**Art Fund Technical Examination Network Pilot**

CALL FOR PROPOSALS

Technical examination of paintings offers huge potential for museums and galleries to discover more about works in their collections. Investigating the processes, materials and techniques of making can provide greater understanding of how, why, when and where a work of art was produced, and also any changes over time, allowing insight into the artist’s original intentions. Many new non-invasive analytical imaging techniques have become available in recent years, such as X-ray fluorescence scanning and hyperspectral imaging, enhancing and complementing long-established tools such as infrared reflectography, X-radiography and paint sample analysis.

However, only a few major institutions in the UK have access to these facilities. This *Technical Examination Pilot* supported by Art Fund will offer the fully funded opportunity to propose a painting for technical examination by the highly experienced and well-equipped scientific teams at the National Gallery, London, Courtauld Institute of Art and Hamilton Kerr Institute, Cambridge.

Pilot overview

The ‘project’ (painting examination) will take place at one of the three institutions where it will be possible to access the full range of instruments they have in-house, and to use multiple complementary techniques for the examination where appropriate (see application form). Projects will be framed as inter-disciplinary collaborations where scientists, conservators, curators and art historians from all the institutions involved work together, including on the interpretation of the results, as led by the art-historical or conservation research questions.

What type of project(s) are eligible and what is offered?

This opportunity is aimed at public collections without in-house resources for scientific examination, or without access to the more advanced techniques. The programme will support projects with the most interesting and urgent research questions and that have a strong chance of benefitting from technical examination. It will prioritise projects that have:

* Compelling plans for how the technical examination and findings from it will benefit their audiences, for example through displays, exhibitions, or digital media.
* Potential for new discoveries about a poorly understood painting in a collection, or a work that has not been regularly displayed.
* Potential to offer wider opportunities for research activity beyond basic assessments of condition (although complex conservation projects or condition questions will be considered).

We do not expect applicants to have existing knowledge of technical examination, or to know which techniques would best answer the research questions. An email Helpdesk is available for initial enquiries and to help applicants formulate proposals, including advising on feasibility of the technical examination (can the proposed question be answered etc) and which instruments or technologies should be requested. *We strongly advise you to contact the email Helpdesk service when you begin to prepare an application*.

Transport and insurance for the painting will be covered in addition to the technical examination.

**How to apply**

Please complete the Application Form below; guidance for applicants is also provided.

Application form

Guidance for applicants

*Eligibility and assessment criteria*

This opportunity is aimed at public collections that do not have in-house resources for scientific or technical examination of paintings.

We aim to select projects with the most interesting and urgent questions and with a strong chance of benefitting from technical examination. Another important criterion will be timeliness and relationship with an institution’s plans for exploitation of the results for demonstrable public benefit, whether through displays, exhibitions, or digital media, or in support of a conservation treatment or understanding of condition.

We will prioritise projects that are likely to have most impact in furthering understanding of a painting, such as enabling new discoveries about a work that is poorly understood, and those that offer wider opportunities for research, beyond basic assessments of condition (although complex conservation projects or condition questions will be considered).

The proposal should outline the research questions in non-technical language rather than only listing the techniques that you wish to access. While each project can draw on the full range of instrumentation in the consortium, using multiple complementary techniques for the examination, consideration will be given as to which would be suitable for addressing the key questions. A list of the methods offered is given in the Appendix to this proposal. The Helpdesk is available for advice on which techniques to request and will assist you in matching these to your research questions as well as providing advice on technical feasibility; please contact [marika.spring@nationalgallery.org.uk](mailto:marika.spring@nationalgallery.org.uk)

Deadline for applications: 2 December 2024

Proposal form

1. **Project title**:
2. **Project leader**
3. Name, title and position
4. Institution and its address
5. Email contact details
6. **Details of painting to be examined**
7. Artist, title, date,
8. Support and size
9. Ownership
10. Ownership consent – if appropriate, please indicate if you have received permission and support from the owner for the proposed technical examination, including evidence.
11. Web page address where a description of the painting can be found (if applicable):
12. **Research questions (background, aims and objectives)** (max 1000 words)

Describe here your research questions, including any relevant background, as well as the aims and objectives of the technical examination. Please mention any previous technical examination of the painting.

1. **Description of the planned work and requested examination techniques** (max 500 words)

Outline here what technical investigations you are requesting – please consult the Helpdesk if in doubt as to feasibility and appropriate choices.

1. **Expected achievements, impact and dissemination plans** (max 500 words)
2. **Bibliographic References (max 10)**

Appendix 2: Instrumentation held by National Gallery, Courtauld Institute and Hamilton Kerr Institute

*Non-invasive (imaging and point analysis) directly on painting*

* Visible light imaging (including high-resolution)
* UV imaging
* X-radiography
* Infrared reflectography and photography
* Macro X-ray fluorescence (XRF) scanning
* Point XRF analysis
* Reflectance imaging spectroscopy (hyperspectral imaging); 400–2500 nm spectral range)
* Fibre optic reflectance spectroscopy (FORS)
* Light microscopy and photomicrographs
* HIROX 3D Digital Microscopy
* 3D imaging (LUCIDA scanner)

*Paint sample analysis*

* Paint sampling and cross section preparation
* Light microscopy with visible and ultraviolet illumination
* Energy dispersive X-ray analysis in the scanning electron microscope (SEM-EDX)
* FTIR microscopy (transmission mode or ATR-FTIR micro-spectroscopic imaging on paint cross-sections)
* Raman microscopy
* Gas chromatography – mass spectrometry (GC-MS)
* High performance liquid chromatography (HPLC)