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The Sangallo Crucifix **Restoration Factsheet**

We are extremely pleased to present the restoration of the polychrome wooden *Crucifix* attributed to either Antonio or Francesco da Sangallo and housed in the Cappella dei Pittori, or Painters' Chapel, in the convent of the Santissima Annunziata in Florence.

The results achieved mark the outcome of a synergy of skills and expertise in different fields designed to bring an interdisciplinary approach to the *Crucifix*. The study, exploration and analysis of the artefact's conservation history, its constituent materials and the technique with which it was constructed, with the support of an in-depth and meticulously targeted diagnostic campaign, provided a solid preliminary base for the restoration, steering our decisions in every phase and corroborating the final results.

The analytical campaign included multi-spectral inspections and non-invasive or micro-invasive scientific analyses. The 3D scan and X-ray inspections performed on the figure of *Christ* provided us with valuable information and allowed us to identify the various wooden elements making up the sculpture as a whole. Stratigraphic analysis of micro-fragments sampled and analysed under the optic and electronic microscopes and with FT-IR spectroscopy helped us to recognise the materials comprising the paint film and to identify any later work done on the *Crucifix*. It is worth pointing out that the original polychromy was totally invisible in that it had been completely concealed by later repainting in brown designed to simulate bronze, but which had itself deteriorated.

Thus after an initial phase involving a reconstruction of the artefact's identity, we began the restoration proper. The first problem was to consolidate the painted surface where it was suffering from widespread and very serious lifting. This prompted us to explore the environmental conditions throughout its conservation history in order to get back to the root cause of the lifting. To achieve this, we monitored the micro-climate both in the chapel in which the *Crucifix* is normally housed and in the workshop where it was undergoing restoration. This allowed us to assess the conditions in which the artefact had been kept over the years and during restoration, thus averting any critical conditions or the need to adopt *ad hoc* measures in the future. And last but not least, the study enabled us to constantly monitor the artefact's state of preservation.

The decision, taken after consultation with the director of the restoration campaign, to retrieve the *Crucifix*'s original polychromy by removing the final layer of repainting prompted us to conduct numerous tests with both chemical and mechanical cleaning methods. The most effective methods proved to be those using chelating agents thickened into polysaccharide polymers (agar, gellan gum, xanthan gum). Also, by using various different application systems with different kinds of products, different percentages and different pH levels, we succeeded in conducting experiments that led us to formulate interesting reflections and to draw interesting conclusions.

Another interesting aspect was the decision to test the laser technique in an effort to explore its potential for treating the repainting layer, both on the polychromy on the figure of *Christ* and on the fabric of the loincloth, the latter material proving especially difficult to treat with chemicals.

The different – yet both equally positive – results achieved with these tests demonstrate that it is possible to consider the laser a valid tool for treating such surfaces.

Once the restoration is complete, visitors will finally be able to enjoy the *Crucifix* as it was originally intended to be enjoyed, both as an artefact in overall terms and in terms of the individual details in which the work is exceptionally rich.