



**Science and Heritage
Programme**

**Details of the call for
Collaborative Research Studentships
in Science and Heritage**

October 2007



AHRC/EPSRC Collaborative Research Studentships in Science and Heritage

This call is for joint AHRC/EPSRC Collaborative Research Studentships in the area of Science and Heritage.

The aim of these awards (known as CASE by some Research Councils) is to promote partnerships and research collaboration between academia and other bodies. The awards will offer doctoral students the chance to conduct their research in collaboration with a non-academic body, and to gain experience of work outside the academic sphere.

The awards made under this competition will be co-funded by AHRC and EPSRC. This competition is the first call to be made under the cross-Council Science and Heritage Programme (see below for the programme's rationale) and as such, all awards will need to engage with, and contribute towards the long-term aims of the programme.

The closing date for this competition is 16.00 on **Thursday 6th December 2007**.

The Science and Heritage Programme - Rationale

The Science and Heritage Programme is being established in order to take forward recommendations made by the House of Lords Science and Technology Select Committee inquiry on Science and Heritage. This Programme will draw on a range of expertise and resources in order to transform the ways in which cultural material change and its conservation is understood for the benefit of all in the future. One of the aims of the Programme will be to develop the research community by building capacity and supporting new researchers, hence this call for studentships.

Science and heritage has been recognised as a field of scholarly research, as the foundation of improved heritage management, as a source of educational interest and for the potential to deliver direct as well as indirect economic benefits. As the juxtaposition of arts and humanities and science, technology and engineering, science and heritage matter because they mirror the complexity of the human intellect which is fascinated by, and capable of making an integral and elegant whole of two separate but complementary parts.

Such ideas sound contemporary, but they are not new. Light and colour, computer science and architecture, chemistry and paintings, DNA and conservation treatments, technology and artefacts, engineering and restoration – the human drama inherent in scientific investigation in the field of cultural heritage has been the experience of some, but not many. The test for this Programme is to advance and expand knowledge critically and creatively through wholly interdisciplinary engagement, challenging unrelated disciplines to come together to solve complex problems that could not be solved by the efforts of one discipline or related disciplines alone. It will break new ground by bringing together researchers not only from different disciplines but also from different institutional environments, who will engage in dialogue with practitioners and managers who will be challenged to articulate the conservation questions that scientific research will attempt to address. The aim is to

focus on the material changes that cultural heritage will endure as the 21st century unfolds. The Programme will extend the scope and deepen the focus of enquiry by scientific study of cultural heritage expressed as individual or groups of archives, libraries or museum objects or collections, their locations whether outside or inside buildings as well as other structures and their context. It will do so for both moveable and immovable heritage and be informed by current debates on value, access and use of heritage.

Research of the highest quality, inventively conceived, rigorously pursued, imaginatively produced and well disseminated, will enrich understanding of science and heritage through a focus on the following themes:

- *defining the baseline for measuring physical changes to buildings, collections and sites – characterising the condition of materials and assemblages*
- *understanding human effects on buildings, collections and sites – the human/materials interaction*
- *understanding how the environment (air, water, soil) causes physical change to buildings, collections and sites – the environment/materials interface*
- *understanding extreme social and environmental impacts on materials and assemblies - conservation solutions for the 21st century.*

What is meant by Science and Heritage?

This is not a settled matter, indeed it is a question implicated in all the research themes of this Programme, but as a starting point, to set out the scope of the Programme, it may be useful to deal with terminology. Science and heritage are coupled throughout this specification to indicate the programme's interdisciplinary range. Taken together science and heritage includes the characterisation and understanding of material change of individual objects, buildings and sites, the impact of the close relationship among objects, buildings and sites and their physical, chemical and biological relationship with the environment and humans, both routine and extraordinary. Conservation science, that is conservation-led investigations, are taken to be integral to science and heritage including research that addresses the range of uses of heritage from exhibitions to preservation in situ which are part of the Programme insofar as they can lead to improvements in conservation practice.

The Programme aims to enhance end-user interaction with science and heritage, both critical and creative. The Programme welcomes research between science and heritage which is theoretical, exploratory, experimental or practical. It is recognised that the meaning of heritage within and between communities that use it, can be complex. The Programme intends that research will address how value and significance as well as access and use are conditioned by material change of mixed heritage types such as historic buildings, sites and collections of objects, libraries or archives.

Details of the AHRC/EPSRC Collaborative Research Studentships in Science and Heritage

Collaborative research studentships provide opportunities for PhD students to gain first hand experience of work outside an academic environment. The support provided by both an academic and non-academic supervisor enhances the employment-related skills and training a research student gains during the course of their award.

The studentships also encourage and establish links that can have benefits for both collaborating partners, providing access to resources and materials, knowledge and expertise that may not otherwise have been available and also provide social, cultural and economic benefits to wider society.

The awards made under this call are looking for ways of working that produce truly interdisciplinary research in the area of Science and Heritage that is of the highest quality, inventively conceived, rigorously pursued, imaginatively produced and well disseminated.

To be eligible, all projects should be in the area of Science and Heritage but should fall within the AHRC's and EPSRC's subject domain. There will be no priority areas but there are recognised gaps in Science and Heritage research. Applications in the following interdisciplinary areas, identified through a preliminary survey of a number of national and international agendas, reports and strategies, are therefore encouraged:

- Development of novel conservation approaches to foster integration of public perception of heritage, heritage management and scientific investigation
- Development of decision-making methodologies and tools for hazard recognition, and quantification and prioritisation of a range of risks to heritage, including cultural and physical
- Damage probabilities, conservation consequences and the impact on the value of heritage due to extreme weather effects and future climate change
- Cross-field monitoring (eg. interactions among different ageing/decay mechanisms), that bring together different metrics used by different disciplines (e.g. conservators and engineers)
- Development of fail-safe technologies for monitoring the physical condition of heritage in remote or inaccessible locations
- Development of non-destructive/micro destructive techniques leading to improved conservation treatments and an assessment of the impact on conservation ethics (e.g. interface between historic and new materials and the environment; the development of nano- and biotechnology applications)
- Monitoring and predictive modelling of real complex phenomena (e.g. indoor/outdoor assessment of the vulnerability of materials and/or the performance of assemblies) leading to new or improved standards and tools for better understanding of rates of change

Who Can Apply?

1. Applications should be made jointly by a department in a recognised HEI and a non-academic organisation from the private*, public or voluntary sector.
(*A private sector company is defined as being at least 50% privately owned with a 'wealth creation' base in the United Kingdom).

2. **To be eligible to apply to this competition, the HEI must be the recipient of an EPSRC Doctoral Training Grant (DTG).** Further information on EPSRC's DTGs can be found [here](#). If you are in any doubt over your HEI's eligibility you are advised to discuss this with your Head of Department/DTA co-ordinator.
3. The word 'organisation' is used as a generic term and should be interpreted as widely as possible. The AHRC and EPSRC wish to encourage collaborations from any area within their subject remit and with a full range of organisations, bodies, businesses and SMEs, including the heritage, cultural and other industries, both large and small and to include sole traders and partnerships.
4. The non-academic partner must have an operating base in the UK.
5. Please note that a museum, gallery, archive or library that is part of an HEI or a company or organisation that is deemed to be a spin-off or is supported by an HEI is not eligible to apply in this scheme.
6. There is no limit on the number of collaborative proposals that can be submitted by, or awarded to, an HEI and a partner organisation or organisations. Similarly a non-academic organisation may be collaborating with a number of different HEIs.
7. To be eligible, all projects should be in the area of Science and Heritage but should also fall within the AHRC's and EPSRC's subject domain.

Level and value of award

8. These awards will be jointly funded by the AHRC and EPSRC. The AHRC part of the award will be made as a separate award to the HEI; the EPSRC share of the award will be made through the earmarking of one, half of a studentship from the HEI's EPSRC DTG. Prospective students will need to fulfil the same residency and eligibility criteria that apply to all studentships awarded by the Research Councils, and the operation of the studentship will be in line with the DTA/DTG terms and conditions operating at the time of the DTG award to the institution. Consequently, institutional eligibility is restricted to recipients of EPSRC's DTGs.
9. Each HEI wanting to apply will therefore be required to earmark/ring-fence **one, half studentship from its 2008 EPSRC DTG for each application submitted prior to the official offer letter being sent to the HEI.**
10. Any HEI not in receipt of an EPSRC DTG is advised to submit a proposal to the AHRC's Collaborative Doctoral Awards competition instead.
11. **Around 10 awards will be made under this competition. It is expected that the final awards will cover a broad range of projects and extend across a range of communities and HEIs.**
12. The AHRC will offer one half of a standard, full-time doctoral award in line with the AHRC's usual eligibility requirements e.g. full time, part time or fees only. It is expected that students will be in receipt of at least the national minimum stipend. Payments of rates above this, or additional payments beyond the 3 year (full time) or 5 year (part time) duration of the award, are at the discretion of the university. For guidance purposes, in the 2007/2008 academic year a standard full time full award amounts to £12,600 maintenance (outside London) and a maximum tuition fee contribution of £3,240. Collaborative Research Student award holders also receive an additional payment of £500 per annum.

13. The non-HEI partner is expected to make an additional maintenance payment to the student which the Councils recommend should be at least £1000 per annum. In addition the non-HEI partner should cover extra costs incurred by the student as a direct result of working in or visiting its establishments.
14. Full time students will be funded for a maximum period of 3 years and need to submit their thesis within 4 years of the start of the award. Part time students will be funded for a maximum period of 5 years and need to submit within 7 years.

Submission of Applications

Please send the completed application form, with original signatures, and **eight** copies to the AHRC to arrive by 16.00 on **Thursday 6 December 2007**. We cannot accept applications sent electronically or by fax, nor can we accept late, incomplete or unauthorised applications. The postal address for applications and contact details for enquiries are as follows:

Science and Heritage Programme Team
Arts and Humanities Research Council
Whitefriars
Lewins Mead
Bristol
BS1 2AE

Enquiries about the scholarly content of the Science and Heritage Programme should be directed to the Programme Director, Professor May Cassar, at the contact address below:

Professor May Cassar
Director, 'Science and Heritage Programme',
UCL Centre for Sustainable Heritage
The Bartlett School of Graduate Studies
(Torrington Place Site)
University College London
Gower Street, London WC1E 6BT, UK

Tel +44 (0) 20-7679-1780
E-mail: m.cassar@heritagescience.ac.uk

Enquiries about the application process and the Councils' remits should be directed to one of the people below:

Research Awards Officer

Christine Bennett e-mail: c.bennett@ahrc.ac.uk Tel: 0117 987 6684

Senior Awards Officer

Karen Buchanan e-mail: k.buchanan@ahrc.ac.uk Tel: 0117 987 6676

Programme Manager

Gail Lambourne e-mail: g.lambourne@ahrc.ac.uk Tel: 0117 987 6670

EPSRC remit queries should be directed to:

Louise Tillman e-mail: Louise.Tillman@epsrc.ac.uk Tel: 01793 44 4510

AHRC/EPSRC Collaborative Research Studentships in Science and Heritage

Application process

15. The aim of this AHRC/EPSRC Collaborative Doctoral Award in Science and Heritage is to promote partnerships and research collaboration between academic researchers in the arts, humanities, engineering and physical sciences, and other non-academic bodies and to establish long-lasting and fruitful partnerships. It also enables doctoral students to conduct their research in collaboration with a non-academic organisation, and to gain experience of work outside the academic sphere.
16. The partners must jointly complete and submit the application form which can be downloaded from the AHRC website (www.ahrc.ac.uk). Full guidance notes accompany the form but if you have any further questions not answered in the documentation then please contact the AHRC (see below for contact details).
17. **Applications should be made to the AHRC by Thursday 6th December 2007** by the relevant academic department in partnership with a collaborating organisation. Those partnerships successful in being allocated a collaborative studentship will then be responsible for appointing appropriately qualified research students (see paragraph below), and for informing the AHRC of such appointments. The Councils will apply the same eligibility criteria in terms of the student's residence and academic qualifications as are applicable in the annual open competition for doctoral awards.
18. The AHRC and EPSRC expect the student appointed to the studentship to be adequately prepared in order to undertake research at doctoral level. It is expected that doctoral applicants will have completed, or will have completed by the start date of the studentship, a formal Master's level qualification, ideally in science. If the student does not have a formal qualification, the student and the institution will need to demonstrate sustained scientific research experience beyond first degree level which **exceptionally** qualifies him/her to proceed to doctoral study.
19. Applicants will be required to demonstrate that a true relationship exists between the partners and that it is an equal partnership with mutual benefits.
20. A lead applicant from both the HEI and the non-academic organisation must be identified and both must have the permission of their Head of Department and their respective organisations to enter into a collaborative working arrangement prior to making an application. The lead applicant from the HEI must also arrange for one, half studentship to be earmarked/ring-fenced from its 2008 EPSRC DTG prior to application.
21. The person designated as the lead applicant from the HEI will be deemed by the AHRC and EPSRC to accept the overall responsibility for the progress, management and leadership of the project.
22. Partners should not underestimate the level of commitment required in entering into collaborative working arrangements both in terms of the length of the project and the hours involved in supervising the research student. Experience has shown that the supervision of research students who are working on a CDA project does involve an increased workload in comparison to the supervision of a standard doctoral student. In relation to the length of the

commitment, partners must be prepared to commit to the project for the full length of the award at least up to the submission of the research student's thesis.

23. The academic department and collaborating organisation will be asked to formulate a suitable research topic in the area of Science and Heritage and then to submit to the AHRC an application form, by the closing date, that provides details about the research project and the timetable for completion. This includes information about the field of research and the purpose of the project.
24. Whilst projects need to have definition and focus, the AHRC and EPSRC are keen to ensure that the selected student also has some involvement in the final formulation of research questions and methods and such details can be provided later on the student nomination form.
25. Applicants will also be required to provide information about the supervisory and research training arrangements, and about any previous experience either party has of collaborative awards. The application form will ask for information on context, usefulness and possible applications of the research, looking at plans for dissemination and the anticipated outcomes of the research, highlighting the intellectual as well as the commercial or public service benefits envisaged.
26. The application will also provide information about the non-academic organisation's relevant areas of activity and their research activities. The area of science and heritage that is the subject of the collaborative studentship will need to fall within the AHRC's and EPSRC's subject domain.
27. A central element of the application will be the description of the supervisory and training arrangements for each studentship sought. Both the academic department and the partner organisation are required to provide reassurance that robust procedures are in place at each to support the student, and to appoint a supervisor in each whose area of research expertise is closely related to the student's research topic. Both bodies will have to provide reassurance about the measures in place to deliver research training that is relevant to the student and their topic and to encourage development of key and transferable skills, but the academic supervisor will be required to take overall responsibility for the academic progress of the student. Satisfactory information will also have to be provided about the systems for monitoring the student's progress, assessing their continuing development needs, and delivering and reviewing the provision of agreed training. The Council will also seek evidence that the collaborating organisation will make available to the student any other relevant support and facilities. You should also refer to the RCUK's joint statement on skills training requirements
http://www.ahrc.ac.uk/university_staff/postgrad/research_training_framework.asp

Assessment criteria

28. Applications must meet the aims of this Collaborative Research Studentships competition, which are:
 - to undertake high-quality postgraduate research in the area of science and heritage and so have the potential to build capacity and encourage new researchers in HEIs and/or heritage institutions and/or as practitioners
 - to encourage collaborations from any area of Science and Heritage, within the AHRC's and EPSRC's subject remit, and with a full range of organisations, bodies and

businesses and SMEs, including the heritage, cultural and other industries, both large and small, and to include sole traders and partnerships.

- to encourage and develop collaboration between HEI departments and non-academic bodies.
- to establish links that can benefit both collaborating partners, providing access to resources and materials, knowledge and expertise and which also provide cultural, economic and social benefits to wider society.
- to provide opportunities for PhD students to gain first hand experience of work outside an academic environment, with the student supported by both an academic and non-academic supervisor, and to enhance the employment related skills and training a research student gains during the course of their award.

29. Applications for Science and Heritage Collaborative Research Studentships will be judged by the following assessment criteria. Applicants must demonstrate that:

- The project provides genuine scope for high quality interdisciplinary doctoral research in the area of science and heritage.
- The project provides a good fit with the aims of the Science and Heritage Programme.
- There is the awareness and development of transferable, rigorous research skills that can be used in different areas of science and heritage.
- The proposed project is achievable within the given timeframe and the collaboration is appropriate and viable.
- There are real and tangible benefits to be gained from the collaboration for both partners as well as the student.
- There are clear procedures for the recruitment of a suitably qualified student to undertake the research.
- Both the HEI and the partner organisation will ensure that the student receives a high standard of appropriate supervision and that specific training requirements tailored to the subject area of the project and experience of the student will be identified, met and regularly reviewed.
- Applications must also provide evidence that: both the HEI and non-HEI organisation have arrangements in place for monitoring the progress of the project and student and that any necessary resources will be made available.
- A partnership agreement will be put in place and issues such as confidentiality and intellectual property rights have been, or will be addressed.

Assessment process

30. **Members of a specially convened panel will assess and grade the applications during January to identify which applications for collaborative awards are to be supported.**

31. Applicants will be informed of the outcome of their application by mid **February 2008**. A student nomination form will then be provided for those projects that are successful. Successful applicants will be required to provide details of their nominated student for each project by **18 July 2008**.

32. Funding for the EPSRC half of the studentship will be earmarked for the purposes of a Science and Heritage Collaborative Research Studentship in the 2008 DTG offer letter.
33. Once the AHRC has approved the nomination the award will be confirmed and will commence on **1 October 2008**.
34. The successful applicants will be required to select jointly an appropriate student through an open, competitive process. Once a suitable candidate has been identified, the student and supervisor will be required to provide information on a student nomination form, provided by the AHRC, about the eligibility and proposed research of the student for the Council to approve and for final confirmation of the award to be made.
35. The collaborating organisation will normally be required to make an annual payment to the student in addition to the maintenance grant provided by the AHRC/EPSRC DTG. Where the studentship is held by a fees-only or part-time student the collaborating organisation can choose to pay this additional maintenance payment at their discretion. The collaborating organisation is also required to cover any additional expenses (such as for travel and equipment) incurred by the student as a direct result of working at the partner organisation.
36. The AHRC will require the completion of an annual progress report, by the student and both the academic and non-academic supervisors. These reports, which will need to be submitted each summer, will enable the AHRC and EPSRC to monitor both the progress of the student and the project/collaboration itself. Continuation of the award into the next academic year is dependent upon the annual report showing that satisfactory progress has been made by the student.
37. The student will be required to engage fully with the wider programme and activities, as well as other activities appropriate to the project. This may include giving presentations on their progress at Science and Heritage Programme events, and also presenting their work in other contexts. It may, therefore, be worth considering setting up an advisory group or committee with representatives from both organisations and other stakeholders to help monitor or oversee the project, although this may only be feasible for larger or ongoing projects or collaborations.

Further Information:

For further reading and general guidance about setting up and running successful collaborations we recommend the following documents:

Partnerships for Research & Innovation Between Industry and Universities: A Guide to Better Practice: available on the AURIL website at:
<http://www.auril.org.uk/publications/>

On the Case: a useful best practice guide to collaborative awards produced by the Economic and Social Research Council and based on the experiences of its collaborative award holders. Although written for collaborators in the social science area, there is much of a general nature that is useful for those starting out on a collaborative project. Available on the ESRC website at:
<http://www.esrcsocietytoday.ac.uk/ESRCInfoCentre/opportunities/postgraduate/>