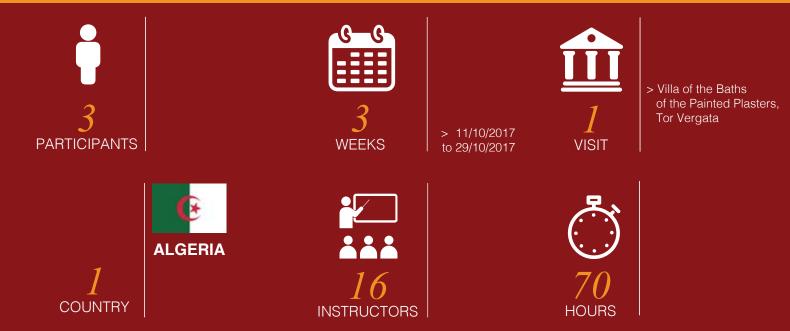


Course on Conservation-Restoration of Mosaics Villa of the Baths of the Painted Plasters, Tor Vergata | Rome



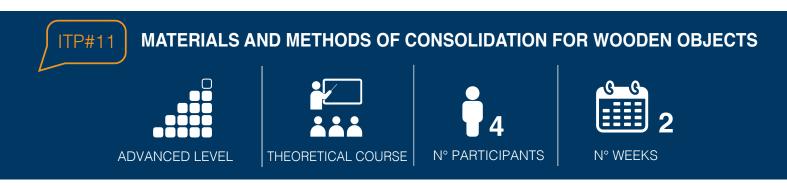


Course: *CONSERVATION-RESTORATION OF MOSAICS* Coordinator: **Maria Concetta Laurenti** Assistant/Tutor: **Francesca Mariani** Interpreter: -



Course: CONSERVATION-RESTORATION OF MOSAICS AND WALL PAINTINGS IN ARCHAEOLOGICAL CONTEXTS Coordinator: Barbara Davidde Assistant/Tutor: Francesco Spagnoli Interpreter: Aisha Mahmoud Hassan Mahmoud Awadd





To provide professional updating on problems of consolidation and methods of intervention on movable cultural properties, in particular for painted wooden artefacts.

Content

Consolidation is the first indispensable operation for the protection of painted wooden objects, given the characteristics of aging, perishability and high sensitivity to the thermo-hygrometric variations of the support material and the different constituent materials of the paint layers. The course begins with a review of the recurrent damages to painted wooden objects in relation to their varying states of preservation, meaning defects in cohesion and adhesion, detachment and lifting. The course approach is to verify the operating systems for 'first intervention' and establishment of the safeguard of painted movable properties. The course reviews and provides practice in using materials and techniques commonly applied to solve the main problems, updating the knowledge of newly formulated materials of natural and synthetic origin, the techniques of use and the systems for monitoring during the intervention, and introduces guidelines for operational choices. The course laboratory practice in the latest operating methods. The practical sessions include exercises in the treatment of defects in cohesion and adhesion on paintings on wood and polychrome wooden objects.

Areas of application Painted and unpainted wooden arted

Course level

Advanced theoretical-practical course for conservatorrestorers with responsibility for direct interventions on cultural heritage, intending to deepen their knowledge of the consolidation of painted works on wooden supports

Duration

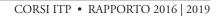
2 weeks (12 hours of theoretical lessons over 3 days; 35 hours of laboratory practice over 7 days)

Maximum participants



Conservation-restoration operations on wooden objects, ISCR | Rome





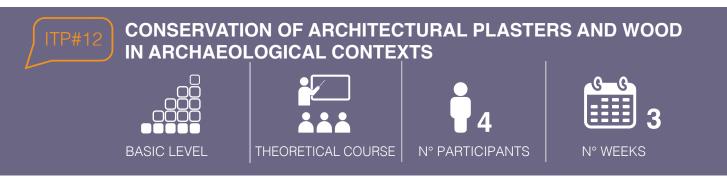


Course on Restoration of Sculptural Works in Plaster, Plaster restoration laboratory | ISCR





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- To introduce the issues and problems related to the deterioration of architectural plasters and wood and the preventive conservation and conservation-restoration of wood and plaster products;
- To introduce xylotomic analyses and biocide treatments;
- To provide knowledge of the specific topics of intervention on carbonised and water saturated wood.

Content

The course was designed taking into account the professional qualifications and contexts of participants from Pakistan, and therefore covered parts of ISCR-ITP courses 2, 4, 8 and 12. The processes of chemical and biological deterioration were reviewed, including the study of effects of primary and secondary pollutants on cultural properties. Participants studied the methods of documenting deterioration on cultural properties, including photography and imaging as mapping tools. The concept of in-situ conservation on archaeological sites was introduced, with particular attention to the general principles, methodology and protection of the areas. A specific focus of the course was on wood in archaeological excavations, and with detailed reference to waterlogged wood. A second focus was on plasters, and therefore the materials and techniques of execution and the first interventions necessary in archaeological contexts. The course also introduced the use of Geographic Information System mapping for documentation of cultural heritage.

Areas of application

Architectural and movable cultural properties with specific focus on painted and unpainted wood and plasters

Course level

Basic theoretical-practical course aimed at professionals in the heritage conservation sector

Duration

3 weeks (10 days of theoretical lessons including visits to sites for case studies in methodologies of intervention; 5 days of operational activity in laboratories)

Maximum participants

4 participants



Presentation of certificates of attendance - Conservation of Architectural Plasters and Wood in Archaeological Contexts, Venturi Room, ISCR | Rome





Course: CONSERVATION OF ARCHITECTURAL PLASTERS AND WOOD IN ARCHAEOLOGICAL CONTEXTS Coordinator: Donatella Cavezzali Assistant/Tutor: Francesco Spagnoli Interpreter: Neal Douglas Putt











- > National Museum of Oriental Art
 "Giuseppe Tucci" > National Museum
- National Museum
 of Roman Civilisation at
 Palazzo Massimo











Presentation of certificates of attendance - Conservation of Architectural Plasters and Wood n Archaeological Contexts, Venturi Room, ISCR









To transfer technical knowledge on criteria of theoretical approach, and materials, methodologies and skills on the specific theme of pictorial reintegration of losses.

Content

The course reviewed the different integration and retouching materials available and currently used in the field of restoration. The theoretical section examined the industrial preparations (e.g. Gamblin, Maimeri, Winsor & Newton) as well as the resins, pigments and binders used by restorers specialised in this particular field, with a view to their composition and appearance in use, and the selection criteria in terms of physical and chemical stability, reversibility, aesthetic effects and toxicity. In the practical section the participants tested some of the products presented, for direct comparison of the results obtained. The participants were required to critique and discuss the problems associated with the use of the materials.

Areas of application

Painted and unpainted wooden artefacts, paintings on canvas and panel

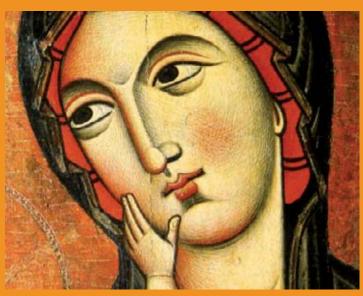
Course level

Basic theoretical-practical course for conservatorrestorers in the pictorial sector (polychrome sculpture, paintings on canvas and panel), with university level training and responsibilities for direct intervention on cultural properties

Duration

2 weeks

Maximum participants 5 participants



Restoration intervention on a painted panel, ISCR | Rome







To transfer knowledge on criteria of theoretical approach and materials, methodologies and skills in the localised treatment of problems in the conservation of textile supports for paintings.

Content

The training dealt with intervention on fabric artefacts with painting on both sides, such as banners and pennants, assuming that the repair action on the support can be limited to a minimum by acting in a limited and precise manner on cuts or tears caused by the deterioration or vandalism. Training was provided in the ISCR laboratory for restoration of paintings on canvas, and included both theoretical lessons and practical laboratory exercises in restoration techniques. The activity was supported by an expert in the specific treatment who imparted concepts on the techniques of restoration of cuts and tears in double-faced painted textiles, including particular issues such as the classification of tears and the main problems related to tears in paintings on textile supports. The latest experiments on adhesives were also discussed, followed by evaluation of the adhesive strengths by means of mechanical dynamometric tests, and evaluation of chemical stability, reversibility and susceptibility to biological degradation. Practical exercises included execution of 'head-to-head' stitching on test samples of canvas with preparatory and pictorial layers on both sides.

Areas of application

All artefacts and works on textile support bearing preparatory and pictorial layers on one or two faces, in particular where one of the objectives is to minimise the intervention.

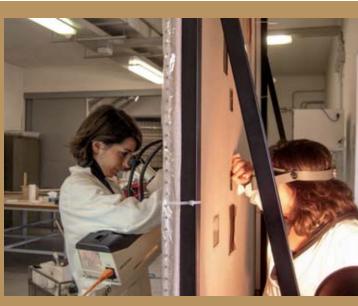
Course level

Advanced theoretical-practical course for conservatorrestorers with introductory education in restoration of paintings, and responsible for direct interventions on cultural properties

Duration

1 week (1 day of theory, 4 days of practical training)

Maximum participants



Restoration intervention on painted canvas, ISCR | Rome









- To provide professional updating in the field of conservation of textile artefacts;
- To communicate an attitude of extreme respect for the history of the artefact and an approach increasingly based on preservation of the historical evidence, through careful evaluation of the signs of time incorporated in the textile piece.

Content

The ISCR laboratory tends to work on objects mainly for the purposes of conservation and aesthetic presentation with an orientation towards the principle of least invasive intervention possible, as well as the design of the intervention based on consideration of the intended context for the piece.

The theoretical-practical course dealt with all the operations and methods of intervention for the conservation and restoration of two-dimensional textile artefacts from Italian museum collections, but selecting cases concerning types of artefacts similar to those present in the participants' home countries. The course included development of theoretical aspects concerning techniques of execution, degradation processes and intervention methodologies, supplemented by practical laboratory activities. The laboratory training considered individual pieces, dealing with all aspects from cataloguing and drafting of conservation status reports to care in storage and exhibition in the museum context, including direct actions for conservation. The theoretical activity included the presentation of a number of case studies resulting from collaborations between the ISCR laboratory and public institutions such as museums and territorial superintendencies, dealing with multiple problems in textile heritage.

Areas of application Unpainted two-dimensional textile artefacts

Course level

Advanced theoretical-practical course aimed at conservatorrestorers of cultural heritage with intermediate to advanced experience, responsible for direct interventions on cultural properties

Duration 4 weeks

Maximum participants 3 participants



_aboratory for Conservation-Restoration of Textile Objects, ISCR | Rome







Course on Photography and imaging in Conservation-Restoration Applications - Laboratory for stone artefacts | ISCR





ITP#16 TRATTEGGIO' AND 'PUNTINATO' TECHNIQUES OF PICTORIAL REINTEGRATION Image: state of the s

Objectives

- To convey the knowledge necessary for implementing the *tratteggio* technique of reconstructing the losses that disrupt the figurative unity of a painted image;
- To convey the principles of the Theory of Restoration, formulated in the 1950s by Cesare Brandi, founder of the Central Institute for Restoration, and underlying the *tratteggio* technique, in accordance with the principles of recognition and reversibility;
- To study the reintegration of gaps using the *puntinato* technique, for recognisable integration on infill in polychrome sculptures and three-dimensional artefacts;
- To review the laws of optical physics and visual perception underlying the reintegration techniques.

Content

The first theoretical stage of the course involved viewing films on some of the historical restorations by the ISCR, and the explanation of Cesare Brandi's theoretical principles on the reintegration of gaps, as well as on the technical principles of *puntinato*. The practical stage focused on the technique of *tratteggio* reintegration. The participants were supplied with three plywood sample pieces bearing scale reproductions of famous paintings, including gaps in the image layer. Participants were guided through the filling of gaps with plaster and adhesive and reintegration using the tratteggio technique.

The participants were also instructed in the principles of the *puntinato* reintegration for infill of gaps in polychrome sculpture and three-dimensional artefacts, a methodology also formulated in keeping with the same Brandian theoretical principles that are the basis of the *tratteggio* system. The *puntinato* technique is used to restore continuity of reading for painted and gilded three-dimensional surfaces from a formal and chromatic point of view, and has been developed by the ISCR since the 1990s, in accordance with the principles of recognisability and reversibility and as reflected in the laws of optical physics and visual perception. The technique consists of juxtaposing and overlapping points of different colours until achievement of an overall effect identical to the adjacent original. The final course sessions were devoted to experimentation using the *puntinato* technique on some historic three-dimensional artefacts in wood and stucco and on sample supports with simulations of losses in different colours.

Areas of application

Conservation-restoration of movable cultural properties

Course level

Basic practical course aimed at professionals and students with intermediate-level qualifications in conservationrestoration, responsibilities for direct intervention on cultural properties, and specific interests in reintegration methods

Duration 2 weeks

Maximum participants 7 participants



Course on *Tratteggio* and *Puntinato* Techniques of Pictorial Reintegration, ISCR | Rome





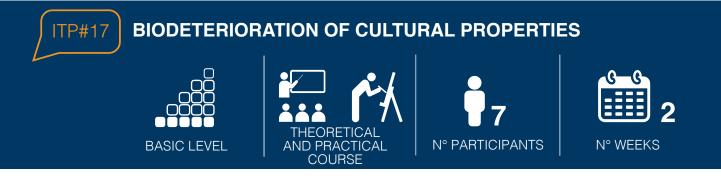
Course: **'TRATTEGGIO' AND 'PUNTINATO' TECHNIQUES OF PICTORIAL REINTEGRATION** Coordinator: **Francesca Fumelli** Assistant/Tutor: **Paola Minoia** Interpreter: -



Course: '*TRATTEGGIO*' *AND 'PUNTINATO' TECHNIQUES OF PICTORIAL REINTEGRATION* Coordinator: **Francesca Fumelli** Assistant/Tutor: **Paola Minoia** Interpreter: -



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- To deal with the problems involved in the degradation of archaeological, historical and artistic artefacts due to the processes of biological deterioration;
- To describe the main biological agents responsible for the processes of degradation of organic and inorganic materials constituting cultural properties, in relation to the typology of the constituent materials, and the structural, functional and ecological characteristics of the environment for the property.

Content

The main topics of the course were: basic principles of biology; introduction to the concept of biodeterioration applied to stone materials; description of the main biodeterioration agents and mechanisms of biological degradation due to heterotrophic bacteria, fungi, cyanobacteria, microscopic algae and lichens. Within the different groups of biodeterioration agents the course illustrated the main investigation techniques, products and methodologies used for the control of biodeterioration due to development of microorganisms. The guidelines for the preventive conservation of artefacts were set out.

Specific sections were devoted to biodeterioration of stone materials in archaeological sites and outdoor monuments, in particular the degradation due to lichens, bryophytes and vascular plants. The course illustrated the techniques of investigation and provided suggestions on control and prevention methods.

Areas of application

Architectural and archaeological properties; movable properties associated with a 'container' building or site

Course level

Basic theoretical-practical course for students and professionals in the field of cultural heritage (conservators, architects, art historians, archaeologists, museum and archaeological site administrators, scientists)

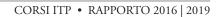
Duration 2 weeks

Maximum participants 7 participants



Presentation of certificates of attendance, ISCR | Rome





Course: **BIODETERIORATION OF CULTURAL PROPERTIES** Coordinator: **Annamaria Giovagnoli** Assistant/Tutor/Interpreter: **Carlotta Sacco Perasso**



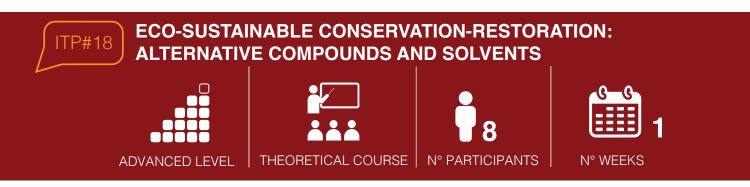
Course: **BIODETERIORATION OF CULTURAL PROPERTIES (*)** Coordinator: **Laboratorio di Biologia dell'ISCR** Assistant/Tutor/Interpreter: **Carlotta Sacco Perasso**



* together with participants from the CARICOM countries: BELIZE, JAMAICA, TRINIDAD AND TOBAGO







- To provide in-depth information on the concepts of safety and prevention in the use of conservation-restoration products and the effectiveness and interaction of alternative compounds and solvents, with particular reference to intervention and monitoring methods;
- To compare different methods, leading to development of a unified approach for selection of materials and operating
 procedures compatible with eco-sustainable restoration, with lower impacts on the environment and the health of
 workers who frequently use conservation-restoration products.

Content

The training addressed the issues of chemical risks in conservation-restoration, in particular risk prevention, protection, and adoption of alternative methodologies. The course introduced the concept of classification of organic solvents, with reference to volatility and retention. A specific unit dealt with protection and control parameters against the chemical risks of organic solvents, in particular toxicity, environmental harm and flammability. Participants were instructed in how to choose between organic solvents on the basis of the intended uses and chemical risks. Additional sections dealt with general and individual prevention and protection against contamination by organic solvents, and with the issues of the aggressive chemical agents of acidic and basic substances. Participants were introduced to the key role of labelling of chemicals and their mixtures in the choice of materials for the treatment of cultural properties, meaning the assessment of compatibility between classes of chemicals, and the fundamental importance of storage, collection and disposal of the materials.

A general aim of the course was to assist the participants in minimising environmental pollution and the risk of hazardous reactions involving chemicals. The particular focus of the course was on two 'modus operandi' offering alternatives to the traditional operating methodologies:

- the use of organic solvents and their mixtures in conservation-restoration;
- the use of aqueous systems in cleaning, as an alternative to organic solvents and their mixtures.

Areas of application

Conservation-restoration of all types of cultural properties

Course level

Advanced theoretical-practical course for conservatorrestorers, chemists, architects and archaeologists

Duration 1 weekend, 30 hours total

Maximum participants

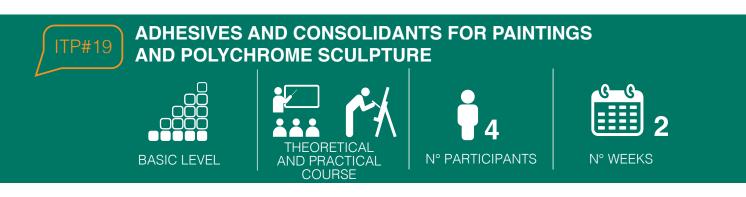
8 participants



Use of biodegradable substances, ISCR | Rome







To deepen knowledge of the chemical and physical properties of adhesives and consolidants used on paintings and polychrome wooden sculptures.

Content

The theoretical training covered the general properties of adhesives and consolidants of natural, synthetic and semi-synthetic origin and explained the criteria for choosing between the products on the market, including the important segment of the thermoplastic polymers. The course also presented the main characteristics and related properties of polymeric aqueous solutions and dispersions, such as viscosity, molecular weight, gel properties and thixotropy. The course illustrated the criteria for correct use of consolidants in the conservation-restoration of paintings and wooden sculptures. The properties of polymeric materials were described, including by means of a critical reading of the product data sheets, correlating the chemical properties to the physical and rheological properties of the adhesives and consolidants, with evaluation of the most significant parameters and measures describing the performance of the different materials.

The practical laboratory activity involved the preparation of gels of polyacrylic acids, cellulose ethers, gellanum and thickened polymer solutions. The participants conducted experimental tests using laboratory instruments for characterisation of the physical-mechanical properties of adhesives and consolidants, and studied examples of their use for restoration and consolidation.

Areas of application

Conservation for degraded areas of wooden objects requiring restoration of suitable mechanical properties; application and adhesion of elements to reinforce areas with loss of mechanical strength; reattachment of detached parts and new inserts

Course level

Basic theoretical-practical course for conservatorrestorers and for graduates in the technical-scientificdiagnostic disciplines applied to cultural heritage (chemistry, physics, biology, materials science)

Duration 2 weeks, total of 70 hours

Maximum participants 4 partIcipants

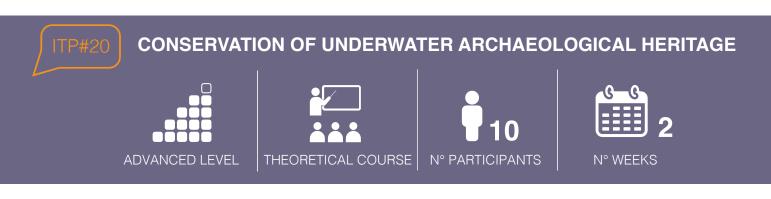


Freatment of polychrome sculpture, ISCR | Rome









To study the issues of strategic importance in the conservation of the underwater archaeological heritage and the protection of submerged sites, in particular pursuant to the UNESCO Convention on the Protection of the Underwater Cultural Heritage of 2 November 2001.

Content

The UNESCO Convention states that where possible, the in-situ conservation of underwater cultural heritage is preferable over excavation and recovery of the materials. The ISCR began development in these areas in 2001, with the research project 'Underwater Conservation-Restoration', for purposes of studying and testing tools, materials, methodologies and techniques for the in-situ conservation-restoration of underwater archaeological properties. The ISCR is still a leader in research on these themes.

The course provides theoretical lessons investigating the issues concerned with underwater archaeology, in particular the techniques of underwater excavation and recovery of artefacts, and the materials and methods for the in-situ protection of the underwater cultural heritage. This area of archaeological conservation includes the in-situ protection of wrecks and movable objects. The course investigates the particularly complex field of in-situ conservation-restoration of submerged structures, requiring deep knowledge of the properties and specialised training for technical-scientific personnel as essential requirements for effective protection and enhancement of submerged sites. The course examines numerous case studies of protected marine areas, guiding the participants towards new perspectives on the protection, conservation and enhancement of underwater archaeological heritage. The course includes visits to museums and archaeological sites that exhibit artefacts of underwater origin, and laboratories with artefacts from underwater excavations in course of restoration.

Areas of application

Underwater archaeological sites, protected marine areas, underwater archaeological parks

Course level

Theoretical intermediate to advanced level for students, archaeologists, architects, curators and professional conservator-restorers

Duration 2 weeks

Maximum participants 10 partIcipants



Recovery operations of some submerged finds







Course: *CONSERVATION OF UNDERWATER ARCHAEOLOGICAL HERITAGE* Coordinator: **Barbara Davidde** Assistant/Tutor: **Flavia Puoti** Interpreter: **Silva Sabkova**



Course: **CONSERVATION OF UNDERWATER ARCHAEOLOGICAL HERITAGE** Coordinator: **Barbara Davidde** Assistant/Tutor/Interpreter: **Kalliopi Schistocheili**





- To review the research, history and current applications of laser instruments in the field of conservation-restoration;
- To support participants in developing continued awareness of the limits and possibilities of laser technology for cleaning in the field of cultural heritage;
- To instruct participants in observation of aspects that can hinder the achievement of the conservation-restoration objectives, leading to immediate correction of any anomalies and providing the basis for continued monitoring and final evaluation of the interventions.

Content

The course aims at training conservator-restorers in the use of laser instruments, as well as the technical-scientific personnel who support the application of laser radiation on materials through controlled investigations and verifications. Laser technology is now part of the world of cultural heritage, with great potential as an instrument applied to one of the most complex phases in the cycle of a conservation-restoration project: that of 'cleaning'. This phase constitutes the removal of material that has been superimposed, stratified and potentially solidified over time on the surface of the artefact. The use of laser technology as a cleaning method is now well established for stone surfaces, in which the constituent materials of the object are particularly sound. The case of more complex objects comprising pigments and binders requires more continuous adjustment of the operation conditions and working parameters, relative to the differences in pigments and the stratification of overlying layers, such as protective films and paints. Operations in these cases require experimental evaluation on a case-by-case basis, considering variables such as the thickness of the film to be removed, the characteristics of the pigment, the type of substrate, and the characteristics of the paint layer. The course includes both theoretical classroom lessons and practical sessions in the laboratory and at external sites.

Areas of application

Conservation-restoration of stone, paintings and polychrome objects

Course level

Advanced theoretical-practical course for conservatorrestorers and technical-scientific personnel

Duration 2 weeks (8 hours per day

Maximum participants 4 partIcipants



Conservator-restorers using laser for cleaning applications, ISCR | Rome









- To provide professional updating in the characteristics of different cleaning methods, the methods of preparation and application, and the problems related to operators, the environment and the cultural property;
- To study the use of aqueous CO₂ solutions with no risk for health or environment for the removal of carbonate matrix concretions, in comparison with chemical methods such as chelating agents, basic salts, ion exchange resins, gels and supports, surfactants and mixtures of organic solvents;
- To deepen knowledge of the parameters of use, advantages and limitations of application of aqueous CO₂ solutions;
- To compare the different methods for development of a consistent approach in the selection of materials and operating procedures, compatible with eco-sustainable restoration.

Content

The course provides in-depth examination of the use of aqueous solutions of CO_2 for the removal of carbonate matrix concretions as an alternative to traditional solvents, whose use exposes both operators and the environment to high risks. A specific section concerns the chemical risks involved in restoration: their prevention, protection and the possibilities of alternative methodologies. Organic solvents are classified with reference to volatility and retention. Several lessons deal in particular with the chemical risk from organic solvents: toxicity, harmfulness, flammability and control parameters. The course then reviews the chemical-physical principles of the aqueous solutions method and the logistics of installing the CO_2 station in the laboratory or restoration site. This section also addresses the methods of intervention and control in the treatment of natural stone (marble, tuff, travertine, etc.), artificial stone (wall paintings, plasters, mosaics, ceramics, etc.) and metals.

Areas of application

Surfaces of cultural properties with carbonate matrix concretions

Course level

Advanced theoretical-practical course for conservatorrestorers, chemists, architects, archaeologists

Duration 1 week (30 hours)

Maximum participants 8 partIcipants

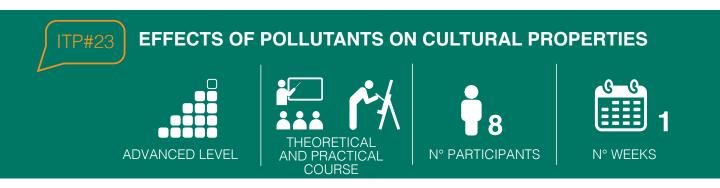


Cleaning a mosaic surface, ISCR | Rome









- To address the problems of degradation of materials exposed to the open air, which have increased significantly due to the incremental air pollution over the past century.
- To provide the theoretical basis for the study of the degradation phenomena associated with emissions and deposition of air pollutants on surfaces.

Content

The abundant emission of gases originating from human activities has introduced considerable quantities of new compounds into the atmosphere. Because of their chemical properties, these interact in a harmful way with the substrates that they contact. Research has clearly demonstrated the close correlation between intensity of air pollution, products of alteration and speed of degradation.

The issues dealt with were the monitoring of pollutants and practical and technical measures to reduce the risks of environmental impact on surfaces of historical, artistic and archaeological value. The main topics covered were: primary and secondary pollutants; the effects and interaction of pollutants on surfaces; the main pollution compounds; strategies for assessing the impact of pollution on surfaces of cultural interest. Particular attention was paid to the pathologies of architecture and the problems of degradation of stone materials in outdoor contexts. The course also illustrated the techniques of documenting damage for the detection of degradation phenomena and their monitoring over time.

Areas of application

Conservation of surfaces of architectural works and artefacts exhibited outdoors

Course level

Advanced theoretical-practical course for conservatorrestorers, architects, and scientific experts in cultural heritage field

Duration 1 Week

Maximum participants 8 participants



Presentation of certificates of attendance, ISCR | Rome





Course: *EFFECTS OF POLLUTANTS ON CULTURAL PROPERTIES* Coordinator: **Annamaria Giovagnoli** Assistant/Tutor/Interpreter **Golnar Shahsavarhaghighi**



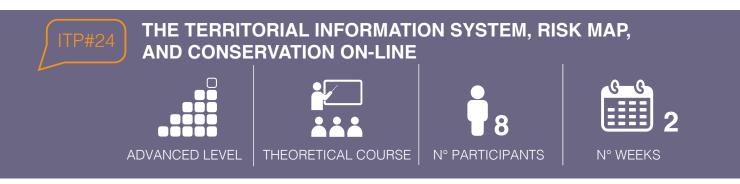
Course: *EFFECTS OF POLLUTANTS ON CULTURAL PROPERTIES (*)* Coordinator: **Donatella Cavezzali** Assistant/Tutor: **Francesco Spagnoli** Interpreter: **Tania Benvenuti**



* together with participants from the CARICOM countries: JAMAICA, SAINT KITTS AND NEVIS







To illustrate the risk assessment model used by the ISCR in the framework of the 'Carta del Rischio' (Risk Map), a territorial information system providing scientific and administrative support to state and territorial bodies responsible for the protection of cultural heritage, adopting a statistical approach through superimposing the vulnerabilities of architectural and archaeological heritage with mapping of the hydro-geological hazards on national territory.

Content

The theoretical lessons focused on the concepts of Risk, understood as a criterion for the identification of operational priorities, Territorial Hazard (P), a function that indicates the level of potential aggression characteristic of a given territorial area regardless of the presence or absence of assets, and Individual Vulnerability (V), a function that indicates the level of exposure of a given asset to the aggression of environmental territorial factors, based on the conservation status of the asset. Through the geographical representation of the territory and the evolution of the risk over time, it is possible to express the Risk in relation to the IP and V variables and to measure its intensity through the quantification of the physical parameters that determine these variables. The participants were instructed in how to represent the risk level on cartography using Geographic Information Systems (GIS) technology, which makes it possible to visualise and analyse the phenomena in cartographic form and permits constant updating of the risk mapping for national cultural heritage.

The course included practical exercises on: open source software applications with examples of superimposition of territorial risk indices in relation to geo-referenced cultural assets; extraction and analysis of properties within areas of high danger and/or risk; compilation of vulnerability record sheets on historical buildings; georeferencing and cross-referencing of data on vulnerability and territorial hazard. The instructors and participants also prepared a methodological proposal for the possible development and application of a risk map project for the territories of their home countries.

Areas of application

Architectural, archaeological and all movable property that is associated with its real estate "container"

Course level

Intermediate to advanced theoretical-practical course for architects, archaeologists and engineers with knowledge of heritage architecture and structures in archaeological contexts and minimum knowledge of GIS

Duration 2 weeks

Maximum participants 8 participants



Homepage of the portal Vincoli in Rete (VIR) - Mibac





Course: **THE TERRITORIAL INFORMATION SYSTEM, RISK MAP AND CONSERVATION ON-LINE** Coordinator: **Carlo Cacace** Assistant/Tutor/Interpreter: **Golnar Shahsavarhaghighi**



Course: THE TERRITORIAL INFORMATION SYSTEM, RISK MAP, AND CONSERVATION ON-LINE (*) Coordinator: Carlo Cacace Assistant/Tutor: Francesco Spagnoli Interpreter: Neal Douglas Putt



* together with participants from the CARICOM country of JAMAICA

















- To review the main physical, chemical and biological aspects and parameters characterising the physics of the environment and microclimate, including the chemical characteristics of the air and pollutants and their effects on materials of historic and artistic interest;
- To study the problems of transport and handling;
- To review the problems of earthquakes and environmental vibrations in indoor contexts, and the introduction of anti-seismic systems;
- To review documentation protocols, such as the environmental, transport, and technical museum data sheets.

Content

The first week of theoretical lessons dealt with the chemistry and physics of preventive conservation applied to stone, metal and organic artefacts, and in particular the critical aspects of conservation in exhibition, storage and transport. One of the particular references used was the Ministerial decree of 2001 on museum development and operation, Area VI sub-area 1, on surveys for the exhibition and transport of artefacts, microclimate in museums and temporary exhibitions. The course also dealt with chemical air quality in museums and temporary exhibitions, and biological problems of air quality in museums and temporary exhibitions.

The second week of the course provided theoretical and practical activities in an exhibition (Scuderie del Quirinale) and in a museum (National Museum of Roman Civilisation at Palazzo Massimo). The exercises included use of entomological traps, dataloggers, lux meters, CO₂ detectors, and fine particle monitors. Participants were also introduced to documentation protocols, in particular the environmental and transport recording sheets. A final practical lesson in ISCR instructed in the preparation of PowerPoint presentations and brief written reports on the basis of the data collected during the on-site museum activities.

Areas of application

Architectural and art-historic properties; all movable properties associated with a building 'container'

Course level

Basic theoretical-practical course for students and professionals in the cultural heritage sector (conservators, architects, art historians, archaeologists, museum administrators)

Course level 2 weeks

Maximum participants





Delivery of certificates of attendance course 25a, ISCR | Rome



Course: PREVENTIVE CONSERVATION IN PERMANENT AND TEMPORARY EXHIBITIONS: MUSEUMS, GALLERIES, EXHIBITIONS Coordinator: Annamaria Giovagnoli - Elisabetta Giani Assistant/Tutor/Interpreter: Carlotta Sacco Perasso



Course: PREVENTIVE CONSERVATION IN PERMANENT AND TEMPORARY EXHIBITIONS: MUSEUMS, GALLERIES, EXHIBITIONS Coordinator: Elisabetta Giani Assistant/Tutor: Francesco Spagnoli

Interpreter: Tania Benvenuti



ITP#26 PREVENTIVE CONSERVATION: MOVING AND TRANSPORTING WORKS OF ART









Objectives

- To develop understanding of the three main themes of packing, control in transport and control in exhibition, in the context of movement of art works;
- To explore the critical aspects of conservation of the object type, serving for decision making concerning its transportability;
- To study the precautions necessary concerning methods of packing and control in shipping and exhibition;
- In the case that exhibition is decided, to be able to conduct targeted evaluation of the technological, morphological, and conservation characteristics of the object, serving to identify the precautions necessary for reduction of risks due to its exposure.

Content

The lessons present and deepen knowledge of the internationally recognised methodologies and practices for loan applications and their management and regulation. Participants learn the methods of preliminary study of the object for determination of the conservation aspects relevant to transport and handling. The course introduces the surveys to be conducted for purposes of ensuring safe transport, in particular for environmental monitoring of the museum in which the object is held. A further topic concerns the transport record sheet, including detailed information on the documentation to accompany the object and the collection of relevant information. Specific sessions deal with new detection systems enabling monitoring of mechanical and thermo-hygrometric stresses during transport and display.

Areas of application

Museum collections, reserve collections, and all movable properties subject to transport to different locations, including for purposes of exhibition

Course level

Advanced theoretical-practical course for those involved in decision-making on whether and how to move works of art (conservator-restorers, curators, administrators, etc.)

Duration 1 week (30 hours)

Numero di Partecipanti 4 participants



Movement of works within a museum setting







Course on Photography and Imaging in Conservation-Restoration Applications







TECHNIQUES AND INSTRUMENTS FOR 3D DOCUMENTATION OF THREE-DIMENSIONAL WORKS



Objectives

- To provide basic knowledge of Reflectance Transformation Imaging (RTI) techniques and creation of 3D models for applications in the area cultural heritage conservation-restoration, using the most advanced active and photogrammetric acquisition technologies;
- To learn how to apply these technologies for gaining the maximum possible visual knowledge of the heritage object, and for precise recording of the conservation status;
- To acquire skills in the different methods and techniques, in order to select and apply the most suitable instruments for acquiring 3D models and for documenting and archiving data relating to the conservation-restoration of the object.

Content

An introductory section of the course covered general principles. This was followed by lessons on the concepts of photogrammetry and 3D modelling. The topics of data management and visualisation were illustrated using Cinema 4D, Rhino, Orthophotos, DEM and curves software. The participants prepared scans of three-dimensional works through the creation of models using Geomagic and studied the documentation of architecture using GIS and laser scanners. MeshLab and 3DHOP software were also introduced, with the relative projection of colour on 3D models.

The teaching methods included classroom theoretical lessons using images, graphics and examples, and practical exercises in recording three-dimensional data on conservation status and in support of restoration.

Areas of application

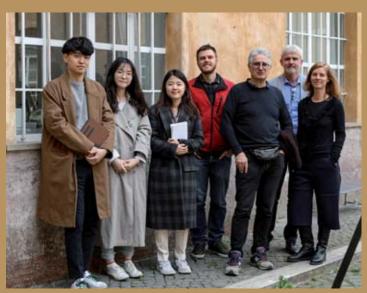
Conservation, restoration, protection and communications applications for all types of cultural properties, as well as documentation for information systems

Course level

Advanced theoretical-practical course for students and practicing conservator-restorers and curators

Duration 2 weeks

Maximum participants 10 participants



Presentation of certificates of attendance, ISCR | Rome





Course: *TECHNIQUES AND INSTRUMENTS FOR 3D DOCUMENTATION OF THREE-DIMENSIONAL WORKS* Coordinator: **Angelo Raffaele Rubino** Assistant/Tutor: **Francesco Frullini** Interpreter: **Neal Putt**



Course: **TECHNIQUES AND INSTRUMENTS FOR 3D DOCUMENTATION OF THREE-DIMENSIONAL WORKS** Coordinator: **Angelo Raffaele Rubino** Assistant/Tutor: **Francesco Frullini** Interpreter: **Neal Putt**



ITP#28 PHOTOGRAPHY AND IMAGING TECHNIQUES IN CONSERVATION-RESTORATION APPLICATIONS Image: state stat

Objectives

- To familiarise participants with the technological and methodological principles of photography in conservationrestoration;
- To review the most advanced methodologies in photography for conservation-restoration of cultural heritage, including processing and post-processing with editing systems;
- To understand the use of photography in gaining visual knowledge of the work and as a means for precise recording of the conservation status, the treatments and for archival documentation of the intervention;
- To introduce the basic principles of photogrammetry and integrated documentation systems for purposes of understanding the historic data conserved in the object.

Content

The course introduced the basics of HD photography, RTI, Multifocus and Virtual Tour. Participants acquired skills in the different methodologies and techniques, enabling selection and use of the most suitable tools for recording images, documentation, and data storage relating to the conservation-restoration of cultural properties, as well as for aims of protection, communication and database management. The course included classroom lessons using images, graphics and examples, and practical exercises in recording data on the state of conservation and restoration work.

Areas of application

Conservation-restoration, protection, communication and database management concerning cultural properties

Course level

Advanced theoretical-practical course for conservatorrestorers, curators and students in conservation-restoration

Duration 2 weeks

Maximum participants 12 participants



Colour test on a wall fresco, course in Photography and Imaging Techniques in Conservation-Restoration Applications





Course: PHOTOGRAPHY AND IMAGING TECHNIQUES IN CONSERVATION-RESTORATION APPLICATIONS Coordinator: Angelo Raffaele Rubino

Interpreter: -



Course: PHOTOGRAPHY AND IMAGING TECHNIQUES IN CONSERVATION-RESTORATION APPLICATIONS Coordinator: Angelo Raffaele Rubino Assistant/Tutor: Veronica Marsili

Interpreter: -





Objectives

To provide knowledge of the methods for graphic documentation of cultural properties through a series of simulations and exercises including processing of the collected data.

Content

The knowledge of cultural heritage is the basis of its conservation, and the various graphic documentation systems therefore represent fundamental tools for recording and analysing the information obtained from morphological observation of artefacts. The work is 'read' through systematic documentation processes, which are essential to the research stage and in the design of the conservation-restoration works. The course was aimed at the acquisition of theoretical and practical knowledge of documentation on cultural heritage. In particular, it reviewed the thematic mapping techniques that conform with ISCR methodologies and, and the systems used for recording data on technique of execution, conservation status and restoration interventions.

Areas of application

Analysis and knowledge of cultural heritage, including architectural surfaces and movable properties

Course level

Basic theoretical-practical course for conservator-restorers, technicians and designers dealing with conservation and protection of cultural heritage, including those without responsibility for direct intervention on cultural properties

Duration 2 weeks (10 days, 6 hours per day)

Maximum participants

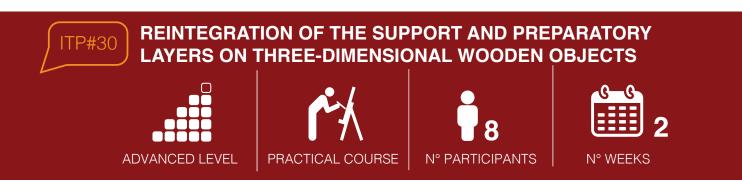
8 participants



Computerized photographic modelling of a work, ISCR | Rome







Objectives

To provide professional updating on the problems related to reintegration, in particular the methodologies of intervention on three-dimensional wooden artefacts.

Content

Conservation-restoration of wooden supports is often conditioned by the fact that the wood is also an integral part of the image, and together with the paint layers defines the formal aspect of the work of art. The course provides lectures and laboratory activities enabling increased understanding and experimentation with the main methods of intervention. The course begins with the identification and exemplification of the damages that are typical to wooden artefacts and determine their state of conservation: gaps, abrasions, failures, disconnections. The course examines the methods of intervention and choices supported by Cesare Brandi's theory, and in this light reviews the materials and techniques used in deep grouting, i.e. for treatment of damage and gaps in the support, preparatory layers and decorated surfaces. The treatment of preparatory layers includes both simple forms and those worked in relief (pastiglia, other decorations).

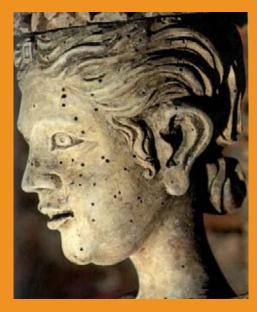
Areas of application Painted and unpainted wooden artefacts

Course level

Advanced theoretical-practical course for conservator-restorers who carry out direction interventions on cultural properties

Duration 2 weeks

Maximum participants 8 participants



Detail of the degradation on a wooden sculpture | Rome





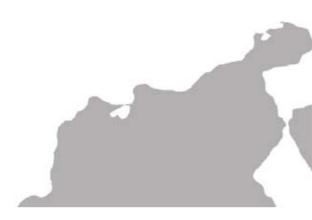


The International Training Projects and the CARICOM countries

The Caribbean Community (CARICOM, originally the Caribbean Community and Common Market) was established by the Treaty of Chaguaramas, coming into effect on 1 August 1973.

The first four signatories were Barbados, Jamaica, Guyana and Trinidad and Tobago. CARICOM replaced the Caribbean Free Trade Association (CARIFTA), in effect between 1965 and 1972, created to offer a lasting economic relationship between English-speaking nations in the Caribbean after the dissolution of the West Indies Federation on 31 May 1962.

On 17 October 1991, CARICOM was granted observer status at the United Nations General Assembly.











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Introduction

Within the framework of the ITP International Training Projects, the Directorate General for Education and Research of MIBAC requested that the Istituto Superiore per la Conservazione ed il Restauro open its courses to participation by the CARICOM countries. The ISCR ITP courses were therefore attended by representatives from Jamaica, Saint Kitts and Nevis, Belize, Trinidad and Tobago, with the application process coordinated by the Permanent Mission of Italy to the United Nations, in New York.

The courses requested were:

- Biodeterioration of Cultural Properties;
- Effects of Pollutants on Cultural Properties;
- The Territorial Information System, Risk Map, and Conservation On-Line.

These courses were also requested by other nations, and so were shared with participants from South Korea, Egypt and Jordan.

As with the other nations, ALES SpA provided scholarships in support of the Italian living expenses for the CARICOM participants. For these countries only, the participants also received further assistance in support of air travel, provided by the MIBAC Directorate General for Research Education together as part of a larger training program for the countries of the Caribbean community managed directly by DGER, and developed under agreement with the Italian Agency for Development Cooperation.







ISCR Courses with participation from the CARICOM countries

Course on Effects of Pollutants on Cultural Properties - presentation of certificates of attendance, ISCR





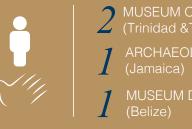




Course: **BIODETERIORATION OF CULTURAL PROPERTIES (*)** Coordinator: Marco Bartolini Assistant/Tutor/Interpreter: Carlotta Sacco Perasso



PROFESSIONALS INVOLVED:



MUSEUM OFFICERS ARCHAEOLOGIST MUSEUM DIRECTOR

PUBLIC INSTITUTIONS INVOLVED:

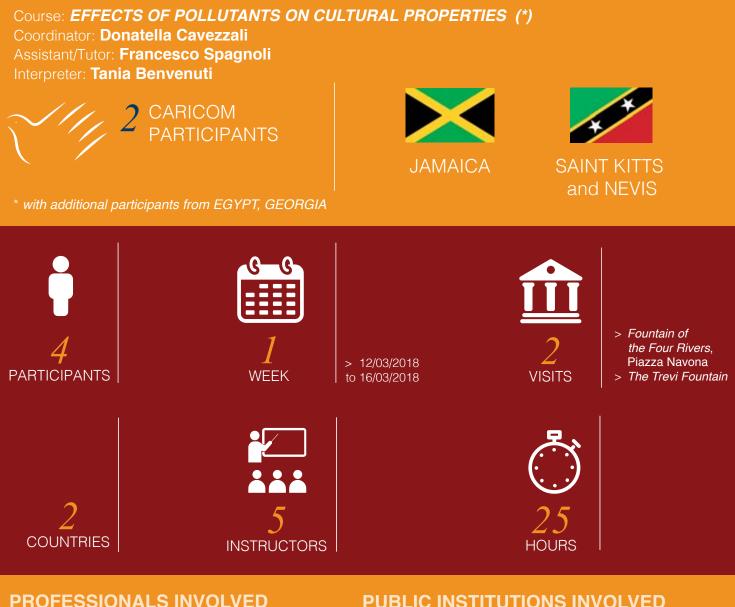








EFFECTS OF POLLUTANTS ON CULTURAL PROPERTIES







INSTITUTIONAL OFFICERS

CONSERVATION TECHNICIAN

PUBLIC INSTITUTIONS INVOLVED



MINISTERIAL AGENCIES:



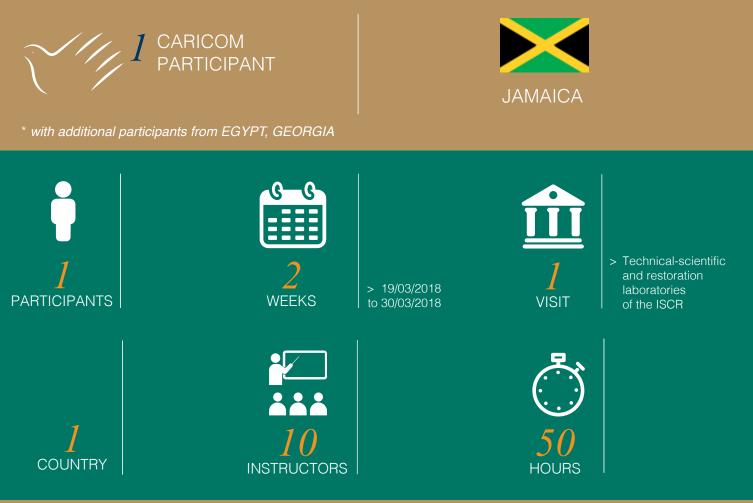






THE TERRITORIAL INFORMATION SYSTEM, RISK MAP, AND CONSERVATION ON-LINE - 2018

Course: THE TERRITORIAL INFORMATION SYSTEM, RISK MAP, AND CONSERVATION ON-LINE Coordinator: Carlo Cacace Assistant/Tutor: Francesco Spagnoli Interpreter: Neal Douglas Putt



PROFESSIONALS INVOLVED





PUBLIC INSTITUTIONS INVOLVED



MINISTERIAL AGENCY Jamaica National Heritage Trust







The TTP course statistics, participating countries and evaluations

Conservation and Restoration of Architectural Plasters and Wood in Archaeological Contexts - presentation of certificates, Venturi Room, ISCR | Rome

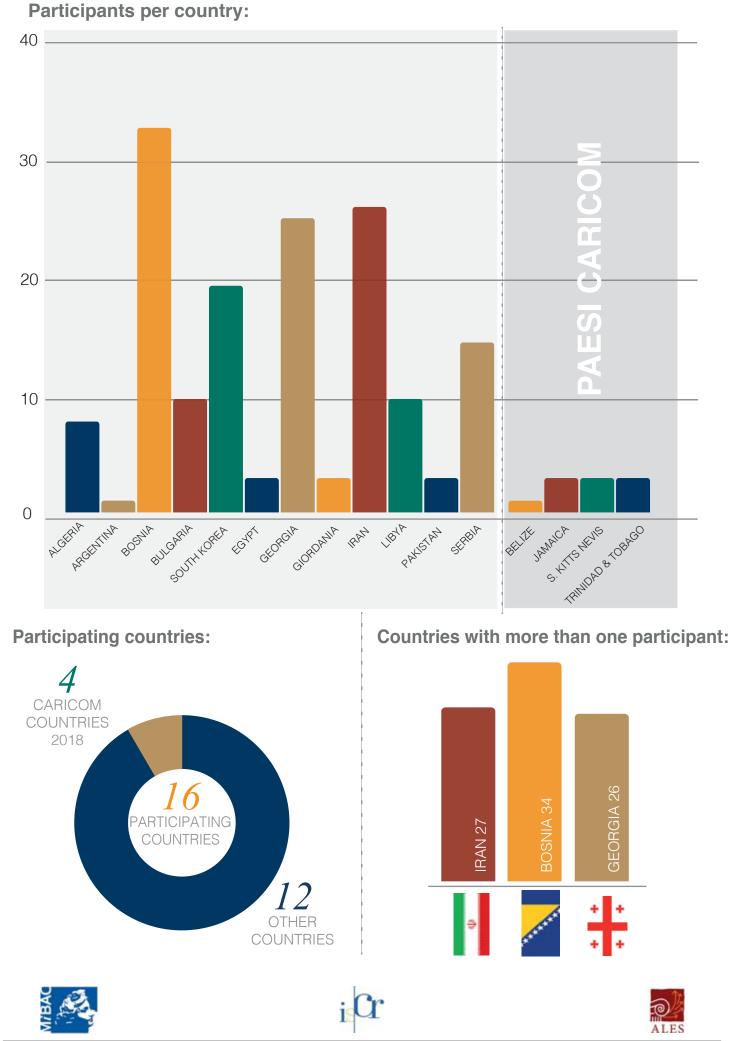






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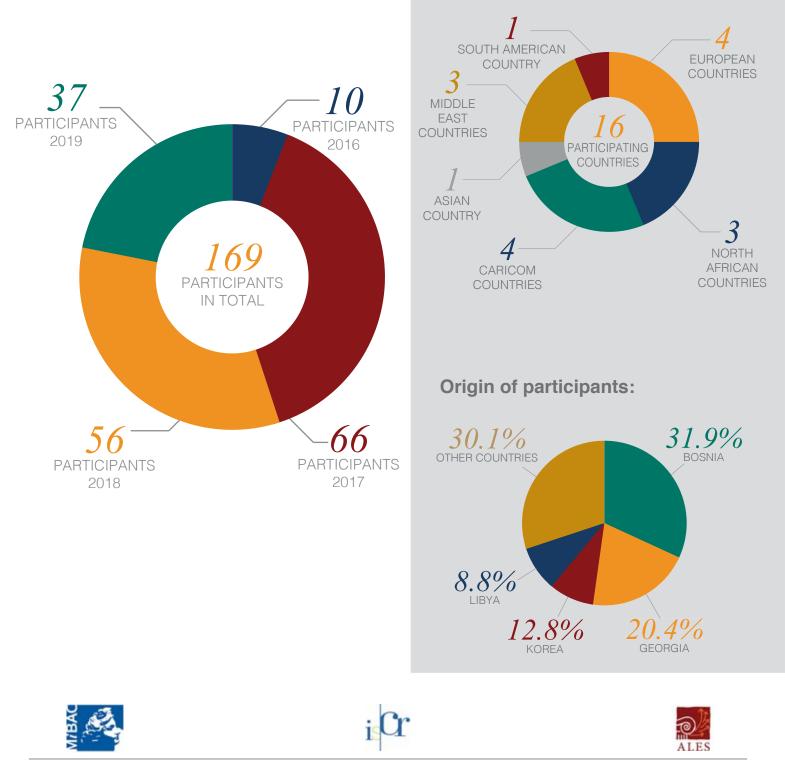
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The ISCR ITP course statistics, participating countries and evaluations $\ 85$



Participants in ITPcourses

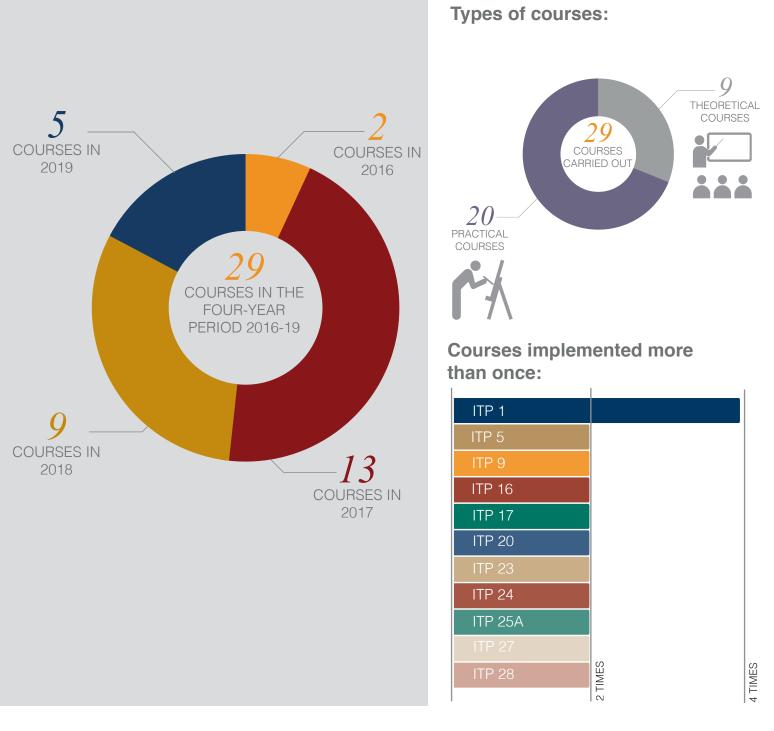




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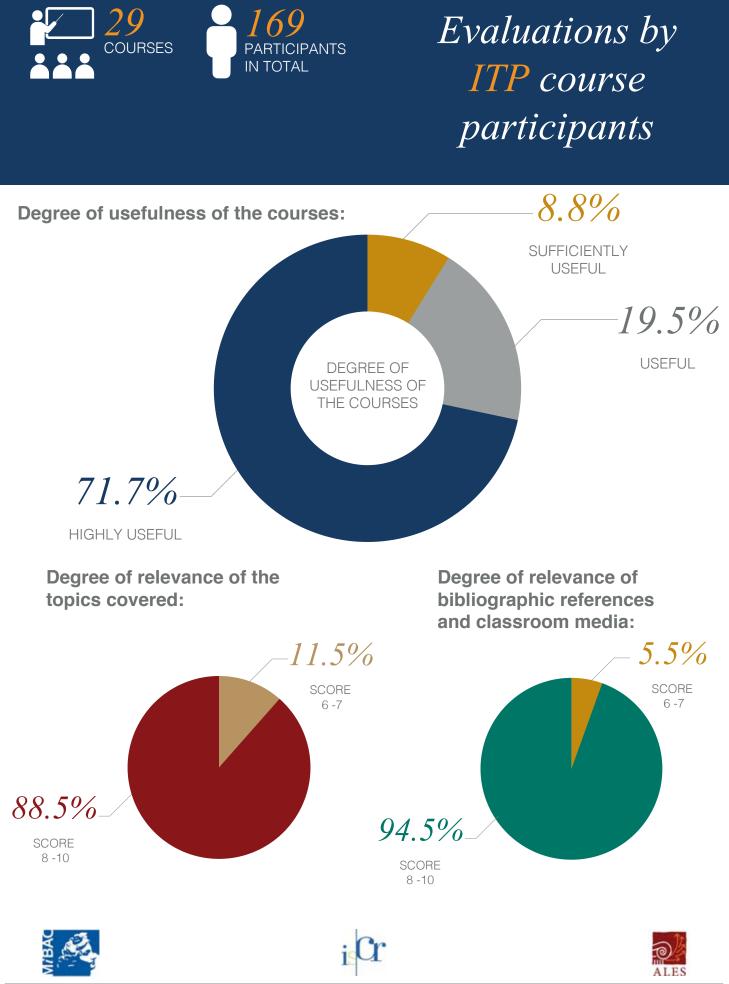


The ITP courses carried out



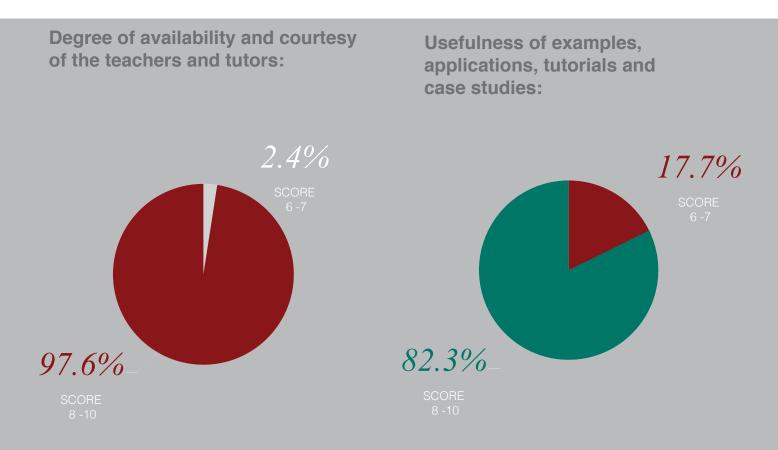




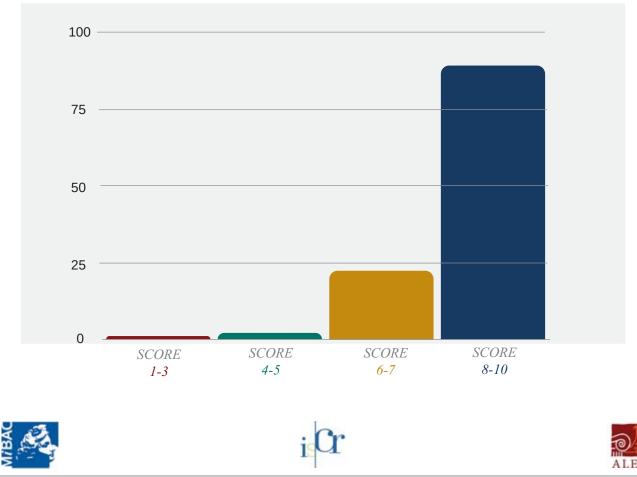


88 The ISCR ITP course statistics, participating countries and evaluations

CORSI ITP • RAPPORTO 2016 | 2019



Overall evaluation of the courses carried out:



CORSI ITP • RAPPORTO 2016 | 2019





16 participating
countries from
around the
world







Presentation of certificates, course on Techniques and Instruments of 3D Documentation and Modelling, ISCR















Korea-Italy Joint Lab MOU signing ceremony 토문화대학교-국립로마복원학교 공동연구 MOU 체결식) 일시:2017. 10. 19(목) 장소:한국전통문화대학교



ISCR - KNUCH (Korean National University for Cultural Heritage)

Signing of KNUCH-ISCR bilateral agreement for research exchange programme, KNUCH, Buyeo, South Korea







Since 2016 the ISCR and the Korean National University for Cultural Heritage (KNUCH) have cooperated under the terms of a three-year Memorandum of Understanding (signed 31 October 2016) for implementation of joint training and research activities, focusing on the exchange and development of art-historical and technical-scientific competencies in heritage. The broader aims of this program are to strengthen the collaboration these two major institutions, to increase mutual understanding between the cultures of the two countries, and to contribute to development in conservation of cultural heritage at the overall global level.

Thanks to this agreement a range of joint activities have been carried out. Among these were the first ever bilateral Korean-Italian heritage workshop, dedicated to "Science and technology for painted architectural decoration: Preventive conservation and restoration", held at the KNUCH from 17 to 19 October 2017. Experts and students from the KNUCH attended a total of nine courses offered as part of the ISCR International Training Project. With a view to reciprocity, in 2019 four graduates from the ISCR High School of Education were selected through a public call for proposals for scholarships made available by KNUCH, for participation in the course "Movable Cultural Heritage and Conservation Science" scheduled at the university campus in the city of Buyeo. To this, the ISCR added further travel assistance using funds from the ITP project, funded by ALES Spa.

The success of the ISCR-KNUCH cooperation projects was welcomed by President Moon Jae-in of the Republic of Korea and by President Sergio Mattarella and Prime Minister Giuseppe Conte of the Italian Republic, in their Joint Press Statement issued in Rome on 17 October 2018.

Stone materials laboratory, KNUCH, South Korea







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