UK Science and Cultural Heritage Research

Professor May Cassar

Director, AHRC/EPSRC Science and Heritage Programme
Director, Centre for Doctoral Training in Science and Engineering in Arts Heritage and Archaeology
Formerly, Specialist Adviser, House of Lords Science and Technology Select Committee Inquiry on Science and Heritage
Centre for Sustainable Heritage, University College London

SEAHA
CENTRE FOR DOCTORAL TRAINING IN SCIENCE AND ENGINEERING IN ARTS HERITAGE AND ARCHAEOLOGY

Science and Heritage Programme

UK Science and Heritage Timeline

House of Lords Inquiry — 2005

AHRC/EPSRC Science and Heritage Programme — 2007 to 2014

National Heritage Science Strategy — 2008 to 2010

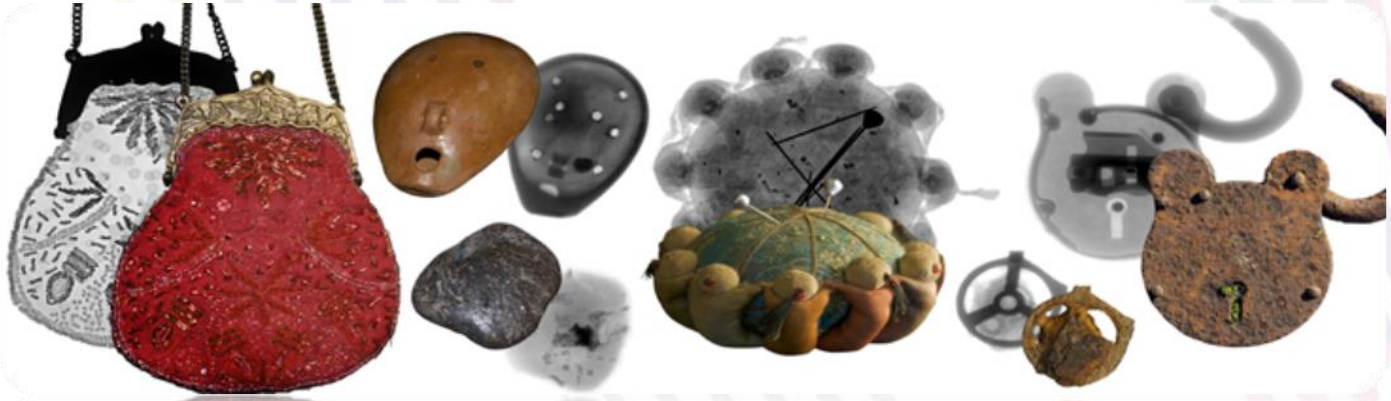
2012 - National Heritage Science Forum

2014 to 2022 EPSRC Centre for Doctoral Training in Science and Engineering in Arts Heritage and Archaeology

House of Lords Science and Technology Select Committee Inquiry on Science and Heritage

Main Findings of the Committee - 2005

- Sponsor department – DCMS – did not value need for conservation and science to underpin cultural heritage
- UK had led field in 1960s and 1970s but conservation scientists now retiring and not being replaced
- Community fragmented between universities, museums and galleries, government organisations, NGOs, and individuals
- Failure to identify national priorities and develop strategic vision



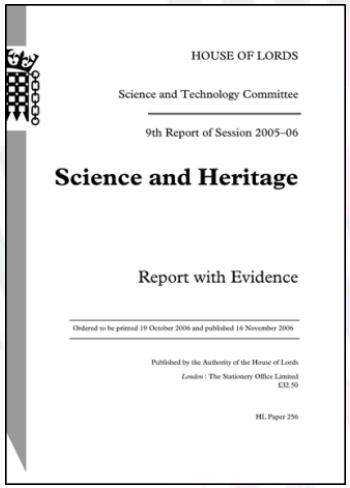
Objects X-rayed as part of Lucy Martin's Sustainable Radiography Collaborative Research Studentship

Science and Heritage Programme

House of Lords Science and Technology Select Committee Inquiry on Science and Heritage

Main Recommendations - November 2006

- DCMS should appoint chief scientist and give explicit recognition to need for conservation
- Arts and Humanities Research Council (AHRC) to act as “champion” for heritage science and set up joint research programme with EPSRC (**the Science and Heritage Programme**)
- Community to work together to develop national strategy of heritage science (the **National Heritage Science Strategy** – later to become the **National Heritage Science Forum**)



HOUSE OF LORDS

Science and Technology Committee

9th Report of Session 2005–06

Science and Heritage

Report with Evidence

Ordered to be printed 19 October 2006 and published 16 November 2006

Published by the Authority of the House of Lords
London : The Stationery Office Limited
£32.50

HL Paper 256

Science and Heritage Programme

AHRC/EPSRC Science and Heritage Programme

- 7 year strategically directed research programme running from 2007 to 2014
- Jointly funded by the Arts and Humanities Research Council and the Engineering and Physical Sciences Research Council
- Budget: £8.1 million
- Funded 48 projects through 5 calls: Collaborative Research Studentships (PhDs); Research Clusters (networks); Postdoctoral Fellowships; Interdisciplinary Research Grants; Research Development Awards

The Art of Hard Science Workshop. Daresbury Laboratory, 2008

Science and Heritage Programme

Aims of the Programme

- To transform our **understanding** and the **resilience** of cultural materials to be better placed to avoid drastic change in the face of natural, environmental and human challenges in the 21st Century.

- To advance and expand knowledge by supporting innovative **interdisciplinary** research by seeking answers to pressing cultural and scientific questions.

- To focus on **whole objects** – historic buildings, collections, material culture in the landscape - and their meaning, value, conservation and use.

Transformation and Resilience Research Cluster members on a field trip to Orkney

Science and Heritage Programme

Objectives of the Programme

- To engage a broad spectrum of museums, galleries, libraries, archives, heritage organisations and universities
- To bring together heritage science across arts and humanities, science, engineering and technology
- To address significant research challenges beyond narrow institutional interest
- To **build capacity** through **interdisciplinary research** projects and by training young researchers

Science and Heritage Programme Students at the Collaborative Research Studentship Symposium in Oxford 2011

Science and Heritage Programme

Research Themes

1. Nature of transformation - material science
2. Authenticity, authentication and security - security
3. Interpretation and representation - access
4. Cultural encounters and explorations - values
5. Human and machine interfaces - technology
6. Resilience and adaptation - environment

Dr Phillip Lindley of the Representing Reformation project examines a Tudor tomb

Dr Lorraine Gibson – Heritage Smells! Image © Graham Fleming

Dr Louise Jones records soil moisture levels

Science and Heritage Programme

National Heritage Science Strategy

- Set up with the support of English Heritage in October 2008
- Four reports produced: 3 ‘evidence base’ reports and a final strategy document
- The Strategy had two main aims:
  1. To demonstrate the public benefit of heritage science and to increase public engagement and support for it;
  2. To improve partnership within the sector and with others by increasing collaboration and to help practice make better use of research, knowledge and innovation and to enhance resources, funding and skills.
- Main conclusion of the strategy document was the creation of a **National Heritage Science Forum** to assist in the implementation of the strategic objectives.

The four National Heritage Science Strategy reports

Science and Heritage Programme

National Heritage Science Forum

- Created to address the recommendations of the House of Lords Science and Technology Select Committee Inquiry on Science and Heritage and to implement the National Heritage Science Strategy

- Its objectives are to:
  - Demonstrate the **public benefit** of heritage science and increase public engagement and support for it
  - Improve **partnerships** within the sector, increasing collaboration and for sharing good practice
  - Act as a **voice for the heritage science** sector to Government and other strategic bodies
  - Provide a **digital platform** for the publication of heritage science research, knowledge exchange and collaboration
  - **Strengthen links** with other sectors

National Heritage Science Forum

Science and Heritage Programme

Centre for Doctoral Training in Science and Engineering in Arts, Heritage and Archaeology (SEAHA).

- EPSRC's single largest investment to date in heritage science and engineering research
- A collaboration by three universities, led by UCL with the universities of Oxford and Brighton
- will "recruit graduates with an aptitude for and understanding of science or engineering that they can apply to the arts, heritage and archaeology sectors to advance knowledge in heritage science that underpins understanding and protection of cultural heritage"
- Pioneering a new research model to nurture at least 60 heritage scientists and engineers, for possible career paths in heritage, industry and policy.
- 49 organisations are already committed to working in partnership with SEAHA, including eminent international museums and galleries, business and industry partners and training institutions

SEAHA
CENTRE FOR DOCTORAL TRAINING IN SCIENCE AND ENGINEERING IN ARTS HERITAGE AND ARCHAEOLOGY

Science and Heritage Programme

Summary and Future Strategies

My vision is that within 10 years, heritage science in the UK will become widely accepted both as a concept and a reality, as environmental science is today.

For anyone else mapping and implementing a vision for science and heritage as we have done in the UK, it is necessary to build on firm foundations by checking the resilience of heritage science today.

I recommend to you three indicators for this check:

Do we have well developed political systems supporting heritage science?
Do we have well developed institutional systems?
Do we have well developed technological support for heritage science?

Science and Heritage Programme

Links to further information

- SEAHA website - www.seaha-cdt.ac.uk
- Science and Heritage Programme website - www.heritagescience.ac.uk
- Follow @HeritageScience on Twitter for latest updates
- Project data stored at ADS http://archaeologydataservice.ac.uk/
- Science and Heritage Programme YouTube channel http://www.youtube.com/scienceandheritage
- National Heritage Science Forum website - http://heritagescienceforum.org.uk/
- House of Lords Science and Technology Committee report on Science and Heritage, http://www.publications.parliament.uk/pa/ld200506/ldselect/ldsctech/256/256.pdf

Science and Heritage Programme