



Foundational Research to Inform Preservation Guidelines for 3D Printed Objects in Museums

IPI received a National Leadership Grant for Museums from the Institute of Museum and Library Services for \$375,543 to support a three-year research project that will identify critical preservation challenges associated with 3D printed materials and technologies found in museums. Many museums are already consumers of 3D printing technology, using it in applications such as preservation activities, storage, display, transit of objects, and education and engagement. However, the scope of 3D printing in museums, including how museums create, collect, and consume 3D printed objects, remains ill defined. Project activities will be led by Dr. Meredith Noyes, IPI Research Scientist, and will involve collaboration with [RIT's Center for Additive Manufacturing and Multifunctional Printing \(AMPrint Center\)](#). Major grant activities will include a field-wide survey to determine the current state of 3D printing among museums, interviews and site-visits with 3D printing industry leaders to inform a web-based resource for object preservation, and the creation of a 3D printed research collection to support continued research and education. Project outcomes will be added to a new [3D Printed Materials research page](#) as they are developed and will continue to be updated throughout the project period.

[Read the Press Release](#)



Photo credit: Asian Art Museum of San Francisco. Crate constructed by Case Fine Art Crating Inc.

Crate, Crate Preparation, and Packing Materials Questionnaire Report

In the summer of 2021, IPI distributed an online questionnaire about crate, crate preparation, and packing materials used by collecting institutions to transport paper-based objects. The questionnaire was posted to the American Institute for Conservation's Global Conservation Forum and Member Community distribution lists in June and via this quarterly newsletter in July. Seventy-six professionals from Asia, Europe, North America, Oceania, and South America completed the questionnaire, and the results are summarized in this report. This initiative is part of a three-year research project, *Cost-Efficient and Environmentally Responsible Preservation Methods for Preparing Paper-based Objects for Transit and Display*, where IPI's team is collating data to inform material selection and to support the preparation of laboratory experiments that will compare crate and packing materials performance under changing environmental conditions.

[Read the Crate, Crate Preparation, and Packing Materials Report](#)



Field-based Research on Pollutant, Energy, and Environmental Monitoring

In our April newsletter, we posted a call for partner institutions to collaborate on field-based monitoring for a new research project, *Integrating Risk Assessment for Pollutants into Energy-saving Strategies*. Thank you to all the institutions that responded. IPI will collaborate with four institutions: the Carnegie Museum of Pittsburgh, George Eastman Museum, The Metropolitan Museum of Art, and the National Archives and Records Administration. Each institution provides important variables in outdoor-generated pollutants, indoor-generated pollutants, mechanical systems, and energy-saving opportunities to inform the methodologies being tested. This past month, the project team visited the George Eastman Museum, to install pollutant, energy, and environmental monitors. The monitors will collect baseline data over the coming year as a point of comparison for later testing of energy-saving strategies. It has been a wonderful opportunity to be able to work closely with the George Eastman Museum, and we look forward to installing monitoring equipment at the additional partner locations by early 2022. We have already learned a lot about levels of indoor and outdoor pollutants in a collection space and deploying the instrumentation effectively, experiences we will build on over the following site visits.



Evaluating the Potential for Freezing and Freeze Drying Wet Inkjet Prints

IPI's three-year research project *Evaluating the Potential for Freezing and Freeze Drying to Improve Water Emergency Outcomes for Inkjet Prints* concluded at the end of September 2021. This project built upon previous research that explored the vulnerabilities of inkjet prints when exposed to a range of water events. Project experiments confirmed that air-drying immediately after a water emergency provides the best recovery results. While freezing may cause minor additional damage to some inkjet print types, overall project outcomes demonstrate it is a safe recovery technique for inkjet prints. Freeze-drying was the least successful recovery technique tested and is not recommended for fine-art inkjet prints because in several instances, freeze-drying induced severe physical deformation and brittleness in the inkjet supports tested. A new [one-page quick reference](#) on how to recover fine-art inkjet prints during water emergencies was informed by project results, and a technical paper reporting on the experimental details is in progress. Updates based on project results have also been made to the [dp3project.org website](#).

[Download Response and Recovery of Fine-Art Inkjet Prints during Water Emergencies](#)



Upcoming Workshop

Implementing Sustainable Energy-saving Strategies in Cultural Institutions

November 18-19, 2021

Museum of Chinese in America (MOCA), 215 Centre Street, New York, NY 10013

Registration Fee: \$150

Chris Cameron and Kelly Krish of the Image Permanence Institute (IPI) will be presenting a two-day, in-person workshop for collections and facilities professionals focused on implementing sustainable environmental management programs in collecting institutions. This workshop will provide the essential knowledge and skills necessary for small, mid-size, and large institutions working to balance the preservation quality of collections environments with responsible building management and lower energy costs.

The workshop will be hosted at the Museum of Chinese in America on November 18th and 19th from 10am-3pm each day. Participants will be empowered to implement sustainability projects at their own institution using IPI's research-based methodology. Team participation is encouraged, ideally collections and facilities staff from the same institution attending together. Attendees will be limited to a maximum of 40 with room to socially distance. Registration per individual is \$150 and participants are responsible for their own travel, meals and lodging costs. **Registration ends November 12, 2021.**

[Additional Information and Registration](#)

Funding Opportunities

Sustaining Cultural Heritage Collections Grant Deadline

The next round of applications to the [Sustaining Cultural Heritage Collections \(SCHC\)](#) grant program in the Division of Preservation and Access at the National Endowment for the Humanities are due **January 13, 2022**. This important program offers funding to support sustainable preventive conservation strategies in cultural institutions. IPI environmental consulting services have been a component of many successful SCHC projects. Christopher Cameron, Sustainable Preservation Specialist, and Kelly Krish, Preventive Conservation Specialist, lead IPI's preservation consulting services that assist institutions with improving their preservation environments while making them more energy efficient. If you are considering submitting a proposal that requires environmental consulting services, [please contact us](#).

Preservation Assistance Grants for Smaller Institutions

January 13, 2022 is the deadline for submitting applications to [NEH for Preservation Assistance Grants](#). If you are considering applying for funding to support consultations with preservation professionals about establishing environmental monitoring programs or improving preservation environments and have questions about IPI's services in these areas [please contact us](#).

Do you need help meeting your sustainability goals?

IPI offers a range of remote and onsite consulting and preservation training options. Contact us to start a conversation about how we can assist with achieving your short-term or long-term preservation environment and sustainability goals.

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The Image Permanence Institute® (IPI) is an academic research center within the College of Art and Design at Rochester Institute of Technology (RIT) dedicated to supporting the preservation of cultural heritage collections in libraries, archives, and museums around the world.

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