

Bringing materials into focus: teaching initiatives at the University of Chicago and the Art Institute of Chicago

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INTRODUCTION

In 2018, a visionary conservation science teaching initiative was launched by The University of Chicago's Department of Art History in collaboration with the Art Institute of Chicago, and partnering with the University's Institute for Molecular Engineering (IME), and Humanities Division. With support from philanthropist Suzanne Deal Booth, a five-year position was created to teach two classes each year in conservation and conservation science (*Modern & Contemporary Materialities* and *The Material Science of Art*). The program has also supported an annual eight-week summer undergraduate research internship in the Department of Conservation & Science at the Art Institute.

Employing students' projects as reference points, this paper explores the pedagogical opportunities that such an interdisciplinary teaching approach can provide, and the multiple ways that conservation science can contribute to art-historical storytelling. It discusses how this teaching initiative has strengthened the connection between the Art Institute and the University of Chicago, creating networked communities that transcend institutional and disciplinary boundaries to catalyze innovation in the way we study, experience, and write about art.

COURSEWORK

The courses introduce students to object-driven research, an art historical method that centers physical study of a work of art as a primary text. They focus on scientific approaches to studying art objects and consider the meanings of different materials, including their bulk and surface aspects and how these may change over time, across various artistic media. Open to both undergraduates and graduate students, the classes draw on ongoing research and conservation treatments of objects at the Art Institute and showcase new scholarship generated in conservation science and object-driven art history that draws its strength from the collaborative work among scientists, conservators, and art historians.

Students learn about the material make-up of art objects by employing visual analysis alongside practical studies, using scientific instrumental and imaging techniques on the university campus and at the Art Institute. Readings are drawn from a variety of disciplines, including material science and chemistry, art history, visual and material culture, anthropology, and philosophy. Object-centered research is often used in concert with other art historical sources, tools and methods - including archival research, theoretical analysis, social history analysis, and artists' interviews - to produce a rich, critical examination. In this model of research, sharing expertise is essential for developing knowledge and testing new ideas.

The courses aim to:

- Expose students to current scholarship in object studies, conservation and scientific analyses of art works, and introduce ways to think across methodologies.
- Deepen understanding of specific materials and techniques used in the production of art objects, and familiarize students with a range of conceptual and scientific tools currently available for the analysis of art objects.
- Practice sustained, close looking of artworks to inform judgments about an object's condition, quality and/or history.
- Discuss recent approaches to materials and materiality and the material histories of objects and global media practices, and situate art objects geographically or historically based on physical/material attributes.

As Christine Mehring, Mary L. Block Professor of Art History, University of Chicago, pointed out: "The collaboration brings science students into meaningful contact with the humanities and vice versa, while enabling undergraduates to discover a lesser-known career path at a pivotal moment in their studies and internship explorations... Over years of object-driven teaching, we have seen how the material and visual presence of art and architecture fosters not only heightened attention but empowers students from different backgrounds and disciplines: everyone looks at the same thing, together."¹

RESEARCH PROJECTS

Examples of students' object-based research projects include:

- Analysis that deconstructs how an artist made a work of art, and through this makes an argument for a new understanding or interpretation of the object, its role or impact.
- Study that compares and contrasts technical details of a number of artworks to elucidate an artist's or studio's working methods, decision-making process, dating, or authorship.
- Materials-focused examination of one or more works that shapes a new understanding of a specific historical moment, social history, international trade, economics, or the production/use/role of objects in a culture.
- Study of a specific material or art making practice over time to demonstrate how materials or practices evolved or changed diachronically.

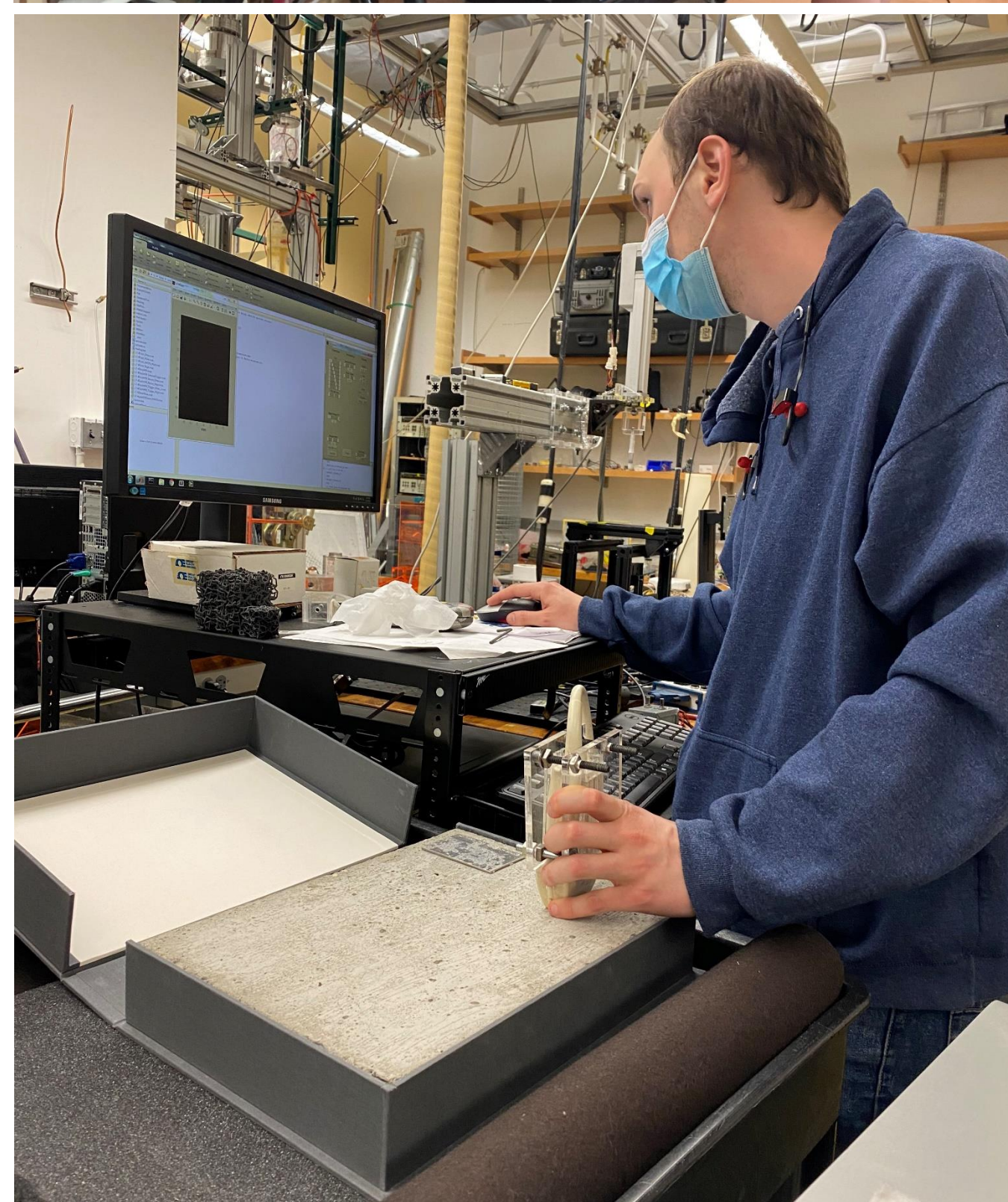
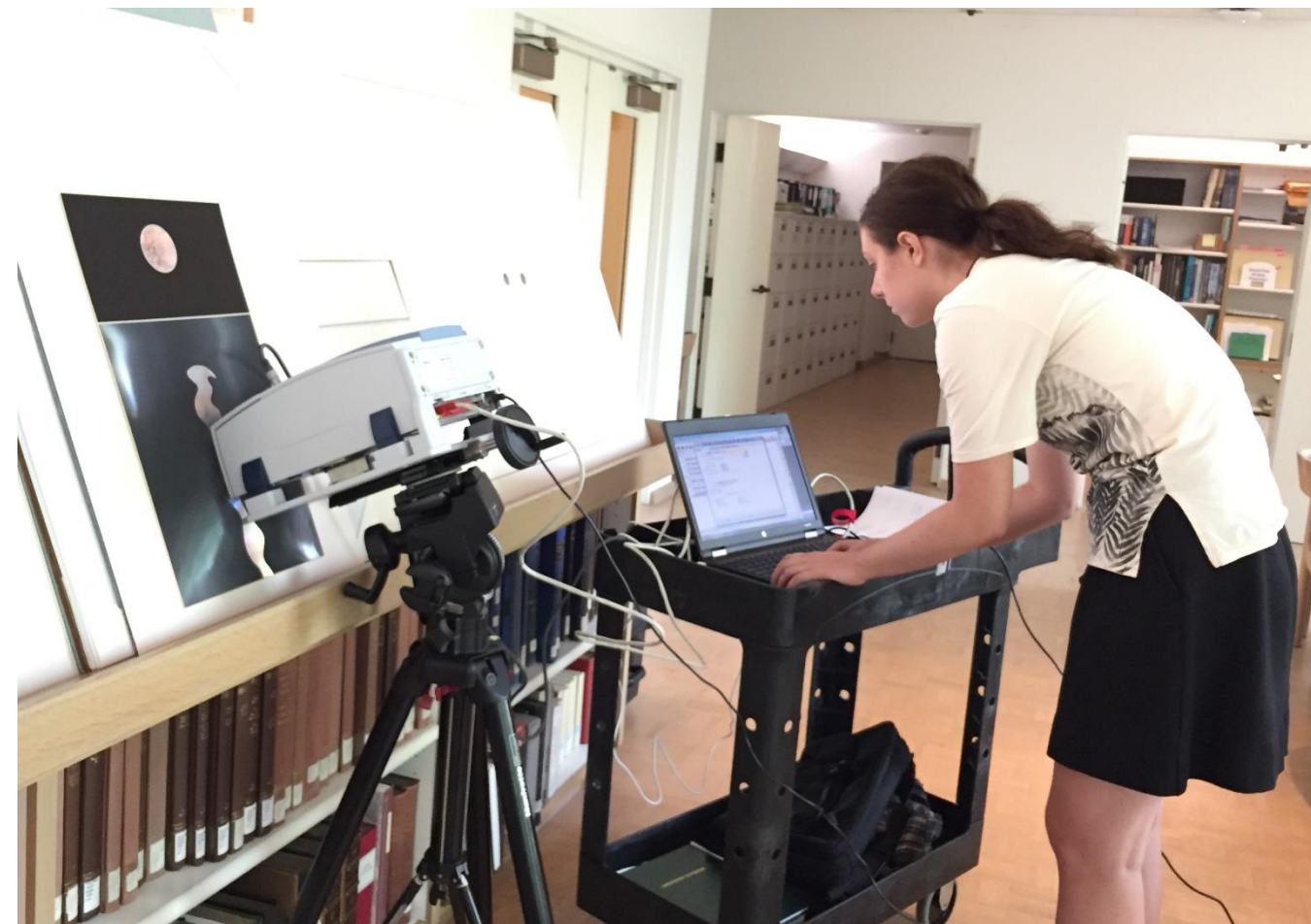


Fig.2 (a) Nora Marki examining Lichtenstein's *Landscape 8* using FTIR spectroscopy; (b) Mike van der Naald examining Vostell's *Betonbuch* using ultrasound.

CASE STUDY I: SURVEY OF PLASTIC-BASED WORKS AT THE ART INSTITUTE

Nora Marki, a third-year double major in molecular engineering and visual arts, held the inaugural Suzanne Deal Booth Summer Conservation Research Internship in 2018, surveying works in various collections in the Art Institute that incorporate plastic sheets or films. Examined works included prints and drawings, constructions, moving image films, books and audio records dating from 1930-1990. From Marcel Duchamp's *Boite-en-valise* to Roy Lichtenstein's collage *Landscapes*, the survey of 110 works was undertaken using non-invasive, portable Fourier transform infrared (FTIR) spectroscopy analysis to determine the identity of diverse plastics used in these objects. The project provided new insights on the works' materials and construction, highlighted the challenges faced when collecting and caring for plastic-based works, and generated information that will inform decisions about storage and display. Results of the analysis were presented at the FUTURE TALKS 019 conference in Munich in 2019.²

CASE STUDY II: WOLF VOSTELL'S *BETONBUCH* (CONCRETE BOOK)

In 2021, fourth-year BA student Willem Finn Harling's project focused on the study of Wolf Vostell's *Betonbuch* (Concrete Book). The work is a concrete slab in the shape of a book, measuring 34x25x4.5 cm, weighing about 9 kg (20 pounds), believed to encapsulate a copy of Vostell's paper-based booklet *Betonierungen* (Concretifications), which comprises unbound reproductions of many of his concrete works and utopian proposals to 'concretify' cities, furniture, and even clouds. In 1971, the artist constructed one hundred copies of the *Concrete Book*; copy no. 83 is in the holdings of the University of Chicago Library collection of rare artists' books. An unreadable book in any conventional sense, *Concrete Book* foregrounds tactility, physicality and materiality, posing challenges for researchers, conservators, librarians and collections professionals and providing a unique opportunity to explore questions of making and meaning: why the materials of bookmaking matter and what they signify. We assume that there is truly a book inside, but how can we confirm its presence? What non-destructive tests could be used to examine the inner contents? The study of Vostell's book brought together curatorial, conservation and material science expertise to discuss how new material knowledge can enrich our understanding of an object's biography.³

CONCLUSION

The conservation courses developed in collaboration between the University of Chicago and the Art Institute of Chicago combine powers of observation with scientific techniques of analysis and interpretation to sharpen perceptual awareness, allowing students to develop a compelling analysis of artworks and their materials. The courses and the summer internship at the Art Institute are a critical entry point for interdisciplinary studies and lay the groundwork for career opportunities in art and science.



Fig.1 Undergraduate and graduate students learn about the material make-up of art objects by employing visual analysis alongside practical studies, using scientific instrumental and imaging techniques on the university campus and at the Art Institute.

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