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Laurent Cortella

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BACKGROUND

After initial experience in materials sciences research and radiological protection, Laurent Cortella is operating since 2002 as Head of Facilities and Research Engineer at ARC-Nucléart, Grenoble, France. He is in charge of irradiation services and research, mainly dealing with cultural heritage. Beside nuclear techniques for heritage, he has been involved in many problematics of organic materials preservation, from archive material to museum or church wooden collections and to archaeological waterlogged wooden artefacts. Those involvements gave him the opportunity to develop a cross disciplinary expertise. He also intervenes in advising as well as carrying out cultural heritage treatments in France and abroad, always trying to make the link in a pragmatic way between the research and the implementation of the available techniques. He participates in international IAEA projects related to the development of radiation treatment for cultural heritage preservation as lecturer, expert and author and co-author of several scientific publications.*

**Laboratory/Workshop for cultural heritage preservation*

Gamma radiation as a tool for remedial conservation: 50 years' experience in ARC-Nucléart, Grenoble, France

Abstract

Remedial conservation of cultural heritage consist in arresting ongoing damaging processes, when items deteriorate at dangerous rate, or in reinforcing their structure when they are in too much fragile condition.

Among the available techniques, the so-called "nuclear" techniques, mainly gamma radiation processing, can be of very suitable helps. Indeed, thanks to its penetration power, gamma ray based techniques offer the possibility to make ionizations in the whole volume of infested artefacts, ensuring very reliable biocidal effects to fight against bio-deterioration, the major vector of decay of those organic materials present in art-works, archives, and other artefacts of our heritage. Ionizations can also triggers and pilots co-polymerization by cross-linking of radio-curable resin used to consolidate the weakest artefacts made of porous material.

ARC-Nucléart implements those techniques from 50 years and have treated thousands of artefacts since that time. Examples of treatments will be presented during this seminar, including treatments of wooden art-works and historic or archaeological items, as well as more exotic treatments of mummies or similar.

<https://videoconf-colibri.zoom.us/j/82726221024?pwd=QmE3elhQelJGeU91d1dheXhkdIMvZz09>

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