

Risks Assessment

09h00-09h30

F. Pablo MARTIN RODRIGUEZ, Chief Curator of Regional Archives, Community of Madrid – SPAIN

"Mandatory legislation and professional recommendations relating to the safety of archive centres and libraries in Spain. Protection and disaster management plans: the impact on conservation and restoration laboratories (employees, visitors and existing materials)."

09h30-10h00

Graciela Silvia MOLINA, Doctor - Degree in conservation-restoration of cultural property, Secretariat for Culture of the Argentinian Nation – ARGENTINA

"Health/safety practices in the conservation-restoration workshop. A shared responsibility"

10h00-10h30

Virginie SERRIERE, Prevention Technician, Management of professional risks, Sector Assistance Recognition M.P, CARSAT SUD-EST – FRANCE

"Preventing risks linked to subcontracting: who does what with regard to health and safety?"

10h30-11h00 Coffee Break

Preventive methodologyAlternative Treatments

11h00-11h30

Ana Maria CALVO, Maria Virginia MIRANDA, National Commission of Atomic Energy – ARGENTINA

"Microorganisms, a real problem for heritage, human health and the environment. An option for the treatment used by the laboratory of Preventive Conservation and Restoration of the documentation of the National Commission of Atomic Energy"

11h30-12h00

Miriam A. Meneses Sierra, Conservator of cultural property, Graduated from the Externado University of Colombia - COLOMBIA

"Biosecurity, processes and scientific qualities for restoration : acts of environmental awareness"

12h00-14h00 Lunch

14h00-14h30

Laurent INQUIMBERT, Bruno CUFFINI, Marion REYNARD, art founders – FRANCE

"Art foundry, Restoration and Health and safety at work."

14h30-15h00

Véronique MILANDE, Head of the Preventive Conservation and Restoration Service, Department of Heritage and Collections, Cité de la céramique – Sèvres & Limoges et Nathalie LE DANTEC, Conservator of painting. Head of Lifelong Learning in the restoration department at the National Heritage Institute (INP) – FRANCE

"Setting up your workshop when you are a young graduate."

15h00-15h30

Virginie SERRIERE, Prevention Technician, Management of professional risks, Sector Assistance Recognition M.P, CARSAT SUD-EST – FRANCE

"Designing equipment and workplaces for the conservation-restoration profession"

15h30-16h00 Coffee break

16h00-16h30

Véronique MILANDE, Head of the Preventive Conservation and Restoration Service, Department of Heritage and Collections and Olivier DARGAUD, Assistant to the Director of the department of creation and production – FRANCE

"From the merger of a traditional production centre with a restoration department to the sharing of chemical hazard management at the Cité de la Céramique – Sèvres & Limoges"

Funghi Treatments on Archives

16h30-17h00

Cecilia RODRIGUEZ, Conservator, Management of Libraries, Archives and Museums – CHILI

"Monitoring of funghi in repositories at the National Archive: a latent hazard for collections and users."

17h00-17h30

Silvia Susana CAPARELLI, Claudia TEJADA, Marisa TROIANO, Leonardo MOSIEWICKI, Miguel Angel AGUILAR (Architects), Carlos SLEMENSON (Engineer specializing in ergonomics, safety and hygiene at work), Mariana LOFEUDO (Lawyer specializing in environmental law and disability), Egle JUAREZ (Doctor specializing in occupational medicine) – ARGENTINA

"Working towards an "ideal" laboratory? 3D modelling of an office for conservation-restoration that promotes safety and proxemics."

Problems with Pigments

17h30-18h00

Jessica HENSEL, Master's student in Conservation and Restoration of Historic Interiors, University of Amsterdam – NETHERLANDS

"The potential hazards of the toxic pigment orpiment in paint layers are examined in terms of two painted ceilings from the 17th century century from the Grote Oost 22 te Hoorn monument (The Netherlands)."

19h00 Pre-dinner drinks offered by Brasserie Dracénoise with Mr. STRAMBIO, deputy mayor of Draguignan

20h00 Gala dinner, Brasserie Bertin, Draguignan or free lunch

"Mandatory legislation and professional recommendations relating to the safety of archive centers and libraries in Spain. Protection plans and disaster management plans : the impact on conservation and restoration laboratories (employees, visitors and existing materials)"

F. Pablo MARTIN RODRIGUEZ

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SUMMARY

Since time immemorial, Spain has had to live with an abundance of rules relating to the safety of individuals in their place of work and the conditions in their working environment. In addition to this overabundance of Government laws, rules, instructions and regulations, there are also the laws and rules promulgated by the Autonomous Regions born out of the 1978 Constitution, which grants them legislative powers. In Spain, with a few rare exceptions, the conservation and restoration laboratories form part of the archive and library services. Within these centers, the health and safety requirements specific to the different human groups working alongside each other have to be complied with :

- The staff and employees who work there: archivists, librarians, conservators, support staff, etc.
- The users and researchers who use the collections kept in these centers and the services offered there,
- All kinds of visitors (school pupils, university students, members of cultural associations, etc.) on educational or cultural visits. There are also the health and safety problems arising out of the materials to be found on the premises: the items that make up the collections (documents, books, etc.) and the substances used to preserve and restore them. While in no way attempting to be exhaustive, it may be said that there are three types of plans governing the safety and environment issues relating to Spain's archives and libraries:
 - Risk prevention plans,
 - Self-protection plans,
 - Disaster management plans.

Prevention Plans were born with Law no. 31/1995 of 8 November and its subsequent amendments and developments. In fact, this is a transposition of Directive 89/391/EEC from the Council Meeting of 12 June 1989 concerning the implementation of measures aimed at promoting improvements to the occupational health and safety of workers. Self-protection Plans were born with the Royal Decree 393/2007 of 23 March, supplementing the previous legislation and aimed especially at workers, but not giving sufficient consideration to any visitors or users of these places – such as libraries and archives – where work is done in the presence of the public. Finally, Disaster Management Plans are specific to archives, libraries and other similar centers. Unlike the other two types of plan, which are mandatory due to their legal character, Disaster Management Plans are not considered in either the laws or the regulations. According to some experts, we are

now seeing a real “literary inflation” concerning this issue, with countless books and articles dedicated to it. The aim of this paper is to try and examine the impact of mandatory regulations and non-mandatory provisions on the archive and library laboratories and restoration centers. It will also examine two other issues affecting the current situation :

- the effects of decentralization, to the extent that central government's handing-over of powers to the Autonomous Regions is currently leading to problems and duplication within the worker and user protection systems,
- the progress of the privatization process being carried out by the Spanish administration itself, which, in its day-to-day realities, is increasingly moving away from the “good intentions” set out in the legislation.

"Health and safety practices in the conservation-restoration workshop. A shared responsibility"

Graciela Silvia MOLINA

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SUMMARY

According to data taken from the Republic of Argentina's Occupational Hazard Council, 630,766 accidents were reported in 2010, including work accidents, professional illnesses, accidents on the way to work, and illnesses that have got worse; 871 workers died out of a total of 7,966,922 million legal workers. There are about 4,880,000 million illegal workers, who are not covered by the social security system. According to the data in a report by the Institute of Studies and Training by the CTA (Argentine Workers Trade Union Centre) there are irregularities in the labor situation of people who carry out typical jobs of an employed worker, but who must present invoices as self-employed workers, or people who stay in the institution for years as assistants or interns. A healthy work environment involves workers, whether they are legal or not, and their employers, if there are any. National Law No. 19,587 on Health and Safety at Work regulates prevention and establishes measures that should be introduced to guarantee personal safety. It is still not a priority in workplaces to achieve best practices in health and safety, in our restoration workshops and laboratories. Not even just to comply with current laws, or to certify international standards, or to guarantee our short and long-term health. Dealing with safety in laboratories also includes prevention Understanding the risk levels of all the procedures we carry out, to know the uses and durability of personal protective equipment, knowing the uses and durability of personal protective equipment, knowing how to prevent accidents and carrying out emergency evacuation drills – all these things are our responsibility and they help to neutralize personal safety risks and consequences, thus having a positive effect on our health and productivity. Because if we become ill, our production process obviously stops. Taking care of procedures also

involves caring for the environment. Taking care in the procedures we use also involves caring for the environment. Safety at the workplace, workshop or laboratory should not only be achieved to comply with the law, but it should also be a self-preservation habit that should be included in all the aspects our daily life. Health and safety training at work should include the individual person, their health and that of their colleagues, care for the environment and protection of the heritage we are looking after. Professional illness is a sign of harmful conditions at work that must be modified. We must associate illness prevention with early diagnosis of poor work conditions. There are pre-clinical conditions of professional illnesses. The concept of damage to health implies the existence of biochemical, physiological and/or anatomical modifications in the body, which make up stages leading up to an illnesses, and which can be reversed as soon as the exposure to the agents causing the damage stops. These modifications must be suspected and looked for using diagnosis methods in order to be investigated. The modern concept of professional illness includes damage to health which, without being an established illness or perceived by the sufferer, is enough to cover the worker's health and not only to receive compensation afterwards for loss of physical ability or money because of an established illness which is irreversible. This idea of damage can encourage employers to introduce prevention in the workplace, because they have to comply with current laws. Because of this, health surveillance programs must be introduced, in order to identify the harmful agents, risk factors and susceptible people. Based on this idea of early damage, we must work to raise awareness amongst self-employed workers so they look after their own health and learn how to take all precautions necessary against agents that cause illness and against exposure to risk factors (such as the use of chemical substances), even if their presence is imperceptible in the workplace.

"Preventing risks linked to subcontracting : Who does what with regard to health and safety ?"

Virginie SERRIERE

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SUMMARY

Wherever restored works are kept, exhibited, treated and preserved, and wherever there are monuments and sites requiring on-the-spot intervention, this work requires the joint efforts of a number of parties, from invitations to tender to the end of the works (contracting clients, public institutions, conservation/restoration firm, other trades, etc.) Outside companies and the user company are all responsible for assessing the risks specific to themselves and for protecting, training and informing their employees. But the risks the risks linked to the former working on the latter's premises also mean that a system of prevention coordination needs to be set up, led by the head of the user

company. For example, the head of the user company is required to organizing a joint preliminary inspection during which a joint risk assessment is carried out. The results of the assessment must then be translated into a prevention plan. The head of the outside company is actively involved in the prevention approach implemented by the host company and remains responsible for ensuring that the measures required to protect his employees are applied.

"Microorganisms, a real problem for heritage, human health and the environment. An option for treatment used by the laboratory of Preventive Conservation and Restoration of the documentation of the National Commission of Atomic Energy"

Ana Maria CALVO, Maria Virginia MIRANDA

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SUMMARY

Fungal infections are a serious problem for the books and records kept in archives, libraries and museums because they don't just affect not only the material, but also the health of librarians, archivists and museum professionals as they produce respiratory diseases, eye, skin and in extreme cases, death.

One must be able to know when documents are infected by fungi, whether they are active, aware of the damage caused by fungi on paper and what are the environmental factors that influence their development. Staff should pay attention to odors coming from the material, commonly referred to as a "damp smell". Wet and dirty places facilitate proliferation. The microorganisms that are in the air can develop quickly on paper and organic materials such as parchment or leather if their environmental parameters remain favorable for several days, especially when the material is wet and dirty. Prevention is fundamental: active fungi are particularly difficult to eradicate and losses produced are irreversible. That is why, the Laboratory Preventive Conservation and Restoration of Documents (LCRD) of the National Commission of Atomic Energy (CNEA) provides prevention as the most powerful weapon to conserve paper heritage without contamination of any kind. In the event of contamination we believe that gamma radiation is the best treatment and cleanest to eradicate the fungus because it is effective, does not contaminate and leaves no residue on the substrate, does not affect human health, and does not contaminate the environment, and also because it can handle large amounts of documents without unpacking, avoiding quarantine before and after. For all these reasons, the LCRD uses this method and has conducted research on this technique to treat precious and unique backgrounds on paper since 2001.

"Biosecurity, processes and scientific qualities for restoration : acts of environmental awareness"

Miriam A. Meneses Sierra, Conservator of cultural property,
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SUMMARY

This paper aims to explore the qualities of conservation/ restoration in regard to the processes of biosecurity. This is a contemporary paradigm that aims to reveal the scientific processes of restoration for the security of the restorers and conservators. In these processes, there is a commitment to the physical integrity of the objects and the environment that surrounds them, also examines the impact of pollution and health risks from the local and global environment of cultural heritage. From the perspective of biosafety attempts to expose the scope of responsibility and care should be the intervention of objects. This occurs both in the public and private levels. Part of this principle establishing the principles within the restoration / conservation of biosafety issues.

"Art foundry / "Restoration" / Health and safety at work"

Laurent INQUIMBERT¹, Bruno CUFFINI, Marion REYNARD
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SUMMARY

Art founders are often called upon to restore monumental statues and sometimes have to work in the presence of the public. They may be involved in construction projects and in contact with Conservators-Restorers, and have to deal with a wide range of occupational safety issues. They often run very small, small or mid-size firms, or are trainers and artists: what specific types of awareness-raising and training methods are available for this professional body ?

"Installing your own workshop when you are a young graduate"

Véronique MILANDE¹ et Nathalie LE DANTEC²

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SUMMARY

This procedure sets the conditions for installation of young graduates and tries to give guidelines to be able to integrate prevention measures at the design and layout of the workplace. How to assess and prioritize the risk ? What are the priorities for installation ? How to distribute space, planning expenditure; implement the protections... These are just some of the many questions that arise in a difficult context and often with limited financial conditions. Prevention is a holistic approach and its implementation must be prioritized and planned. Many little measures without charge can already improve significantly the daily, others more expensive may be spread over several years... the situation is not hopeless.

"Designing equipment and workplaces for the conservation-restoration profession"

Virginie SERRIERE

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SUMMARY

Employee health and safety must be taken into consideration as far upstream as possible, from when premises and workstations are designed, and monitored for as long as the installations and activity are in operation, including when they are modified. In the special case of laboratory work, the wide variety of the tasks carried out, the risks encountered; the rapid changes in working methods and the high level of qualification and autonomy of the employees make it more difficult to apply rules for the prevention of chemical and ergonomic risk than on a standard industrial site. These special characteristics mean that we have to implement measures of occupational risk prevention that are as integrated as possible, but which leave users with a high degree of freedom. The proposed design approach should be organized collectively, based on a detailed analysis of existing facilities and needs. The conservation/restoration laboratory should be designed to enable the people who work in it to carry on their different activities under the best possible conditions. Its design should ensure that health, safety and working conditions objectives are met and should reduce or minimize :

- The likelihood of a fire or explosion and their possible consequences,
- The exposure of operators and others to chemicals (by inhalation, skin contact and ingestion),
- Exposure to other risks that coexist within the laboratory, including those linked to the handling of substances specific to the profession (cuts, burns, bruises, lumbago linked to posture, etc.),
- The risks linked to working conditions, such as noise, lighting not suitable for precision work, customer requirements that may generate fatigue, concentration difficulties and occupational stress.

"From merging a traditional production centre with a restoration department to the sharing of chemical hazard management at the Cité de la Céramique – Sèvres & Limoges"

Véronique MILANDE¹ and Olivier DARGAUD²

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SUMMARY

The founding of the public establishment Sèvres – Cité de la Céramique in 2010 brought together the Sèvres factory and the National Ceramics Museum. The Adrien Dubouché National Museum in Limoges joined them in 2012 to form an establishment that was renamed "Cité de la Céramique – Sèvres et Limoges". As a result of the merging of organisations, the production and conservation departments pooled their respective knowledge and expertise in the field of occupational health and safety. The variety of practices, professions, customs, techniques and postures and the wide range of traditional and new materials all led to discussion and change. A working party was set up within the establishment to give a new impetus based on attentiveness and communication. This educational and didactic approach is based on an awareness and detection of the dangers and leads to a control of the risks.

"Monitoring of fungi in repositories at the National Archive: a latent hazard for collections and users"

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SUMMARY

The bio-deterioration of paper collections is a hazard to which items stored in libraries, archives and museums are exposed to, and also affects the health of users of these collections. In published studies, around 300 species of microorganisms have been identified which cause damage to material in libraries and archives – from the appearance of stains on the paper to the complete disintegration of the material. Despite knowing the factors that cause the appearance of these attacks, there are few places that comply with all the environmental conditions required to combat the action of microorganisms. Another problem is the high amount of microbes that can be found in closed spaces. In this sense, the fungal content in the environment in 7 repositories in the

National Archive, together with the recording of the environmental conditions (Temperature and Relative Humidity), is being monitored. The methodology that has been used involves taking samples of the air by suction with an ECO Mas-100 device and by decanting; taking samples of the surface of shelves where all the volumes are stored; and taking samples of the surface at the top of volumes of bound documents, which are then cultured in specific medium. The expected result is a recount of the concentration of fungi and the identification of the main ones, which, together with the recorded environmental parameters, will help to determine whether there is a risk of fungal contamination in the different environments. This experience may potentially establish the foundations for generating risk assessment and a methodology for early prevention, to be made available to library, archive and museum employees.

"Working towards an "ideal" laboratory? 3D modeling of an office for conservation-restoration that promotes safety and proxemics"

Silvia Susana CAPARELLI, Claudia TEJADA, Marisa TROIANO, Leonardo MOSIEWICKI, Miguel Angel AGUILAR¹, Carlos SLEMENSON², Mariana LOFEUDO³, Egle JUAREZ⁴ – ARGENTINA

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SUMMARY

The project deals with a previous comparative analysis of three disciplines that are similar to Occupational Hazards, Accidents at Work and Professional Illnesses, "Work Environment", Occupational Ergonomics, equipment, tools, instruments, safety and protection equipment. The aim of this analysis is to create an Ideal Laboratory, establishing guidelines to take into account for its design, which are not only architectural, but they also include workers' health, prevention and safety matters at Restoration and Conservation Laboratories. These topics shall be analyzed with regards to :

1- Construction workers,

2- Health workers,

3- Restorers of archaeological objects in laboratories in situ (monuments, architecture works, murals, etc.). A 3D proposal shall be presented interactively to members at the discussion, both during the conference and during professional gatherings

"The potential hazards of the toxic pigment orpiment in paint layers are examined in terms of two painted ceilings from the 17th century from the Grote Oost 22 te Hoor monument"

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SUMMARY

The toxicity of orpiment has been known since antiquity, due to the highly toxic element, arsenic. The potential hazard of orpiment in the paint layers of a historic house is however unknown and will be examined by the conservator of the ceilings and the resident of the monument. Two case-studies involving orpiment and Schweinfurther Grün in museum environments with conservation in situ will be discussed. In the paint on both ceilings orpiment (arsenic sulfide, As_2S_3) and its toxic oxidation product (arsenic oxide, As_2O_3) are identified with Polarized Light Microscopy (PLM). Arsenic is detected in the paint layers with X-ray fluorescence (XRF). The risk for the restorer has been given by measuring the exposure to arsenic in inhalable dust during an 8-hour shift with inductively coupled plasma mass spectrometry (ICP-MS). The work consisted of mechanical removal of the over painting on one of the ceilings using a scalpel. The measured result indicates exceeding of the limit value of arsenic in air, in a comparison with the limit value of several European countries. Several measures are recommended to reduce exposure, such as improved ventilation, shorter working hours per person, the development of a different removal method and the use of appropriate protective equipment. The resident's risk is assessed by examining the condition of the unvarnished paint surfaces, the migration of arsenic in the paint layers and the wooden substrate (using Scanning Electron Microscope, SEM) and the detection of arsenic particles in dust (XRF). The conservator, resident, museum employee or painter must always consider the possibility of toxic pigments in paint layers. An inspection of the condition of the paint layers and the detection of metals in the paint, can apply as a first step to prevent risks. During hands-on work, the production of inhalable dust must be avoided as much as possible. A protocol is established for the handling of paint layers in historic interiors or on historic objects that might contain toxic pigments.

Speakers have their names underlined in the articles