

# Preventive Conservation Strategies for Protection of Organic Objects in Museums, Historic Buildings and Archives



## MASTER

EU-project: EVK4-CT-2002-00093



E. Dahlin<sup>1</sup>, M. Cassar<sup>2</sup>, J. Heinze<sup>3</sup>, M. Lazaridis<sup>4</sup>, J. Czap<sup>5</sup>, D. Howell<sup>6</sup> and A. Sommer-Larsen<sup>7</sup>

**Project partners:** 1. Norwegian Institute for Air Research, Kjeller, Norway. 2. University College London, UK. 3. Albert-Ludwigs Universität Freiburg, Germany. 4. Technical University of Crete, Greece. 5. National Museum in Krakow, Poland. 6. Historic Royal Palaces, UK. 7. Trøndelag Folk Museum, Norway.

**Subcontractors:** National Trust, UK, The consulting and Support Centre for the Museums of Baden Württemberg, Germany and Wignacourt Collegiate Museum, Malta.

## Problems to be Solved

All over Europe objects in museums, historic buildings and archives are being affected either by display or by storage conditions. Unsuitable environmental conditions are a serious cause of decay, frequently made worse because the effects may remain invisible for a long period. By the time the damage is noticed the whole fabric and structure of an item may already be weakened.

The key to the survival of these objects is achieving an acceptable environment indoor and vital to this is a sustainable management of the cultural property including better preventive conservation strategies.

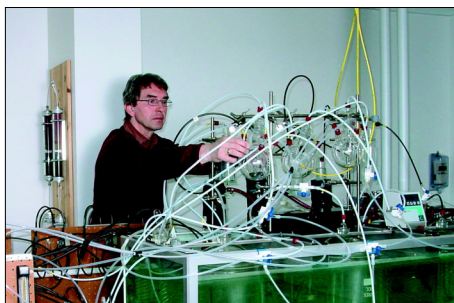
## Aim of the Project

The MASTER project which is funded by the European Commission started in February 2003. The project aims to provide conservation staff in museums, historic buildings and archives with a new preventive conservation strategy for the protection of cultural property, based on an early warning system assessing the environmental impact on organic objects such as fibre materials.

## An Early Warning Sensor

An innovative part of the project is the production of a generic sensor that is reactive to a corrosive environment and replicating the conditions for organic objects such as fibre materials. The sensor will function as an early warning sensor for organic materials (EWO-sensor).

The EWO-sensors will provide a relatively cheap and easy way for museums as a first step to evaluate the quality of the environment they provide for organic objects. This represents a considerable step forward, since museums used to rely



The EWO-sensors will be calibrated and tested for different environments in a climate chamber at NILU.

on the analysis of a wide range of diagnostic parameters, such as light, RH, temperature and pollution to answer this question.

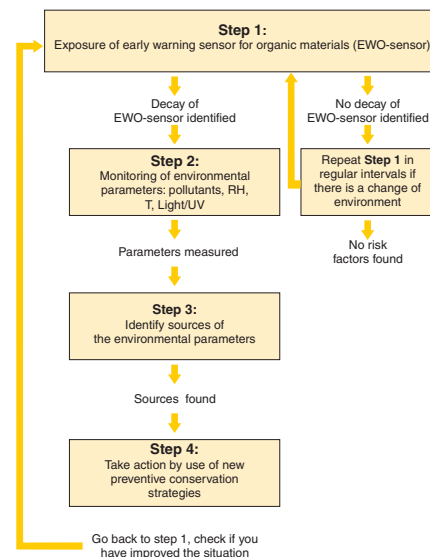
## Review of Preventive Conservation Strategies

Current approaches to preventive conservation strategies for organic objects will be reviewed through consultation with end-users. What is learned through this process will be used to design a new preventive conservation strategy for organic materials, based on the early warning system. This new strategy will help conservators to take action before damage to the object is observed.

## Expected Impacts

The MASTER project will provide new preventive conservation strategies for organic objects. The goal is to safeguard the objects from a damaging environment before damage occurs to the objects on display or in storage.

On a long-term basis the early warning system developed in the MASTER project should become



a routine tool for assessment of indoor air quality in museums, based on specific degradation rates, which will support the implementation of EU environmental regulations.

## Acknowledgement

The MASTER project contract no EVK4-CT-2002-00093 is funded by the European Commission, City of Tomorrow and Cultural Heritage. The authors are grateful for this funding.

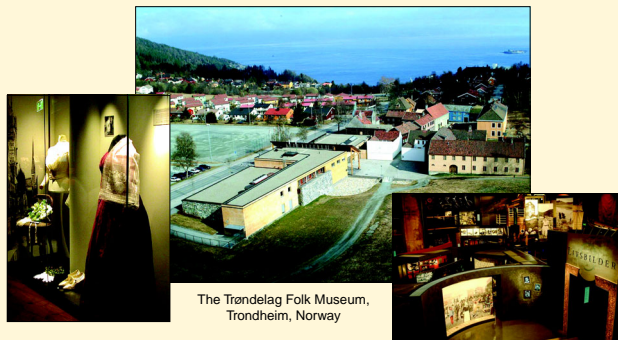
## More Information

For more information please contact the project co-ordinator:

Elin Dahlin, NILU, phone + 47 63 89 80 00 or [elin.dahlin@nilu.no](mailto:elin.dahlin@nilu.no)

The project website:

[www.nilu.no/master](http://www.nilu.no/master)



The Trøndelag Folk Museum, Trondheim, Norway



The National Museum in Krakow, Poland

The EWO-sensor will measure the risk for decay in 10 European museums and historic buildings during a one year campaign. The museums are placed in different environments from a clean environment in Trondheim, Norway to a more polluted environment in Cracow, Poland.

