



Contribution ID: 31

Type: **Keynote**

The W's of Cultural Heritage (Why is worth to study Cultural Heritage? Why Synchrotron Light Sources? Who is interested? Since When? What do we do? How?)

Monday, 5 September 2022 15:30 (30 minutes)

The study of Cultural Heritage involves the investigation of what is left of our past (**materials**) to learn about the immaterial (**knowledge**).

The subject by definition involves many disciplines such as History, Archaeology, Conservation, Museology, Materials Science, Technology, Anthropology among other, which have their own methodology designed to obtain information relevant to them. The interdisciplinarity of the subject adds interest and difficulty to the collaboration.

Our group is formed by scientist of various disciplines (Physics, Chemistry, Mineralogy and Crystallography, Microbiology, Material Science). As Scientists our main interest is to learn about the materials and methods of production used in the Past: to unveil the **Lost Technologies**, identifying the changes happened through time in both, materials and processes, and, finding the technological breakthroughs of the past. Our approach: a **Reverse Engineering** methodology, which includes the analysis of the objects and replication of the procedures.

The analysis of Historical materials has some particularities: limited sampling, reactivity, aging and corrosion to which we have to add the complexity specific of the material under study (organic-inorganic materials, crystalline-amorphous compounds, micrometric and sub-micrometric layers and particles, presence of impurities) and the lack of information about materials processing and production processes.

We will try to answer the **W's** questions presenting a selection of studies including paintings, ceramic glazes, stained glass, waterlogged wood addressing conservation issues and unveiling the science behind the object.

Would you like to participate in the Poster Prize competition?

No

Primary author: PRADELL, Trinitat (Universitat Politècnica de Catalunya)

Presenter: PRADELL, Trinitat (Universitat Politècnica de Catalunya)

Session Classification: AUSE A - 5/09/22