



SEAHA

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

Fully Funded Studentship:

Comparison of painting lining methods for historic house environments

Due to the tight restrictions that surround modifications to historic houses and built heritage, it is not possible to carefully control the environment of paintings on public display. As a consequence, wide relative humidity (RH) fluctuations generate physical stresses within such paintings, often exacerbated by the interactions between original composite materials and historic re-lining techniques. This prestigious, cross-disciplinary studentship will bring together aspects of material science, engineering and cultural heritage, with a view to developing best practice guidelines for condition monitoring and conservation.

The successful candidate will investigate current re-lining treatments for canvas paintings, monitoring their suitability for use in uncontrolled environments through the application of a range of mechanical and spectroscopic techniques, including digital image correlation, dynamic mechanical analysis, nuclear magnetic resonance and near infrared spectroscopy. The successful candidate will have a first or upper-second class degree in engineering, material science, chemistry, physics, conservation or heritage science. A keen interest in cultural heritage is desirable. This diverse project will enable you to seek employment in any number of disciplines from academia to industry, including engineering and heritage science.

The doctoral project will address the following research questions:

- (i) Which re-lining methods perform best in historic house environments?
- (ii) Can a damage function be developed to describe the physical risk to paintings in terms of the environmental parameters?
- (iii) How beneficial is back-boarding without glazing?
- (iv) Can the lining be analysed non-invasively using near infrared (NIR) spectroscopy/single-sided nuclear magnetic resonance (NMR) to determine the state of conservation and remaining lifetime?

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), in collaboration with English Heritage and LaVision UK Ltd, are seeking applications for one fully funded studentship on the topic "Comparison of painting lining methods for historic house environments". Co-funded by the Engineering and Physical Sciences Research Council (EPSRC) through the Centre for Doctoral Training and English Heritage, the four year doctoral research programme will be supervised jointly by UCL Department of History of Art (<http://www.ucl.ac.uk/art-history>) UCL Institute for Sustainable Heritage (<http://www.bartlett.ucl.ac.uk/heritage>), EH Collections Conservation Team (<http://www.english-heritage.org.uk/professional/research/heritage-science/collections-conservation/>), and LaVision UK Ltd. (<http://www.lavision.de/en/>). For further details contact Dr Emma Richardson, e.richardson@ucl.ac.uk, the principal academic supervisor.

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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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) for details.

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. International applicants (non-UK, non-EU) are not eligible.

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 UCL, English Heritage and LaVision UK Ltd.

Applications should not be submitted by UCL online admissions system. Instead, they should be sent directly to the SEAHA Centre Manager: manager@seaha-cdt.ac.uk

Postal Address:

SEAHA Centre Manager
UCL Institute for Sustainable Heritage
The Bartlett School of Environment, Energy and Resources (BSEER)
4th Floor, Central House
14 Upper Woburn Place
London
WC1E 0NN

Application deadline: Midnight (GMT), 1st March 2015

UCL Taking Action For Equality.

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