

Open Ph.D. Position at the Chair of Conservation-Restoration, Art Technology and Conservation Science

The new insiTUMlab, analytical infrastructure for non-destructive in-situ studies of Cultural Heritage part of the Chair of Conservation-Restoration, Art Technology and Conservation Science, TUM School of Engineering and Design is looking for a Ph.D. student to the earliest possible date. This is a three (+1) years part-time position (75%, TVL-13) funded by the Deutsche Forschungsgemeinschaft (DFG).

Your responsibilities:

- Set up and testing of our new dual sensors hyperspectral imaging system (VNIR and SWIR range) for the non-invasive analysis of different materials of historical relevance (e.g. colorants/synthetic organic pigments; natural and synthetic polymers used in restoration).
- Development of hyperspectral data treatment protocols using modern software (e.g. ENVI).
- Implementation of data fusion algorithms for the combination of the information obtained by means of the VNIR and SWIR hyperspectral cameras and the X-Ray Fluorescence scanning system.
- Optimizing and implementing the new methodology for the in-situ investigation of three (or more) different case studies/supports:
 - Oil paintings in collaboration with the *Doerner Institut – Bayerische Staatsgemäldesammlungen* e.g. as part of the Venetian painting cataloguing project.
 - Wall paintings of the Magdalen chapel of St. Emmeram, Regensburg as well as the Mural Painting Cycle in the in the *Brandenburger Domklausur* in collaboration with the HAWK University in Hildesheim, Holzminden and Göttingen (DFG-funded Project).
 - Architectural surfaces: Siedlung GERN, Munich in collaboration with the *Bayerische Landesamt für Denkmalpflege* and the TUM Chair of Concrete and Masonry Structures.
- Assisting the principal investigator and the post doc in the implementation of the new insiTUMlab infrastructure.
- Researchers, plans, conducts, and documents, the creation of replica exemplar materials as well as artificial ageing protocols, followed by characterization of the artificially aged material.
- Performs literature reviews of scientific and conservation publications, proposing improvements to existing protocols and procedures.
- Writes progress and summary reports, standard operating procedures, and annotated bibliographies on related topics and activities.

- Develops platforms and activities for students and public engagement, as well as writes scientific articles, papers, reports, as appropriate.

Your qualifications:

- We are looking for a highly motivated and enthusiastic PhD student with an excellent M. Sc. or diploma degree in chemistry, physics, material science, conservation science, related disciplines, or equivalent experience (required).
- Proficiency in using ENVI software (preferred).
- Strong interest in analytical techniques as well in historical materials (preferred).
- Experience working in an interdisciplinary environment, specifically with conservators as well as historians, archeologists etc. (preferred).
- Strong command of both written and spoken English (required). A good command of both written and spoken German is preferred. Other languages are welcome.

Our offer:

- Interesting and versatile workplace
- International, attractive, and interdisciplinary working environment.
- Flexible working hours
- Salary according to TV-L including social benefits.
- Possibilities for personal development
- Disabled applicants with equal suitability and qualification will be given particular consideration.
- The TUM is striving to increase the proportion of women and hence applications from women are therefore expressly welcomed.

Your application:

Please send per email a cover letter, at least one letter of reference together with a strong CV and supporting documentation to the Chair of Conservation-Restoration, Art Technology and Conservation Science, Dr. Clarimma Sessa, Oettingenstraße 15, 80538 München **no later than 30. October 2022.**

Contact: Clarimma.sessa@tum.de

Do not hesitate to contact Dr Clarimma Sessa for any questions you may have Phone +49 (89) 21124 – 559/+4915159463259.

As part of your application, you provide personal data to the Technical University of Munich (TUM). Please view our privacy policy on collecting and processing personal data in the course of the application process pursuant to Art. 13 of the General Data Protection Regulation of the European

Union (GDPR) at <https://portal.mytum.de/kompass/datenschutz/Bewerbung/>. By submitting your application you confirm to have read and understood the data protection information provided by TUM.