

Unlocking the secrets of Heritage Smells

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This is Dr. Lorraine Gibson of the department of pure and applied chemistry, University of Strathclyde. Credit: University of Strathclyde

Clues to the condition of museum exhibits and antique objects are to be revealed in a research project led by the University of Strathclyde in Glasgow- with the use of technology for 'sniffing' artefacts.

Scientists and conservators are aiming to develop hand-held, portable devices for taking samples of air surrounding items such as sculptures, tapestries and books and separating out the components to see whether they contain anything which could be used to understand better the composition, or condition, of the objects.

The three-year project is looking at adapting technology which museums, archives or individual collectors could use to carry out their own assessments of their collections, without touching the objects.

University College London's Centre for Sustainable Heritage, the British Library, the British Museum, National Museums Scotland, National Archives of Scotland, English Heritage and chemical detection company Owlstone are also involved in the project, which is funded by the Science and Heritage Programme, jointly supported by the Arts and Humanities Research Council and the Engineering and Physical Sciences Research Council.

Dr Lorraine Gibson, a Senior Lecturer in Strathclyde's Department of Pure and Applied Chemistry, is leading the research. She said: "We're looking to understand the science behind our heritage and the smells of valuable objects. We all know that when we walk into a library there is a very distinct musty smell but we want to know what creates the smell and what it tells us about the objects stored inside.

"The sensors used to detect the smells will generate signals. This in itself is not hard to do but a key objective of the work will be to interpret correctly the 'smells' and link parts of the detected signals to the objects themselves.

"The work will be split into three challenge areas that will examine emissions from collections such as paper-based materials, modern and contemporary art and ethnographic, archival or natural history objects. The data correlation required to link pollutant emissions to objects will be a challenge but it is not insurmountable if done systematically and scientifically.

"Most museums don't have their own labs or scientists, so it's not possible for them to do full analytical studies. If we can develop portable equipment, they could be able to analyse objects themselves and to make prompt, informed decisions on the safe storage, conservation, display and long-term preservation of collections which are important to our cultural heritage."

Dr Matija Strlič, of University College London's Centre for Sustainable Heritage, said: "We are delighted to be a key partner in this project. The Proof of Concept was developed at UCL and for this reason, we are excited about contributing to Heritage Smells."

AHRC chief executive Rick Ryland said: "This is great news for the development of Heritage Science in Britain. We have a unique [heritage](#) and expertise in its development.

"It is crucial we maintain skills and tackle important projects such as these. It is also excellent to see experts in humanities and technology working so closely and successfully together."

Provided by University of Strathclyde

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