

# New Materials and Safeguarding of Cultural Heritage

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## 1. Introduction

The co-operation between representatives of “different professions” is indispensable to the implementation of high level, comprehensive research work, to solving the problems of any kind of historical monuments, and restorations.

This conclusion - after so much research and working experience in Italy - became the “motto” of STUDIOLO, for a unique, really international research center and working group in Hungary, specialized in mural paintings, and stone conservation.

STUDIOLO research Activities are as followed:

- Applied research of conservation materials

Studing old and new, natural and artificial materials used in conservation.

- in laboratory and on site different kind of mortars, injection's grouts, ( cement, lime , hydraulic lime, pozzolana, cocchio pesto, different kind of “vinilic” and “acrylic” mortars, and injections for consolidation )
- protective, water repellent and other materials for consolidation and surface treatment (Akeogard ME, Akeogard LTX, Primal, Plextol, Paraloid, Lime water, Lime wash , Silbond, Syton, Vinavil, Hydro8, etc)
- cleaning materials and methods (Rotec, Arte Mundit, treatments to take out the Paraloid from the wall).

- Photo-technical examinations

Special camera basis of the several imaging modes, (visible, fluorescence, ultraviolet, infrared 1,2,3, false color infrared) registered by computer adopted on mural painting in the first time all over the world in Esztergom Project (Hungary).

- Diagnostics and sampling

Laboratory analysis on mural painting techniques, pigments, and treatments of different kind of conservation materials.

- Stone cleaning and conservation

Cleaning methods, surface treatments, consolidant, water-repellent anti graffiti

- History of Art , history of the restoration and conservation materials

Data collection, story of restorers, and conservation's materials used in different periods.

- Exchange workshop of international mural painting restorers, collaboration in different work units, Changing worksite experiences on the site among Working group, cooperation between experts, restorers (based on ICCROM diploma) of different countries.

Cooperation with:

Office of the Safeguarding of the Cultural heritage of Ministry of National Cultural Heritage (Hungary), Art Spect Holland, Hungarian Technical University department of descriptive geometry, MAIP laboratory R. Pancella, A. Bruthus, Lausanne, Switzerland,

ACEP Rome Italy, Studio ART'V Hungary, Hungarian ELTE University department of History of Art, MNG Laboratory for the traditional products Italy, National Museum's Conservation Institute.

## 2. Case Presentation

### ***“Sassi di Matera” DIPARC Project***

Project Sponsor :

Ministry of Education and Scientific Researches

1998-2000

In our time the UNESCO world heritage, “Sassi di Matera” the “city of stones” is the biggest rehabilitation, restoration worksite all over the world. The research program was the cooperation between different expert working groups and professions, architects, chemists, biologists, restorers, information scientists, and the ICCROM ARC 98 international seminar.

The old city is situated in two big “gravina” canons, divided in two parts the “stones”: “Sasso Barisano” and “Sasso Caveoso”. The first inhabitants and civil population started in the prehistoric age. Now we had so much carved and built habitation, galleries, palace, mansion and rock hewn churches with beautiful middle age frescoes in Byzantine style. We have a complex problem here, where the monuments, stone, and frescoes has main connection than everywhere. Locals call their stone “tufo” but actually it is not tufo it is a kind of limestone which is very tender, sensitive to many things, humidity, wind, salts, biology attacks.



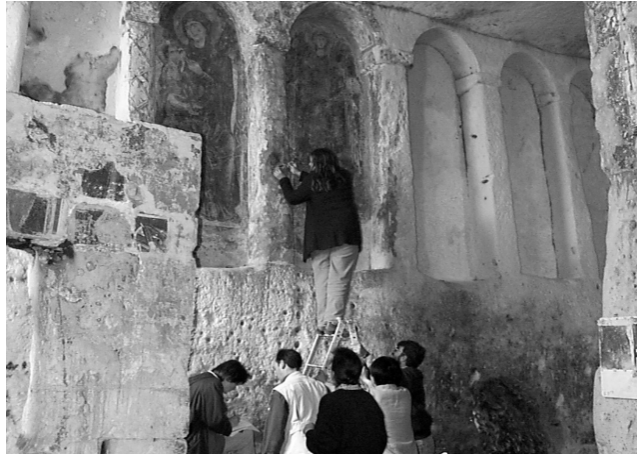
- Problems:
  - degradation of limestone
  - environmental deterioration



- Scope:
  - Selection of restoration sites
  - Diagnostics and Sampling
  - Research of Conservation Materials
  - Application of Materials



- Civita Rupestre -  
Rock-hewn Habitations
- Convicinio di San Agostino -  
Rock-hewn Churches, Case Study with ICCROM
- Santa Lucia alle Malve  
Rock-hewn Church with frescoes
  - biological degradation
  - humidity, porosity,



- Sampling, different kind of examinations
- Pilot application on worksite

### ***Esztergom STUDIOLO Project:***

Project Sponsor:

Ministry of Cultural Heritage, Hungarian Millenium foundation

2000-2003

The scientific research and restoration of Hungary's most significant middle age and renaissance fresco-collection has just started.

The chapel was built by King Bela III.(1172-1196) and the oldest wall-paintings date back to this age. The second layer of frescos was painted at the start of the reign of the Angevins. The work of restoration is rendered more difficult by the fact that the frescos and remnants have been undergoing numerous debatable interventions. The purpose of the research is the discovery of the original layer.

- Scope:
  - Restoration of the Royal Chapel & Palace
  - Analysis and examinations
  - Former and new materials



- History of monument  
Excavation  
1935
- History of the restoration, 1938 M. Pelliccioli.



- Degradations due to Materials of former restorations  
Materials of former restorations
  - 1938 , cement ,casein
  - 1968, „vinilic” mortars, Paraloid, artificial materials



- Problems of current restoration
  - second detachment in the chapel after Pelliccioli.
  - Removal of all former materials, cement, vinilic fillings and borders
  - to take off the Paraloid from the wall, and other material applied in previous treatments
  - a fundemantal respect for the original painting
  - to use only natural products for fillings, borders and consolidation, to matching of the characteristic of the original painting.

Lime mortars mixed with different kind of pozzolana, lime-putty, acquarell.

### 3. Bibliography

#### ***“Sassi di Matera” DIPARC Project***

- [1] A Urland –E Borelli: Conservation and development strategies for a world heritage site example ,
- [2] International working experience(4.int Symposium 1997)
- [3] ICCROM ARC 98 Inspection and survey, project and site management monitoring with sites:Conservation and development, Matera seminar and workshop(1998 ICCROM)
- [4] C. Fornaro-S. Wierdl: Sistemi di diagnostica, restauro,manutenzione,conservazione,dei materiali lapidei e degli elementi decorativi.(MURST, Ipogea 1998)

#### ***Esztergom STUDIOLO Project:***

- [5] Entz Géza: The Lion’s painting at the Royal Chapel in Esztergom(Évlap 5-9)
- [6] Leopold Antal: The Studiolo of János Vitéz(Szépművészet (1944)115-119)
- [7] Dr. Prokopp Mária The Mural Pintings of the Royal Palace of EsztergomI.-II. ( Művészettörténeti értesítő 1966-1973)
- [8] Dr. Prokopp Mária :The Virtues at the Studiolo of Vitéz János(Study for Németh Lajos, 1989 31-36)
- [9] Dr. Prokopp Mária: The new research of The Studiolo of Vitéz János(szeged, 1990)
- [10] Dr. Prokopp Mária:The mural paintings of The Royal Palace and chapel of Esztergom(2001 TKMK)
- [11] Wierdl Zsuzsanna: The Royal Palace and chapel of Esztergom (Krónikás, 2002)
- [12] Wierdl Zsuzsanna: The restoration of theRoyal Palace and chapel of Esztergom (Műtárgyvédelem, 2002)
- [13] Wierdl Zsuzsanna: The restoration of the mural paintings of the Royal Palace and chapel of Esztergom (Múzeumi Hírlevél, 2002)
- [14] Wierdl Zsuzsanna: The restoration of the mural paintings of the Royal Palace and chapel of Esztergom (Műemlékvédelmi szemle 2001, 2002)