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New technologies for the conservation of written paper heritage damaged by fire

Nouvelles technologies au service de la conservation-restauration du patrimoine écrit sur papier endommagé par le feu

By
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Date & Venue

Friday **8 July 2022 at 14h00** at the **Auditorium de la Grande Galerie de l'Evolution**, Muséum national d'Histoire naturelle

Abstract. This research addressed the problem of fire-damaged manuscripts and printed books in libraries and archives by developing an innovative green chemistry conservation treatment for strengthening burnt paper. The production of experimental burnt paper samples was based on the characterization of historical papers burnt in blazes during the second World War. This led to the development of a nanocomposite formulation that uses nanocelluloses and polysiloxane polymers to treat the charred areas by spraying. The burnt paper samples were reinforced, as measured by a specifically designed folding test. Their tendency to fragmentation was thereby improved and their visual aspect was not modified. The new treatment will enable to significantly improve the conservation condition of thousands of fire-damaged documents and books of our cultural heritage, allowing future access to the texts and their reproduction for the benefit of scholars at large.

PhD committee

Nathalie MARLIN, Grenoble INP – PAGORA, Rapporteur
Giovanna POGGI, University of Florence, Rapporteur
Pierre CHASTANG, Université Versailles St-Quentin-en-Yvelines, Examiner
François BOUGARD, IRHT, CNRS, Co-supervisor
Alfonso ZOLEO, University of Padova, Supervisor
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