UC RIVERSIDE UNIVERSITY OF CALIFORNIA | Materials Science and Engineering

WINTER 2021 COLLOQUIUM SPEAKER

FEBRUARY 10, 2021

Wednesday's 1-1:50pm ZOOM

Challenges in Preservation of Plastic Art and Artifacts

As citizens of the 21st century, we live amongst plastic, and the idea of a time without it is hard to imagine. However, plastic is a very modern material born of innovations and happy accidents that began roughly 170 years ago. Plastic emerged gradually from the manipulations of naturally occurring polymeric materials, and its faced-paced evolution has been driven by economic, technological, and geopolitical considerations. Many achievements in plastic have nobly improved the lot of humankind, while others – like the rise of single-use disposable goods – are cause for concern.

Plastics have made their way into nearly every museum collection as art, historical artifacts, and the materials used to exhibit and store collections. Once an object is accessioned into a museum its purpose and service life are transformed into something that must represent itself in perpetuity, even if the plastic material was never intended to last that long. This poses big challenges for the conservators, conservation scientists, and collections staff who care for them. Cultural heritage organizations like the Getty Conservation Institute study plastic's longevity problem. This presentation will describe this kind of research, including the underlying ethical paradigm and ways in which historical plastics are observed, characterized, reverse engineered, and conserved.

ZOOM MEETING ID 967 5468 5049 | **PASSWORD: 495951**

Dr. Odile Madden

Senior Scientist
Getty Conservation Institute
Los Angeles, CA

Odile Madden is the Senior Scientist of the Modern and Contemporary Art Research Initiative at the Getty Conservation Institute (GCI) in Los Angeles. She leads the Modern Materials Research group of scientists and conservators in research about the technology, characterization, stability, preservation, and conservation treatment of modern materials in cultural heritage. Prior to joining the GCI in 2017, Dr. Madden spent eleven years as a research materials scientist at the Smithsonian's Museum Conservation Institute (MCI) where she conceived a cross-disciplinary modern materials research program focusing on plastic. The Smithsonian's Age of Plastic project brought together scientists, curators, conservators, artists and other scholars to explore the phenomenon of plastic and its impacts on 19th- to 21st-century life, culture, and the environment. She continues this thinking as a Research Associate at the Smithsonian's National Museum of Natural History in Washington, DC. While at MCI she developed Raman spectroscopy as a tool for characterizing natural and synthetic polymers and their degradation. Other expertise includes the effects of laser radiation on materials, and detecting and evaluating risks posed by pesticide residues on cultural objects.

Dr. Madden's education melds science and the humanities in equal measure. She earned a PhD in Materials Science and Engineering from the University of Arizona with dissertation research into the detection of volatile organic pesticides by surface-enhanced Raman spectroscopy (SERS). She holds a Master of Arts degree in the History of Art and Archaeology from the Institute of Fine Arts at New York University, along with an advanced certificate in the Conservation of Historic and Artistic Works. She pursued undergraduate studies in Italian and Art History at UCLA.

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