



BOOK AND PAPER

CONFERENCE

**CONSERVATION
UNCOVERED**

**INVESTIGATION AND
DISCOVERY IN TREATMENT
AND ANALYSIS**

**LIGHTNING
TALKS**

Artificial Intelligence in Book and Paper Conservation? Evaluating ChatGPT as a Research Tool in Professional Practice

Artificial intelligence tools like ChatGPT are widely used for research and writing assistance, but their role in book and paper conservation is still emerging. This lightning talk explores whether AI can support investigative aspects of conservation practice, particularly for students and early-career professionals seeking guidance in complex treatment decisions. Using practice-based examples such as adhesive removal methods, camera settings for documentation photography, and the formulation of solvent gels, the talk examines how the precision of language and level of expertise in user queries influence the accuracy and relevance of AI-generated responses. When asked with clear terminology and intent, ChatGPT can offer surprisingly helpful suggestions. However, vague or general questions often lead to incomplete or misleading results. A critical concern is the limited availability of high quality conservation information online. AI systems may reproduce content from non-professional sources that do not reflect ethical or scientific standards, potentially causing harm if applied uncritically. This talk invites reflection on the responsible use of AI in conservation. It assesses how tools like ChatGPT might be integrated into professional workflows to support research and decision-making—without compromising the integrity of cultural heritage or professional ethics.





Anika Freitag is a paper and book conservator based in Hannover, Germany. She studied Conservation and Restoration at the University of Applied Sciences and Arts (HAWK) in Hildesheim, including two semesters of her Master's programme at the Polytechnic University of Valencia, Spain. She subsequently worked as a freelance conservator and contributed to a two-year museum depot relocation project. Anika is now employed at the City Archives in Hannover, where her responsibilities include the preservation of archival collections, supervising student assistants, and contributing to the archive's ongoing relocation.

Collective Insight: Research, Collaboration and Conservation in the Korean Scroll Project

This case study explores the repair of six early 20th century Korean scroll paintings at National Museums Scotland. The short 4-month project, funded by the National Museum of Korea, aimed to increase the visibility of Korea collections objects in UK based institutions. The repaired scrolls are due to be exhibited at the National Museum of Scotland, on rotation, over the proceeding years. The conservation work posed a number of challenges, unique to the project, in which a lack of familiarity with the format and materiality of the objects was overcome by working collaboratively with an external specialist in Korean objects. Interdisciplinary elements, involving the use of textiles, were carried out as a collaborative mini project with NMS textile conservation colleagues. In a step away from the traditional, the highly brittle and failing scroll mounts were not able to be removed and replaced, instead alternative solutions were sought that focused on the stabilisation of existing material that would facilitate display. Once an understanding of best practice for Korean objects had been established, treatment could confidently commence. This talk critically evaluates the decision-making process that led to the successful treatment of all six scrolls in a short time frame.





Gemma Mathieson completed a postgraduate MA in the Conservation of Works of Art on Paper at Northumbria University (2014-16) followed by a 3-year traineeship in conservation binding (2017-20). Gemma has since worked in private practice, serving national organisations, as well as a number of institutions across Scotland. Gemma currently splits her time between National Museums Scotland (Assistant Paper Conservator) and the National Library of Scotland in the role of John Murray Archive Project Conservator.

The Influence of Dyeing Assistants on Paper Deterioration: A Case Study Using Glauber's Salt

Synthetic dyes are occasionally used by artists to tone paper, and have also been discussed for use in paper conservation. This raises concerns about the long-term effects of dyeing processes and additives on paper stability. This study investigates the impact of Glauber's salt (sodium sulfate), a common dyeing assistant, on the deterioration of paper. Four groups of handmade paper samples were prepared: (1) dyed with reactive dye and Glauber's salt, (2) dyed without Glauber's salt, (3) immersed only in Glauber's salt solution, and (4) a control group with no treatment. All samples underwent accelerated aging for 21 days. Color change, folding endurance, and surface pH were measured before and after aging. The results showed that Glauber's salt caused noticeable yellowing in the paper samples, suggesting a chemical interaction that contributes to discoloration. However, no significant changes were observed in folding endurance or pH across the groups. The study contributes to a better understanding of the materials that may affect the long-term stability of paper-based artworks and calls attention to the importance of careful selection of dyeing assistants.





Jiayu Hu is a trained paper conservator with a Master's degree in Art Conservation, specializing in Paper Conservation and East Asian paintings. She is currently interning at Graham Bignell Paper Conservation Studio in London, where she supports conservation treatments on a variety of historic and modern works on paper. Previously, she worked as a Conservator at the National Taiwan Museum of Fine Arts, focusing on the care, assessment, and treatment of paper-based artworks, while also collaborating on mixed-media objects such as textiles and sculptures. Jiayu gained experience with traditional Chinese formats during her internship at the National Palace Museum in Taipei and presented her research on Chinese brocade boxes at the 2023 American Institute for Conservation (AIC) annual meeting. She is committed to ongoing learning and knowledge exchange in the field.

Bright Lines: The Identification of Huangbo Applied Beneath Lines of Text in Tibetan Buddhist Manuscripts

Huangbo is a yellow dye extracted from the bark of the Amur cork tree, which has been used to dye paper in China since at least the 7th century. The dye is used for its aesthetic, religious, and insecticidal properties, and has been detected in Tibetan manuscripts dating to the 9-10th century. Huangbo contains the yellow chromophore berberine, which is highly fluorescent and used as a marker for its identification. Traditionally, and in all reports we have found, the entire sheet of paper was dyed with huangbo. However, we have found several instances of Tibetan Buddhist manuscripts in which the dye has been selectively applied to the lines beneath the text. We will present images and analysis of such items from a private collection and the British Library. The aim of this short talk is to demonstrate how we identified the use of huangbo and to solicit input from colleagues around this practice. We have not been able to determine if the application of the dye beneath only the lines of text was carried out due to limited access to huangbo, to highlight specific phrases or names in the text, or for another reason entirely.





Lora Angelova is an independent heritage science researcher and consultant based in Berlin, Germany. She was previously Head of Conservation Research at The National Archives, UK, a conservation science researcher at Tate, and a Newton Fellow at the Material Studies Laboratory in University College London. She holds a PhD in chemistry from Georgetown University in collaboration with the National Gallery of Art, Washington, DC.

Lucia Noor Melita is the Lead Conservation Scientist at the British Library, where she manages the analytical and imaging labs, guiding the technical examination of the Collection and supporting the scientific and conservation research programme. She completed her PhD in Materials Science at UCL. She has expertise in the analysis of a wide range of materials, both traditional and modern, and of museum objects, including paintings, works on paper, photographs, plastics and decorative art. Prior to joining the British Library, Lucia worked as a scientist on modern materials at the V&A and held post-doctoral positions at the British Museum and in the Material Studies Laboratory at UCL.

Melodie Doumy

From Plate to Page to Stage: The Analysis and Conservation Behind the Exhibition 'Audubon's Birds of America'

Audubon's Birds of America Exhibition was first held at National Museums Scotland (NMS), Edinburgh in 2022 and showcased 47 unbound plates from this eponymous artist. Preparing the exhibition gave the conservators a valuable opportunity to examine more closely the materials and techniques of these masterfully printed plates. Working in partnership with students from Northumbria University and the NMS science department XRF, multispectral imaging and microscopic techniques were used to identify many of the pigments used for the hand colouring. These findings underpinned the treatment choices and explained the appearance of some of the colouring. Limited by the covid pandemic an intensive programme of conservation treatment was embarked upon which culminated in mounting and framing the prints for display. This included wet cleaning an extensively water damaged print.

Following the success of the exhibition a tour to three further venues in the UK and USA was arranged. Micro-fade testing was undertaken to determine a light budget for the display duration and to illustrate the limitations required to keep the prints vibrant for future generations. This talk will discuss the many elements that came together to deliver both the exhibition and tour.





Lisa Cumming MA ACR – Paper Conservator National Museums Scotland. Lisa qualified from Northumbria University (MA Conservation of Fine Art) in 1996 following a BA Hons in Illustration. Lisa has worked in various conservation studios in England and Belgium before moving to Scotland where she worked at the National Galleries of Scotland and National Museums Scotland. Lisa has been with National Museums Scotland as Paper Conservator for 23 years working on the full breadth of the paper collection. The National Museums Scotland's diverse paper collections includes fine art, photography, papyrus, library and archival material from European and Global cultures.

Canvas Binding in UK Collections: Identifying structures and patterns of degradation

Canvas bindings are an under-researched bookbinding style found typically in school and reference books in England and North America between 1760 and 1830. This short talk will evaluate the types and degree of damage occurring in English canvas bindings surveyed across three collections in the UK. This research was undertaken as the first phase of an MA thesis aimed at producing a toolkit for their continued conservation by evaluating appropriate interventive and preventive treatments.



Beckett Thornber is a recent graduate of the MA Conservation Studies programme at West Dean College, specialising in books and library materials. He also holds a BA in Illustration from Falmouth University and an MA in History of Art from the University of York. His current research interests predominantly revolve around the use of textiles in books and related materials.