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METALPAT

Support to the diagnosis of heritage metallic materials

Fig. : Homepage of MiCorr application

OBJECTIVES

By visually inspecting metal objects, conservation professionals propose a first diagnosis of degradation on the basis of their experience and consultation of specialized literature.
The online computer application MiCorr (micorr.org), follows this path while optimizing it using several research tools. Among them and using a graphical user interface, the MiCorr user constructs a digital stratigraphy of a corrosion structure representative of the metal examined. Its comparison with those of the corrosion forms listed in the MiCorr database allows him/her to make hypotheses on the nature and alteration of the material studied without sampling. In case of lack of concordance with the database, the user can enrich it with the new form of corrosion observed. The other research tools reinforce the questioning of MiCorr database to refine the diagnosis.

PROGRAM

The two Swiss initiators of MiCorr (HE-Arc CR and HEG Arc), together with LMC-IRAMAT and LAPA-NIMBE, which have developed a methodology for the fine investigation of corrosion forms based on the use of multi-technical characterization protocols, will implement an approach that will link the macroscopic descriptions of metal artefacts to the phenomenological description of corrosion deduced from advanced multi-scale analyses, thus creating a bridge between the fields of conservation and the study of corrosion.

More than twenty actors of these two domains (conservators, archaeologists, managers of heritage collections, curators of museum institutions, architects, archaeometallurgists, corrosion scientists, etc.) spread throughout the Interreg France-Switzerland region (5 French departments and 7 Swiss cantons) will be trained in the use of the MiCorr application and will be responsible for critically reviewing its content so that it better meets the needs of all concerned.

The actors will also have the task of enriching the database by studying the collections/materials for which they are responsible. They will benefit from the technical and scientific support of the four main partners who, thanks to their global vision of the project, will be able to promote the study of corpus of objects distributed throughout the Interreg region and/or presenting specific forms of corrosion due to their environment (lake sites) or their mode of solicitation (watchmaking objects).

FUNDING

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PROJECT LEADERS

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PARTNERS

Laboratoire Archéomatériaux et prévision de l'altération LAPA-NIMBE of Commissariat à l'énergie atomique et aux énergies alternatives CEA/CNRS; Haute Ecole de gestion Arc (HEG Arc)

DURATION

3 years
1.9.2019 - 31.12.2022