

Heritage science: Where the past looks to the future

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Are crowd-sourced photos taken with mobile phones useful in collecting analytics for antiques? Can smell be used to classify degradation of plastic artifacts in museums? How are cannonballs from shipwrecks affected by conservation techniques? The answers to all these questions are found in a [Special Issue on heritage science](#) published by the journal *Angewandte Chemie*.

"Heritage science is a cross-disciplinary field that covers conservation, archaeological, and building science. It is highly relevant to the field of chemistry," explains Matija Strlic from University College London (UK) in his editorial, and adds: "It addresses not only preservation and analysis, but also acquisition of information and organization of visitors."

This Special Issue contains around 20 research articles on aspects of [heritage science](#), as well as five longer overview articles. Featured on the cover is work by Ian Freestone, Eleanor Schofield and a team at The Mary Rose Trust, University College London, and the Diamond Light Source (UK) with a study of the iron cannonballs on King Henry VIII's flagship the Mary Rose. The scientists used X-rays to study how the cannonballs corrode during conservation treatments and thus help in the development of new preservation techniques.

Contributions on the analysis of paintings include a study on Van Gogh's Sunflowers by Frederik Vanmeert and a team in Antwerp (Belgium) and Delft (The Netherlands) that identifies the areas of a painted canvas that

are at higher risk of degradation. The areas that are painted yellow are more likely to discolor than the orange parts of the painting. In another study, scientists from Poland and Italy have uncovered hidden alterations carried out during past restorations of The Landsdowne Virgin of the Yarnwinder, a painting originating from Leonardo da Vinci's studio.

In other studies, glassware from alchemy laboratories revealed the practices of antiquarian chemists, Egyptian grave goods were visually reconstructed, and plastic artifacts sourced from Tate collections were monitored for volatile degradation emissions by different research groups.

As Strlic points out, "Heritage science enables both society and individuals, as well as future generations, to exercise their right to cultural [heritage](#) and contributes to our understanding of who we are and our sense of place. It has a deeply social purpose". He adds "The cutting-edge [science](#) that we do today may well become future heritage."

More information: Matija Strlič, Heritage Science: A Future-Oriented Cross-Disciplinary Field, *Angewandte Chemie International Edition* (2018). [DOI: 10.1002/anie.201804246](https://doi.org/10.1002/anie.201804246)

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