



Gallone Samples Archive: a resource for Cultural Heritage studies

Serena Benelli* (Department of Architecture, Built Environment and Construction Engineering, Politecnico di Milano)
Daniela Comelli, Ezio Puppini (Department of Physics, Politecnico di Milano)
[*serena.benelli@polimi.it](mailto:serena.benelli@polimi.it) - PhD candidate (supervisor Stefano Della Torre, Cristiana Achille, Ezio Puppini)

A vast collection of samples from artworks. A unique resource for future research in the field of conservation: investigating samples, implementing more advanced techniques.

Samples from artworks: new possibilities in Heritage Science

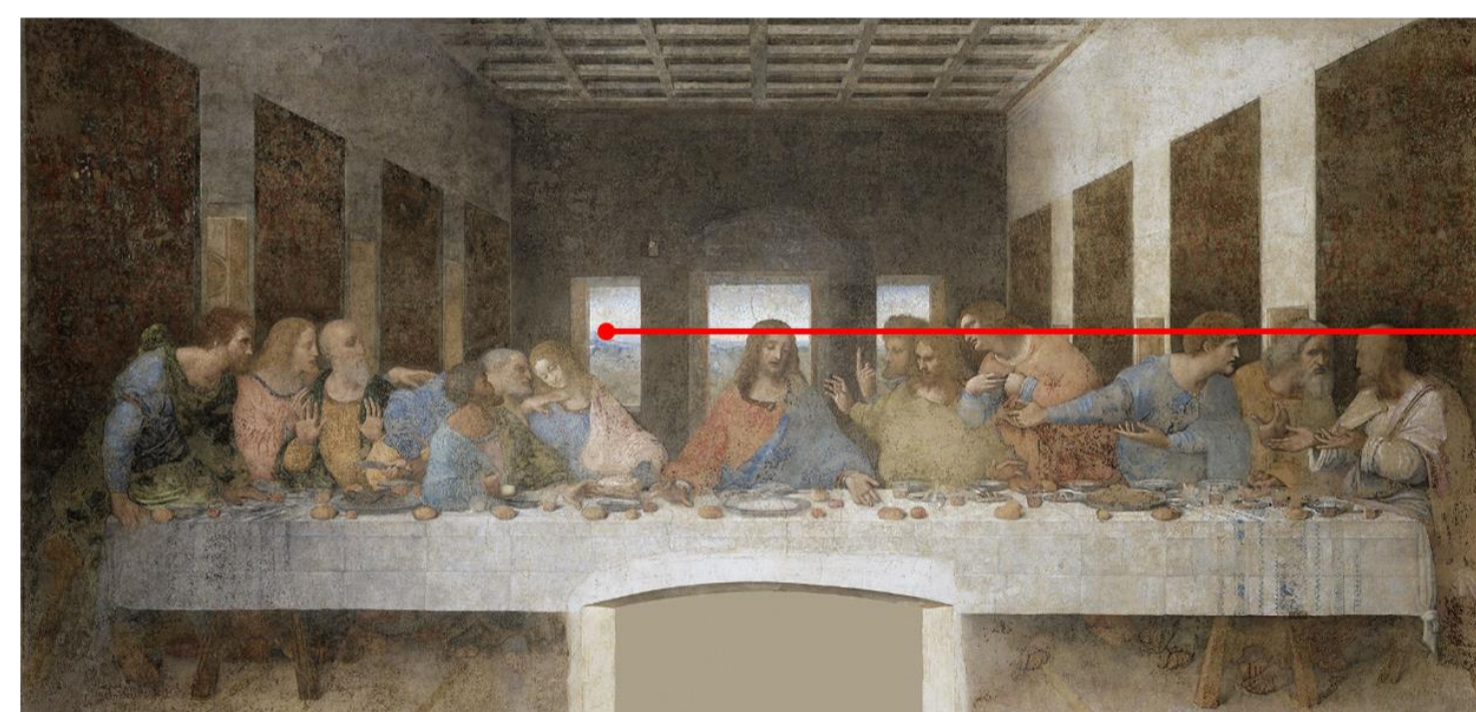
The Gallone Archive is part of the Politecnico di Milano archives, and it consists of almost 12K samples, of which 6K are polished cross-sections. The raw samples are both micro-fragments and powders. The main case study is the Last Supper by Leonardo da Vinci (around 500 samples).

These materials were collected by **Antonietta Gallone (1928-2015)**, physics researcher at the Politecnico, during several decades of activity. Her job consisted in compositional analyses and morphological observations to improve the knowledge on materials, techniques, and on the state of conservation of CH objects.

Antonietta Gallone contributed to define the pioneer profile of conservation scientists. Her inquiries are described in over 600 reports which have been digitized and are available to scholars on www.archiviogallone.fisi.polimi.it.

The Archive is relevant for its documentary and historical value (it is declared of "considerable cultural interest" by the Ministry of Culture), but also because it is a unique resource for research in conservation. The possibility to investigate the same samples, implementing more advanced techniques, could open to important opportunities.

Leonardo da Vinci, Last Supper, 1495-1498, mural painting, Milan, Santa Maria delle Grazie (refettorio), 1495 c.



Objectives and Methods

The major goals we are pursuing are:

- valorising the archive and defining a methodology for the classification and cataloguing of CH samples with a special emphasis on the **Last Supper samples collection**;
- developing a **methodological approach** covering the whole cycle, from the sampling procedures to the long-term management of the collection;
- designing an **Information System** for **samples referencing** together with 3D Survey Lab, DABC-Politecnico di Milano (see poster).
- **re-examining samples** with modern techniques not existing or not applied in AG years.

Ongoing analytical campaigns in collaboration with:

- **ARTIS** laboratory (DFIS, polimi)
- **SOLINANO** interdepartmental laboratory (polimi).
- **ISPC-CNR**
- **ESRF** Grenoble (BAG)

Some examples of application:

- OM vis-UV
- μ -TG-HS imaging
- μ -Raman Spectroscopy
- μ -FTIR
- LV SEM-EDS analysis
- μ -XRD

Search the Collection

Title of the report:
Search by reports and samples

Author:
Author of the artwork

Raman point measures

Lapis layer

Intermediate layer

Lead white layer

left and right: images acquired with HiKOX 3D digital microscope by Simecno

