

## **The conservation works the Hall of Masks in the Domus Aurea**

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Since 2004 the Istituto Superiore per la Conservazione ed il Restauro (ISCR) of Rome has begun to study the conservation conditions of the Hall of Masks in the Domus Aurea (64-68 AD), the palace of Emperor Nero whose decorations have inspired artist such as Rafael, Giovanni da Udine and Vasari becoming reference model for all the Renaissance.

Conservation studies and restoration works have been focused in particular on two rooms of the great hypogeal palace, the Hall of Masks (room n. 114) and the nearby Corridor (room n. 131), whose frescoes are among the most famous and better preserved of all the site. In the last twenty years the rooms have been experimentally confined with airtight doors (1986) to test the microclimatic conditions in absence of light and thermo-hygrometric exchanges.

After this long period of experimentation ISCR has lead a pilot conservation project to deal with the conservation and musealization of the Hall of Masks and Corridor n. 131.

### **Conservation studies held in the 80's**

Since 1969 the Central Institute of Restoration (now ISCR) began to study the preservation of the Domus Aurea, in particular focusing on the frescoes of the Golden Vault. Later (1986) began the studies in The Hall of Masks and the Corridor n. 131, focused on the stabilization of the microclimate as preventive conservation of the paintings. The two connected rooms were confined with airtight doors and restoration tests of frescoes were held to experiment maintenance in time.

### **Conservation works of the Hall of Masks and Corridor n. 131**

In 2004, after more than twenty years of experimentation, the ISCR has lead a campaign of environmental monitoring and tests to evaluate the restoration results.

The long-term effectiveness of the principles and methods applied in 1986 has allowed to confirm the absolute importance of the methodology of "indoor confinement" of the hypogeal environments as fundamental tool in preventive conservation of underground archaeological remains.

The Domus Aurea hypogeal environments are characterized by an average of relative humidity near to 100% in condition of a temperature at 15°- 17° C°. In these conditions of high humidity and warm temperature biological growth are favourite and any exchange in T° allows a dangerous salt crystallization on the painted surface. To prevent increasing deterioration phenomena is necessary to stabilize the microclimate, not only in terms of temperature and relative humidity, but also of reduction of the bacterial content in the indoor environment. The long experimentation held inside the Hall of Masks has proved this is the essential pre-condition for the conservation of the hypogeal archaeological wall paintings.

Similar conclusions were reached in parallel experimentations done by ISCR in other hypogeal environments, such as the Etruscan tombs of Tarquinia and Cerveteri and the Crypt of the Anagni Dom. The new project of preventive conservation and restoration of the "Hall of Masks" and Corridor n. 131, held by ISCR, has been therefore based on the principle of "indoor confinement" and on the updating of the technological solutions and restoration procedures applied. Moreover the use of specific light-sources with low impact on photosensitive materials has been introduced to guarantee a long term effectiveness of the project.

Conservation studies have involved a large team of ISCR conservation experts, chemists, physicists, biologists, architects, archaeologists and restorers, who have conducted several campaigns to monitor, analyze and survey the hypogeal environments testing the most correct procedures and products for the restoration of frescoes .

Based on the analytical results and experimental evidence the restoration project has been defined under the ISCR direction. Surveys were made through 3D laser scanning, thermo-vision explorations, and

radar investigations for detecting the state of degradation of masonry, plasters and vault, and a team of specialized conservators, also including ISCR's students, realized the restoration works of the frescoes. The "indoor-confinement" of the Hall of Maks has been redefined updating the airtight doors system, designed for monumental environments with materials highly resistant to corrosion, and natural oxidation. Another aspect of accurate studies has been dedicated to the light sources to select an adequate system for the hypogeal environment of the Hall of Maks.

The musealization of these archaeological rooms includes the installation of a monitoring system based on data/loggers for air/superficial monitoring, luxmeter, and air-movements based on wire-less data transmission. The reopening of the Hall of Maks and Corridor n. 131 to visitors will daily be checked according with the internal microclimatic parameters.

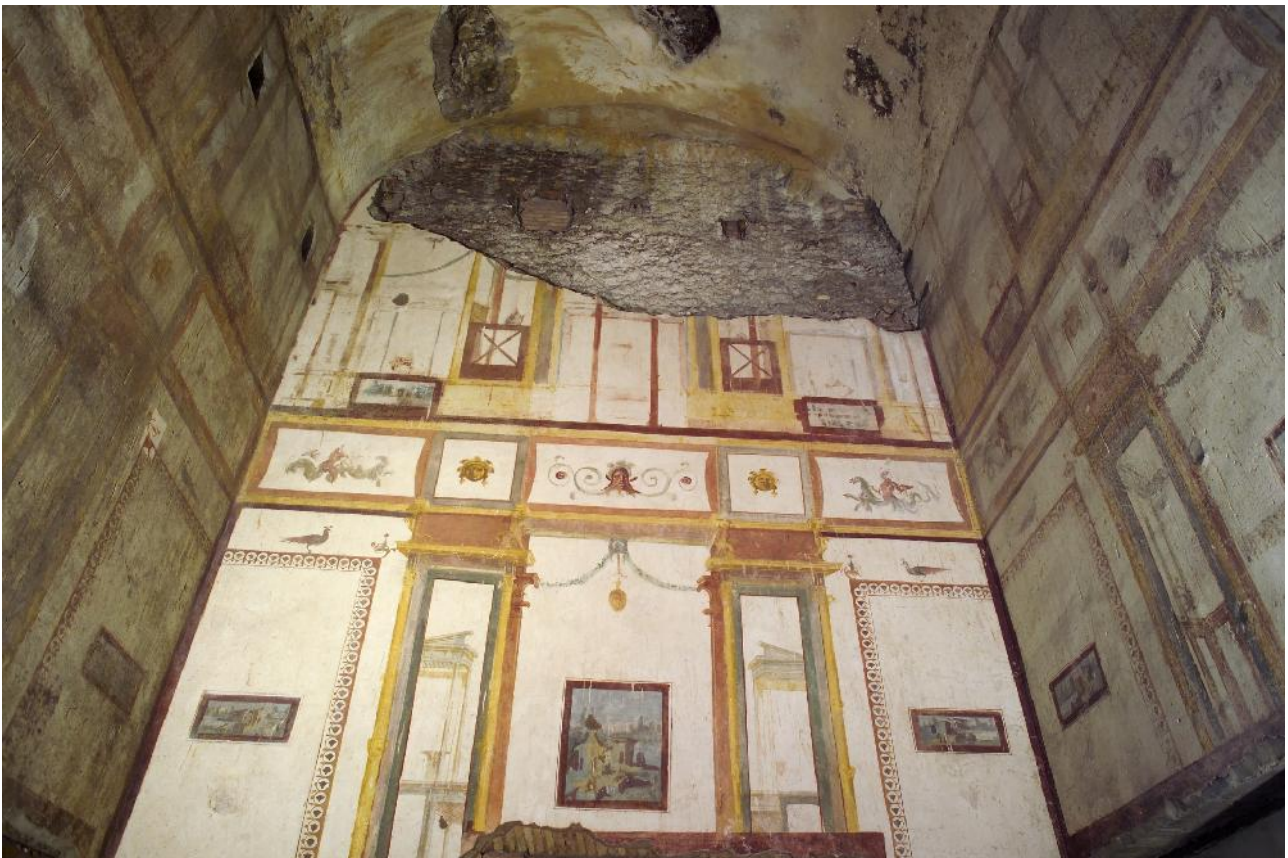
All data related to the conservation works of the Hall of Maks are recorded in a G.I.S. data management system and are available on-line<sup>1</sup>.

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<sup>1</sup> [www.domusaurea-salamoschere.beniculturali.it](http://www.domusaurea-salamoschere.beniculturali.it)

## References

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Hall of Maks in the Domus Aurea (64-68 AD), South wall, Rome