

# SEAHA

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

## SEAHA Studentship: Extracting epidemiological data from collections

The research project will explore the use of state-of-the-art digitisation, data capture and analysis, modelling and computational image analysis methods. These will be used in a very cross-disciplinary context, working with non-specialists in data capture and collection, as well as with heritage managers, addressing the challenge of understanding the slowly accumulating material change and degradation by studying data recorded in the processes of conservation documentation or images recorded by visitors ('crowd').

This is an exceptionally exciting project for candidates looking to build expert skills in image analysis, coding and computational modelling. The successful candidate will have a good first degree in a relevant discipline: preferably engineering, computer science, physics, mathematics, and other subjects where a good knowledge of modelling is required.

Building on the hypothesis that functions of material change can be derived from historic climate data and object documentation obtained over long periods of time. Greater precision and lower uncertainty can therefore be obtained by gathering real time data from climate monitoring and photography generated at higher frequency, potentially using crowd-sourcing.

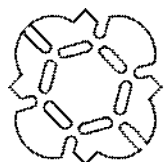
The following concrete research questions are of interest:

- (i) What kind of historic and anecdotal data can be utilized for the purpose of understanding material change over time, e.g. conservation reports, photographs, climate data? How can different data types (analogue and digital), possibly coming from different institutions be harvested and interpreted?
- (ii) What new approaches to photographic data collection and computational image analysis are required to provide a record of the response of objects to climatic conditions?
- (iii) Can a set of guidelines be designed to assist conservators in recording damage caused by environmental degradation agents?

The project is part of the EPSRC Centre for Doctoral Training in Science and Engineering in Arts, Heritage and Archaeology at University College London, University of Oxford and University of Brighton ([www.seaha-cdt.ac.uk](http://www.seaha-cdt.ac.uk)), in collaboration with the Getty Conservation Institute and English Heritage. Funded by the Engineering and Physical Sciences Research Council (EPSRC) through the Centre for Doctoral Training and co-funded by the Getty Conservation Institute, the four year doctoral research programme will be supervised jointly by UCL Institute for Sustainable Heritage (<http://www.bartlett.ucl.ac.uk/heritage>), UCL Department of Civil, Environmental and Geomatic Engineering (<http://www.cege.ucl.ac.uk/Pages/default.aspx>), The Getty Conservation Institute (<http://www.getty.edu/conservation/>) and English Heritage (<http://www.english-heritage.org.uk/>). For further details contact Professor Matija Strlic, [m.strlic@ucl.ac.uk](mailto:m.strlic@ucl.ac.uk).

As a SEAHA student, you will have unparalleled access to research infrastructure and expertise across three universities and almost 50 heritage, research and industrial partners. In addition to the university doctoral training requirements, SEAHA students take part in an exciting range of cohort activities, ranging from residential events and group projects, to conferences and careers events. Please visit the SEAHA website ([www.seaha-cdt.ac.uk](http://www.seaha-cdt.ac.uk)) for details.

SEAHA is a Doctoral Training Centre at University College London (UCL), University of Oxford, and University of Brighton. SEAHA is funded by the Engineering and Physical Sciences Research Council (EPSRC).



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This project will enable you to seek employment in any number of diverse and challenging environments: from academia to engineering and industry.

The SEAHA Studentship will cover home fees and a stipend of up to a maximum of £16,726 per year (current rate) for eligible applicants (<http://www.seaha-cdt.ac.uk/opportunities/eligibility-criteria/>), and a substantial budget for research, travel, and cohort activities.

The application should include:

- A covering letter clearly stating your motivation
- The UCL graduate application form which can be downloaded via UCL's web site: <http://www.ucl.ac.uk/prospective-students/graduate/apply/apply-now/ucl-graduate-application-form.pdf>
- Two academic references
- A copy of your degree certificate(s) and transcript(s) of degree(s),
- Proof of meeting the UCL English language proficiency requirements where necessary. For SEAHA candidates, an advanced level certificate is normally required (details of English language proficiency requirements can be found at <http://www.ucl.ac.uk/prospective-students/graduate/apply/english-language/index>)
- A short research proposal (max. 2000 words) written by taking into consideration the above research questions.

The award will be subject to Grant Agreement between The Getty Conservation Institute, English Heritage, and UCL.

The applications should not be submitted by UCL online admissions system. Instead, they should be sent directly to:

SEAHA Manager  
[manager@seaha-cdt.ac.uk](mailto:manager@seaha-cdt.ac.uk)  
UCL Institute for Sustainable Heritage  
Faculty of the Built Environment  
UCL  
14 Upper Woburn Place  
London WC1E 0NN

UCL Taking Action For Equality.

Application deadline: 1 March 2015.

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