ECO-FRIENDLY NANO-MATERIALS FOR CONSOLIDATION OF WORKS OF ART. ICR ACTIVITIES WITHIN THE CHANGES PROJECT

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For some years now, in the field of conservation and restoration, the attention to safeguarding the planet and to *green* chemistry has produced an increasing interest towards the use of innovative materials and methods of intervention, based on natural substances, non-toxic for man and for the environment. ICR scientific and restoration laboratories are oriented towards this type of choice and in this context, recently participated in several research projects with Italian universities and research institutions. Since December 2022 ICR is involved in the PNRR CHANGES project (Cultural Heritage Active Innovation for Next-Gen Sustainable Society), leaded by Sapienza University. ICR studies and researches on developing advanced green materials and methodologies to counteract degradation effects are performed within activities of Spoke 7: Protection and Conservation of Cultural Heritage Against Climate Changes, Natural and Anthropic Risks, Wp5 Green materials and methodologies for conservation.

ICR does not produce restoration materials, but its role is fundamental in evaluating the applicability and effectiveness of new generation materials, fine-tuning the intervention methodology, with applications first on test samples and then on the artwork.

Many of the experimental activities have been developed as part of master's degree theses of SAF ICR students and currently also as part of PhD and research grants financed with CHANGES funds. Highlights will be presented of the studies conducted so far on the application of crystalline nano-cellulose (CNC) for the structural reinforcement of canvas support of easel paintings, of hemp twines from a contemporary artwork and of wooden supports of statues and of a study performed to select the best treatment for paleo botanical wooden trunks from the fossil forest of Dunarobba.