

## President's Letter

*Tricia O'Regan*

Well, members, my time as your WAAC president is quietly coming to an end with our virtual board meeting in September. Not exactly the year that any of us had planned.

I want to take this opportunity to thank everyone who has been part of the organization these past two years, and in all the previous ones, for participating in this amazing and worthwhile association. I am so happy that I said "yes" when Sue Ann asked me to run for office. The learning curve was a bit steep at first, but after that first Cheese Shop meeting, I was all in. I encourage everyone to step up. You won't regret it.

And a huge thank you to Geneva and those of you who put their names forward for the ballot to carry on the WAAC tradition. She ran a great election, and it was a squeaker until the last minute. A huge welcome to our new slate of officers: Jan Burandt as V.P., and Rae Beaubien and Adam Fah as new members-at-large. Please keep saying "yes" to running-your time will come!

In addition to myself, cycling-off after the September meeting will be members-at-large Anne Getts and Jacinta Johnson as well as secretary Colleen O'Shea, with Allison Brewer as her understudy. Thank you all so much for your years of work on the board. And my very special thanks and admiration to Chris, Carolyn, Justin, Christina, Donna, Wendy, and Susie.

Allow me the indulgence of one more photo of the Fallen Leaf Lake WAAC meeting that wasn't. It would have been grand!

See you in Seattle, 2021!

Trish

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Only the board got to preview the great plans Trish had come up with for this meeting and saw all the hard work she had done. A very big thank you, Trish !!! It would have been such a memorable gathering.

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## Regional News

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**Geneva Griswold**  
*column editor*

### Alaska

Since the end of May, **Monica Shah** and **Sarah Owens** returned to work in the museum on postponed exhibitions and loans. Conservation projects include preparing objects for the upcoming exhibition *Extra Tough: Women of the North*, in which artists, mothers, scientists, and makers testify to the vital role that both Indigenous and newcomer women have held and hold in Northern communities. The artworks, historical objects, and archival images selected capture and communicate each maker's experience of landscape and place, gender roles and social norms, work and childrearing.

In addition to conservation projects, Monica and Sarah have been active in museum-wide anti-racism work alongside outside facilitators. The work is ongoing, difficult, and rewarding as they work against the systemic racism in our field. Monica serves in a core group from all levels of the institution, and she leads conversations addressing racist systems in collections, exhibitions, and design.

**Nicole Peters** recently completed federal project work at North Cascades National Park, where she conducted a collection condition survey on natural history specimens, historical objects from the Davis Collection and the Ebey's Landing Chinese Artifact Collection, and objects on exhibit at the Newhalem Visitor Center.

Afterward, Nicole made her way up to Fairbanks where she is currently completing two grant-funded projects for the University of Alaska Fairbanks Museum of the North (UAMN): a Save America's Treasures grant and a Museums Alaska Collection Management Fund grant award. The Save America's Treasure grant project involves the condition examination, photographic documentation, conservation treatment, and rehousing of archaeological objects excavated from the Kobuk River region in the 1940s by archaeologist J. Louis Giddings. The Museums Alaska Collection Management Fund project involves conducting detailed on-site conservation condition assessments of UAMN Indigenous watercraft collections, both on exhibit and in collection storage, and providing photographic documentation of condition issues, storage and treatment recommendations, and individually prescribed treatment plans for each watercraft needing conservation treatment.

**Ellen Carrlee** at the Alaska State Museum was fortunate to host **Stephanie Guidera**, a rising third year graduate fellow at SUNY Buffalo State College, for an abbreviated summer internship working on dye research, gut parka repair, and polychrome paint consolidation tests as well as working on repairing a group of model fish traps at the Sheldon Jackson Museum in Sitka.

To those who wonder what it is like to be a conservation student at this historical moment, Steph has this to say: As an art student in college, I remember my painting instructor saying "it's obvious you *can* paint, but *why*?" The question of "the why" has been with me ever since, with every step. Why conservation? I wanted to do something creative with my hands, for people. Why cultural heritage objects? I want to amplify the voices of the silenced. And now, as a graduate student in the middle of a pandemic, I'm seeing the lack of job security in an already tenuous field, internships shifting online or cancelled, and I'm wondering, why museums? And further, preservation for whom? Being a student in this time has been disappointing, frustrating, and overwhelming. While I'm privileged to just focus on learning right now, thoughts of our global health crisis, racist acts of violence, and an insecure future constantly weigh on my mind, and many of the experiences we were promised as students are no longer possible. However, my perspective was made very clear after May 25<sup>th</sup> when George Floyd was murdered in my hometown of Minneapolis. I am furious at the continuation of racial injustice in this country, yet heartened by the voices rising across the world, demanding justice. I am further encouraged by the *Museums Are Not Neutral* campaign and the *Death to Museums* initiative which seek to unite museum workers, to challenge the current infrastructure, and call for a revision of inequitable practices. I am optimistic that real lasting change

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## Volume 42 Number 3 WAAC Newsletter

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### Internet

Articles and most columns from past issues of WAAC Newsletter are available on-line at the WAAC website, a part of CoOL (Conservation OnLine) <http://cool.conservation-us.org/waac/>.

### Deadline

Contributions for the January *Newsletter* should be received by the Editor before **December 2, 2020**.



# Western Association for Art Conservation

**The Western Association for Art Conservation** (formerly, the Western Association of Art Conservators), also known as WAAC, was founded in 1974 to bring together conservators practicing in the western United States to exchange ideas, information, and regional news, and to discuss national and international matters of common interest.

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Christina O'Connell

Individual Membership in WAAC costs \$42 per year (\$47 Canada, \$52 overseas) and entitles the member to receive the WAAC Newsletter and the annual Membership Directory, attend the Annual Meeting, vote in elections, and stand for office. Institutional Membership costs \$47 per year (\$52 Canada, \$57 overseas) and entitles the institution to receive the WAAC Newsletter and Membership Directory. For membership or subscription, contact: Allison Brewer secretary@waac-us.org

## Regional News, continued

The *2020 e-WAAC Membership Directory* will be sent out via the correspondence email address you provided to WAAC.

If you have trouble with the pdf file or do not receive your *2020 Membership Directory*, please let us know by emailing WAAC at membership@waac-us.org.

can flow out of this pain that only some of us started to see recently. I am hopeful art conservation can shift to be more accessible and inclusive. The current student body of the Garman art conservation department at SUNY Buffalo State College has been collaborating all summer on what changes are necessary within our program, and I am so encouraged to know other graduate programs have been doing the same. And the why? Because preserving everyone's cultural history is important, therefore representation and equity in every cultural heritage position are important.

*Regional reporter:*

Ellen Carrlee

## **Arizona**

The Arizona State Museum (ASM) Preservation Division was awarded an IMLS grant to fund the treatment and survey of barkcloths and basketry mats. The barkcloths represent an outstanding variety from Mexico, Central America, and the Pacific Islands, and the basketry mats include examples made by Indigenous peoples in Southern Arizona and Northern Mexico. The project's intended outcomes are to significantly increase long-term preservation of and access to these collections through best practices of examination, treatment, and customized storage.

**Nancy Odegaard** is preparing for retirement. She was recently awarded the 2020 Victor R. Stoner award by the Arizona Archaeological and Historical Society. The Victor R. Stoner award is given for outstanding contributions in leadership fostering historic preservation; or bringing anthropology, history, or a related discipline to the public. Nancy hosted a one-day virtual and simultaneously in-person workshop on soft-packing and storage materials for the participants of the Heard Museum's Opening a Window Mellon Fellowship Program and ASM conservation interns.

**Gina Watkinson** has been working on the treatment of textiles for an upcoming exhibition of Saltillo sarapes. She also gave a presentation on plastic storage material at the virtual AIC annual conference and organized the Archeological Discussion Group business meeting with **Skylar Jenkins**.

During the month of July, ASM had a modified Pottery Blitz. The annual summer Pottery Blitz is an intensive interdisciplinary learning opportunity which engages conservators, students, and volunteers with a range of skill levels to learn innovative approaches to treatment of ceramics and in the process complete the survey, research, and treatment of ceramics within a restricted timeframe. This year we completed a total of 40 ceramics and included the treatment of several iron metal objects including a Ford Model T engine fragment. Participants included: **Liatte Dotan**, first year conservation student from the Garman art conservation department at SUNY Buffalo State College; **Simon Belcher**, recent masters graduate from the UA in MSE; **Skylar Jenkins**, UCLA/Getty conservation 2020 graduate and past ASM employee; **Christina Bisulca**, conservation scientist from Detroit Institute of Art and past ASM employee and UA PhD in MSE; and **Luke Addington**, conservator and UA student.

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## Regional News, continued

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ASM conservation staff also decided it was a good time to clean the Wall of Pots in the pottery gallery. About 100 ceramics were removed from the wall, the glass was cleaned, and mounts were dusted, adjusted, or replaced. Conservation staff checked the condition, vacuumed each ceramic, and stabilized each as necessary.

**Susie Moreno** is working on the research, survey, and treatment of cradleboards and has rehoused 20 ethnographic nets at ASM. She also continues her apprenticeship at the San Xavier del Bac Mission under **Tim Lewis** and **Matilde Rubio**.

**Marilen Pool** has been working from her private lab conserving cradleboards for her work at the ASM and completing projects for private clients including a collection of ceramics and a Navajo alabaster sculpture. In between jobs, she continues to research for her PhD program and has revived a family history research project, scanning and identifying old photos and the like.

Luke Addington continued conservation treatment of Mission San Xavier del Bac's late 18th-century doors and hosted a (masked & socially distanced) workshop on their cleaning treatment, utilizing emulsions designed with the MCP. He has been busy designing cleaning solutions for a variety of objects in the ASM's collection, including: a bronze mortuary chapel bell, pottery, painted baskets, and wooden objects. He presented his work on a polychrome Egyptian coffin at the AIC annual conference and completed a paper on surfactants for WAAC (p. 24).

**Betsy Burr, Audrey Harrison, Maria Lee, Ileana Olmos**, and student intern **Paige Hilman** from the Western Archeological and Conservation Center (WACC) have been busy treating ceramic vessels from Chaco Culture National Historical Park and Joshua Tree National Park.

**Stephanie Cashman's** work has focused on treatment of two silver collections: 17th-century Spanish silver coins from Padre Island National Seashore and historic silver jewelry from Mesa Verde National Park. Maria is currently constructing exhibit and storage mounts for the Mesa Verde silver.

Betsy is currently making evacuation boxes for collections on exhibit at Tonto National Monument to help with emergency preparedness during wildfire season. She is also comparing the condition of metal items from southern Arizona parks to soil salinity to understand the effectiveness of soil salinity as a predictor of artifact condition. In August, WACC said goodbye to Ileana, who moved from Tucson to the Phoenix area.

**Dana Mossman Tepper** reports that the ASU Art Museum publicly reopened on August 20th with two newly installed exhibitions: *Look to Nature: Toshiko Takaezu* and *For the Animals: Tania Candiani*. The conservation department of one has been working diligently in the lab since mid-July to treat and prepare the featured photographs and drawings. Dana has felt extremely safe in the museum because the rest of the museum staff has been working remotely; however, they will all return on a rotating/staggered schedule and then Dana will probably feel safer at home. Funny how that works.

During remote work during March - June, Dana's workday was spent post-processing treatment photography, making table covers, listening to AIC annual conference talks, developing a conservation plan for AAM accreditation, working on a museum staff equity, diversity, and inclusion initiative, writing social media posts, and planning a conservation class for the university. She was very happy to get back into the lab.

Senior photograph conservator **Dana Hemenway** hopes to return to the Center for Creative Photography soon. The building is closed to the public at least until September 30th. In the meantime, she is working with a team to plan and build much needed low temperature storage for the Center's collections of color, film-based, and other at-risk materials.

**Alex Lim** and his wife **Christina** welcomed their first baby on July 4th amidst the pandemic. After a feeding struggle one day, the baby made them smile with a pose like the meditating statue of Bodhisattva from Korea. They hope the image gives a sense of peace and freedom to the readers, however confined they may be, as it did for them.

*Regional reporter:*

Gina Watkinson  
Conservation Laboratory Manager,  
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Arizona State Museum  
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## Hawaii

No news reported.

*Regional reporter:*

D. Thor Minnick

## Los Angeles

**Linnaea Saunders** enjoyed completing inpainting projects in her living room while observing the daily rituals of her cats, three sets of nesting birds, and the spring cactus blooms. Weekly hikes in the Angeles Forest and keeping occupied with handwork in the evenings (watercolors, sashiko, weaving, quilting, embroidery, Tunisian crochet) have provided balance during this time.

**Christina O'Connell** returned to the Huntington Library, Art Museum, and Botanical Gardens on a limited schedule to finish the treatment of Gainsborough's *The Blue Boy*. Plans are underway to reinstall the painting before the art galleries re-open to the public, which is currently planned for the fall. While documentation and technical study for *The Blue Boy* will continue, Christina looks forward to the treatment and technical study of *Lady with a Plume*, attributed to Govaert Flinck and *The Long Leg* by Edward Hopper.

At the Natural History Museum of Los Angeles County, **Tania Collas** and **Marina Gibbons** are putting the final touches on artifacts that will be featured in the exhibition *Rise Up LA: A Century of Votes for Women*, opening in the fall. The NHM conservators are also treating barkcloths and woven plant fiber artifacts as part of an NEH-funded project to digitize and preserve their Pacific Island cultural collections.



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## Regional News, continued

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The department of decorative arts and sculpture at the Getty has taken advantage of the museum's closure to undertake a deep clean of the decorative arts galleries with the help of the preparations department. **Madeline Corona** is taking this time to review and update the current cleaning, IPM, and emergency procedures.

**Jane Bassett** and **Arlen Heginbotham** are editing the two-volume, many-authored, digital publication: *Guidelines for Best Practice in the Technical Study of Bronze Sculpture*, currently entering the design phase. Arlen has also been reviewing page proofs for the forthcoming digital publication *Rococo Ebenisterie in the J. Paul Getty Museum* and calibrating the department's new handheld XRF for quantitative analysis of copper alloys.

Graduate intern **Karen Bishop** and Arlen have been treating a pair of Boulle pedestals (Paris, ca 1700), using a modified agar gel to remove tarnish from brass marquetry. We wish Karen the best of luck as she leaves Los Angeles in September to begin her new position as the Andrew W. Mellon fellow in conservation at Historic New England! We will miss you Karen!

In LACMA paintings conservation, **Joe Fronek** continues the cleaning and restoration of the important and rare *Pieta* from 1720 by Bolivian master Melchor Perez Huguin. The project will be featured in an upcoming online video series focusing on LACMA's conservation center.

**Caroline Hoover** participated in a video for the same series, documenting the use of nanogels in the conservation treatment of Kirchner's *Still Life with Jug and African Bowl*. **Elma O'Donoghue** is examining a 1925 Leger and studying methods of paint consolidation in preparation for the treatment of cracks in the paint film.

**Jini Rasmussen** is treating a small badge from New Spain, a devotional image painted on copper that was worn by nuns. LACMA paintings conservation will say farewell to **Caroline Hoover** who begins a new fellowship at MOMA starting in the fall.

**Supna Kapoor** is working this summer in LACMA's conservation center as their Getty Marrow undergraduate intern. As a pre-program intern experiencing all areas of conservation, her primary supervisors are **Abigail Duckor** in Objects and **Catherine McLean** in Textiles. Supna previously worked in the fossil lab at the Page Museum

In LACMA paper conservation, **Soko Furuhashi** reports that several Korean scroll paintings were repatriated. In July, LACMA returned *Yeongsanhoesangdo* (Preaching Shakyamuni Buddha) and six portraits of *Siwangdo* (the Kings of Hell) to Jogye Order of Korean Buddhism. They were originally from the Sinheung Temple (Sinheungsa) in Sokcho, Gangwon Province, in northeastern South Korea, but were looted probably by United States army personnel during the Korean War. Between 2007 and 2010, both artworks were conserved by Professor **Park Chisun** and her staff from South Korea.

**Janice Schopfer** announces that the LACMA conservation center has moved to the Goff designed Pavilion of Japanese Art (PJA). Conservation now occupies the west side of the pavilion, while preserving collection storage and the study center. It is currently closed to the public but there are plans to reopen the tokonomas in the east side of the building at a future date. The relocation of conservation to the PJA allows conservation to have an ongoing presence on site during the demolition, construction, and installation of the new Peter Zumthor designed museum. Paper conservation is now located on the north facing, plaza level, of the PJA.

In July, **Madison Brockman** began the second year of her Mellon fellowship in LACMA paper conservation. Working remotely, she created a YouTube video for LACMA's "Make Art at Home" series, wrote a blog post on the treatment of an oversized decorative arts poster, gave a lecture on citrates in paper conservation, led an ECPN webinar, and presented at the AIC BPG/PMG tips session.

**Sophie Hunter** is working full-steam ahead on conservation projects for the opening of the Academy Museum of Motion Pictures, currently scheduled

for April 30<sup>th</sup>, 2021. This will also mark the opening of the museum's new conservation studio! **Daniela Gonzalez-Pruitt**, conservation technician, has been assisting with many of the treatments, including a makeup kit owned by legendary Hollywood makeup artist William Tuttle. They are extremely excited to welcome **Rio Lopez** from the Garman art conservation department at SUNY Buffalo State College as the Academy Museum's first conservation graduate student intern!

As of June 1<sup>st</sup>, **Chela Metzger** began serving as head of the UCLA preservation & conservation department. The position includes conservation treatment and administrative responsibilities.

**Alexander Ames**, **Erin Hammeke**, and Chela are excited to announce that their essay "The Faith that Binds: Swiss Anabaptist Devotional Bookbinding in Early America" was published this summer in *Suave Mechanicals: Essays on the History of Bookbinding Vol. 6*, edited by **Julia Miller** and published by Legacy Press in Ann Arbor.

Recently, Chela started collaborative work with **Katherine Beatty** on the AIC BPG Wiki on conservation issues related to stationery bindings and with UCLA Kress assistant conservator **Michelle Smith** on an article on conservation issues related to artist books for the journal *Parenthesis*.

Virtual excitements have included a preservation & conservation open house for UCLA library staff during Preservation Week in April and a donor event. As of July 23<sup>rd</sup>, they began on-site work at ultra-low density. The department is united in support of actions demanded by Black Art Conservators <https://blackartconservators.com>; along with the rest of the UCLA Library, they will be involved in an anti-racism initiative.

**Nicole Alvarado**, UCLA Library third-year conservation intern will be graduating virtually from Garman art conservation department at SUNY Buffalo State College this summer. They will wave goodbye to her at the end of August, but they are delighted to know she is committed to staying in the Southland and using her amazing talents



Ariana Makau

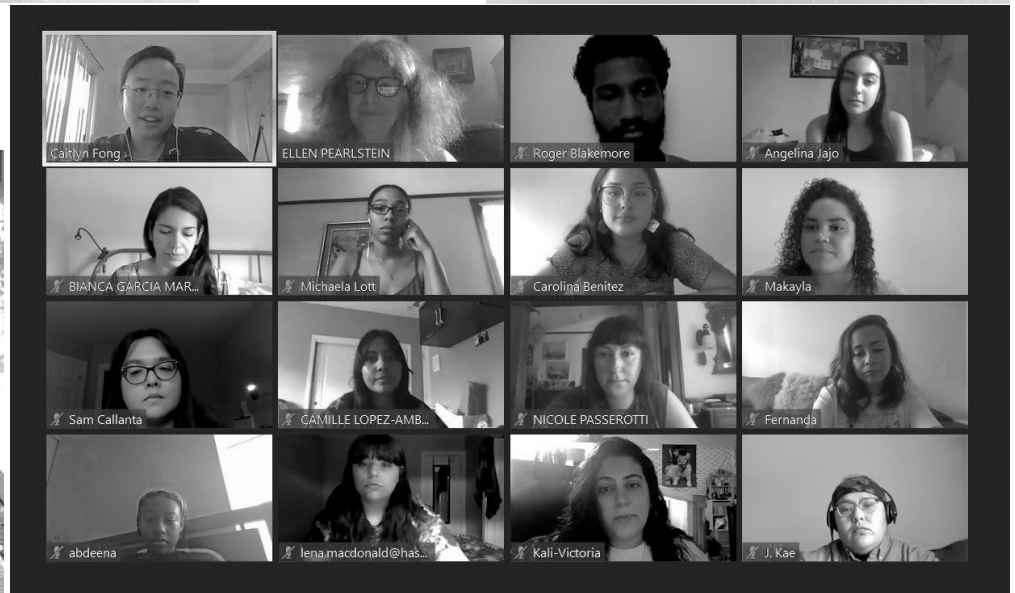


If this is the work of a "non-Indigenous basket aficionado," I'm impressed (Ed.)

Ellen Pearlstein



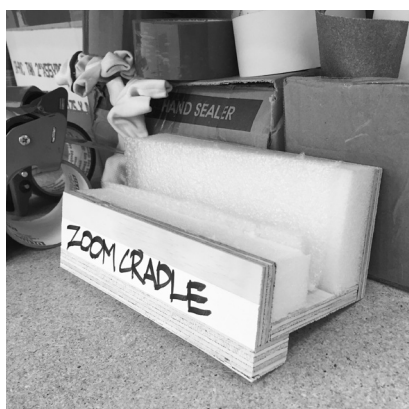
Linnaea Saunders



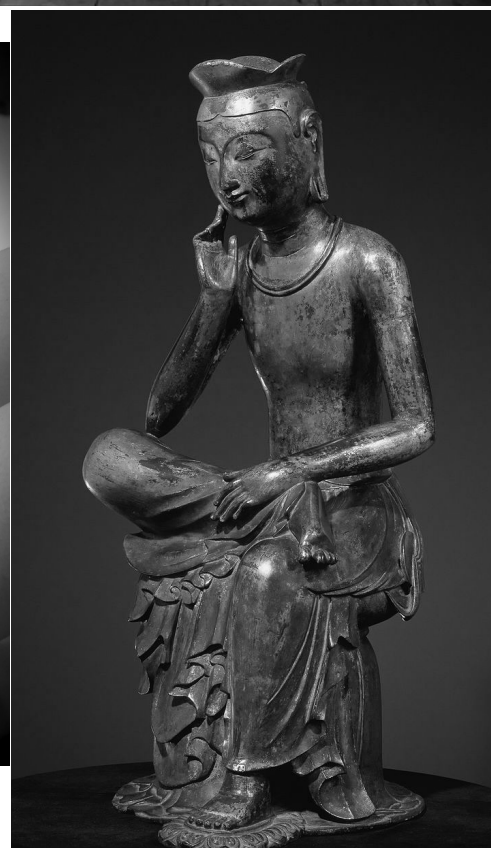




Molly Lambert



Alex Lim



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## Regional News, continued

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here! She has been working at home on leather-bound circulating collection materials, helping mount historic textiles for an exhibition, taking many classes, and working with other Buffalo students to improve equity, diversity, and inclusion concerns at Buffalo.

Michelle Smith has assumed the AIC Wiki coordinator position, focused on her research project, attended webinars, and organize a weekly virtual preservation movie club. **Devin Mattlin**, collections conservation assistant, has been working on non-circulating UCLA historic maps from home. She also attended her first AIC conference!

**Leo Gonzalez** has been on campus weekly to make sure the temperature and humidity at the Arts Library stay within bounds and downloads all HOBO data monthly. He is working with other library departments on data clean-up projects. **Hannah Moshier** does weekly stacks walk-throughs with UCLA Library special collections staff, helping receive materials returned from loans, corresponding with those who would like to borrow library materials, and stabilizing fragile Asian books for digitization.

**Wil Lin** has put on his graphic designer hat and developed beautiful presentations for two virtual events, he is re-designing their intranet pages and letterhead, and tackles backlogged conservation treatments of circulating materials amidst all the on-line meetings. AV specialist colleagues **Yasmin Dessem** and **Allie Whalen** have been working with Wil and an outside artist to produce a “zine” style introduction to an audio digitization station.

Allie is deeply involved in a Lab Cine FAC “virtual residency” on community archives. She has been awarded a Fulbright for community work in Uruguay and an Association of Recorded Sound collection grant to work in Cuba, both with community archive projects. Allie and Yasmin are consistently involved in evaluating applications for the UCLA Library Modern Endangered Archive Program (MEAP) and continue to work with AV colleagues at the Palestine Museum as part of the UCLA International Digital Ephemera Project, both of which are Arcadia funded. Yasmin

has been training **Brian Belak**, a Center for Primary Resource Training (CFPRT) colleague, on audio preservation.

The UCLA/Getty program in the conservation of archaeological and ethnographic materials started the UCLA/Getty Alumni Talks series this summer where alumni share highlights from their vibrant careers caring for cultural heritage across the globe. To date they have had seven presentations and discussions with topics ranging from gold working at Ur, toxic museum collections, and the importance of collaboration & outreach in the conservation field.

The Mellon Opportunity for Diversity in Conservation, while unable to convene their cohort for a summer 2020 workshop, has convened the group for two Zoom meetings (see image): one as a way to introduce themselves and a second hosted by the UCLA/Getty graduate students.

**Glenn Wharton** continues to work on a number of research projects. One is the development of a public information resource about the performance and installation artist Joan Jonas. He and his research partners are working with graduate students to conduct interviews, scan artist notebooks, and dig through exhibition and conservation records. As a project of the Artist Archives Initiative, the team will use open source linked data to allow users to build visualizations as they conduct their search queries. The resource will launch this fall.

Before the pandemic, **Ellen Pearlstein** traveled to six museum sites to examine baskets made in the style of Indigenous baskets from the Southwest and Northwest US, but likely to have been made by non-Indigenous basket aficionados between 1900-1950 (see image of basket example). Ellen combined this object study with research into “how to” books published about Indian basket making shortly after 1900, as well as researching the archives of a leading author of such books. She has submitted for publication work on the impact of “how to” books on Indigenous weaving, as well as, with private curator **Bryn Potter**, work on how these baskets are contextualized in museum collections.

*Regional reporter:*  
Virginia Rasmussen

### New Mexico

**M. Susan Barger** received the American Institute for Conservation David Magoon-University Products Conservation Advocacy Award for 2020.

*Regional reporter:*  
Silvia Marinas-Feliner

### Pacific Northwest

The Seattle Art Museum pivoted to producing online collection highlights, video media, and creative activities on the SAMBlog ([samblog.seattleartmuseum.org](http://samblog.seattleartmuseum.org)). The Conversations with Curators members’ lecture series continued via live Zoom webinar.

In July, **Nicholas Dorman** and **Xiaojin Wu**, curator of Japanese and Korean art, presented on the story of the 17th-century Japanese Rakuchu rakugai-zu screens, or Scenes of Life in and Around the Capital, and their recent remounting by Studio Sogendo. This remounting project was completed thanks to the Bank of America for its 2017 Art Conservation Project funding. The second year of treatment of the museum’s 14th-century Japanese scroll, Amida Nijugobosatsu Raigo-zu, commenced at Studio Sogendo thanks to the generous support of the Sumitomo Foundation.

As part of the Seattle Art Fair’s online content for The Collectors Circle, sponsored by Christie’s, **Liz Brown** co-moderated the live webinar “New Media Artworks + Their Future Lives” with artist and associate professor **James Coupe** in July. The panel of four emerging new media artists from the University of Washington’s digital arts and experimental media (DXARTS) department shared their work and thoughts regarding its future.



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## Regional News, continued

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Liz Brown has been working over the summer on repainting Alexander Calder's *The Eagle* at the Olympic Sculpture Park. The project in removing non-original coatings and applying new primers and top coats specified by the Calder Foundation is possible with the support of the Bank of America, through its Art Conservation Project grant awarded to SAM in 2019.

While maintaining collections storage and galleries during SAM's closure, conservation has been working to prepare the galleries and collections at SAM in downtown Seattle for reopening the museum on a lower capacity, limited schedule basis with some temporarily-closed galleries.

Nicholas Dorman, **Marta Pinto Llorca**, **Monica Cavagnaro**, and **Vaughn Meekins** have been facilitating art movements in continuation of the work in reorganizing storage since the post-renovation reopening of the Seattle Asian Art Museum (SAAM) in February, before Covid closed it again in March. These are the final stages of extensive storage enhancements at SAAM that are supported by a generous IMLS grant.

SAM is grateful to have acquired a bequest of works of art from the collection of Virginia Wright, following her passing this February. Virginia and her late husband Bagley were magnitudinous contributors to SAM's modern and contemporary art collection, and works from their collection are visible in SAM's ongoing exhibition *Big Picture: Art after 1945* and at the Olympic Sculpture Park. Collections care has been working on bringing in the new acquisitions and preparing them for a new special exhibition of the recent gifts and familiar permanent collection works from Virginia's legacy.

The University of Washington received a \$1 million grant from The Andrew W. Mellon Foundation to advance shared conservation services among the UW libraries, the Henry Art Gallery, and the Burke Museum of Natural History and Culture. The goals of the five-year initiative, *Sustainable Cooperative Conservation Services at the University of Washington*, are to strengthen and secure a sustainable program for paper

and photograph conservation at the UW, to expand shared conservation services, and to continue to leverage other Mellon-funded initiatives that further increase conservation capacity, conservation training, and outreach in the Pacific Northwest.

UW libraries preservation staff continue to work on preservation planning and research as well as professional development. The digital and media preservation activities are continuing without as much interruption and staff who usually process physical materials are increasingly working on accessibility projects, such as captioning for our digitized Moving Image collections. Since spring, there has been an increased focus on outreach, providing presentations for a variety of audiences.

**Stephanie Lamson** and **Sylvia Wolf**, John S. Behnke Director of the Henry Art Gallery, shared the work of their collaborative conservation grants at a meeting of the Association of Art Museum Directors. **Claire Kenny** also provided an update on UW's collaborative conservation projects at the 2020 Pacific Northwest Conservation Gathering. Many thanks to **Samantha Springer** for organizing this terrific event.

**Justin Johnson** and **Kathryn Leonard** presented "Book Conservation at the University of Washington" to Donia Conn's collection maintenance class for the School of Library and Information Science at Simmons University. As well, Justin and **Moriah Caruso** presented "Rare Scores Digitization" for a UW libraries annual Strawberries and Champagne event.

Since April, Samantha Springer has been doing the same thing as most other parents, helping her kids "learn" online and keeping them from turning into zombies as best she can. She has been learning some new skills to help with her husband's e-commerce business, such as how to apply SEO, add SSL to a website, and the complications that come with updating a website theme.

In June, Samantha balanced starting her own business, Art Solutions Lab, with some work days back at the Portland

Art Museum (PAM) proper. Due to PAM's lengthy closure and subsequent lack of revenue, Samantha's role was affected by the Covid-19 layoffs at the end of June. Until her role can be reinstated, Samantha and the museum are maintaining communication to ensure an ongoing plan for the preservation of the collection. In the meantime, Samantha's time is split between her garden, filling the role of packer & shipper for Red Pig Garden Tools (her husband's business), getting her business off its feet, and summer camp director - not necessarily in that order.

**Corine Landrieu** has been working on private and public collections this summer, including outdoor sculpture treatments, assessments, and pieces from an extensive Han Dynasty terra cotta collection.

**Lisa Duncan** has some work trickling in from private individuals. It is keeping her afloat as all institutional contracts are frozen. She had a great light bleaching season and is hoping to continue a little more until either the fires and smoke set in or the rains return.

*Regional reporter:*  
Corine Landrieu

## Rocky Mountain Region

**Hays Shoop** and **Camilla Van Vooren** have been working on Abstract Expressionist paintings from the Montana Historical Society including several by Robert DeNiro (the actor's father). They continue ongoing treatments of a group of paintings from Brigham Young University Museum. During the height of June protests in downtown Denver, Camilla removed graffiti from an outdoor mural by Allen True (which WCCFA conservators have treated in the past) in Civic Center Plaza.

**EverGreene** put together a video piece on their laser cleaning conservation capabilities, and they are beginning a West Coast project soon.

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## Regional News, continued

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**Teresa Knutson** completed treatments on two 1920s dresses that sustained losses of beads and sequins; the treatment reinforced loose and broken threads and consolidated losses to the ground fabrics. Treating finer materials was a welcome change after spending the spring treating three Navajo rugs. For fun, Teresa volunteers at the local historic house, The Conrad Mansion. After many years spent cataloguing the costume collection, she is about to start on the costume accessories. Each year, she mounts a costume exhibition for the summer tour season. This year, the exhibition is *The Conrads Go To A Ball* showcasing examples of women's evening dresses from the 1890s to 1970, and examples of men's white tie and black tie formal wear.

**Julie Parker** has been busy with a number of private conservation projects, as well as work on artifacts for the United States Olympic and Paralympic Museum, which recently opened in Colorado Springs. In addition to her conservation work, Julie is also working creatively in large-scale shadow puppetry. Her shadow performance *Mantid Milonga* (with original score by Denver musician **Nicholas Caputo**) appeared live at the Rocky Mountain Puppetry Slam in February, just before theaters went dark due to the pandemic. Julie is now in the preliminary stages of production on a much larger outdoor shadow-theater experience.

**Stacey Kelly** has been working as the conservator at Utah Museum of Fine Arts (UMFA) in Salt Lake City, where she started in January 2020. She treated a variety of Japanese woodblock prints, hanging scrolls, and folding screens for the exhibition *Beyond the Divide: Merchant, Artist, Samurai in Edo Japan* that closes November 8th.

Stacey also has her own private paper conservation studio in Salt Lake City with several exciting projects underway. She recently repaired a hand-drawn map from the late 1800s and a pastel portrait of a young man from 1834. She also attended the University of Utah book arts program summer bookmaking series, exploring traditional and alternative bookbinding structures and forms.

*Regional reporter:*  
Julie Parker

### San Diego

**The Balboa Art Conservation Center (BACC)** received a National Endowment for the Humanities (NEH) Coronavirus Aid, Relief, and Economic Security Act or CARES Act grant in the amount of \$52,417. BACC was one of just 311 organizations to receive funding out of 2,333 eligible applications throughout the country. The grant will support cross-training art conservators and implementing a virtual pre-examination program for art objects so that staff can pivot to provide programming and services during the COVID-19 health pandemic.

BACC also announced a new program: Preserve Community Art! Created as part of the organization's ongoing commitment to protect important cultural heritage, this initiative will provide pro bono art conservation services for significant works that emerge from community-led movements in the San Diego area.

The first Preserve Community Art! project is already underway. BACC has partnered with community arts champion A Reason to Survive (ARTS) in National City to provide free documentation and preservation services for artwork, including signs and murals, from the protests that occurred this summer in San Diego. ARTS will be working to identify local artists and source work from the community, while BACC's expertise in cultural preservation will help capture and contextualize the artwork within the movement. The two organizations believe that art created as part of these activist movements is an integral part of our collective community cultural heritage and local history. By professionally preserving these protest works, we can ensure that they can be accessed by our community for future conversations.

**Sabrina Carli** of Carli Fine Art Conservation has been making the most

of the California shutdown to undertake detailed condition surveys for collectors in Southern California, implementing new database and photo documentation formats.

*Regional reporter:*  
Frances Prichett

### San Francisco Bay Area

**Ariana Makau** pivoted her business completely to making cloth masks based on respirator designs for six weeks until they were able (under the umbrella of construction) to get back to art glass conservation work. The Nzilani Mask Project (<https://www.nzilaniamaskproject.com/>) is the website of their journey which now runs parallel to their "normal" conservation work. She also presented recently completed work on a 118 year-old inverted stained glass dome for the annual California Preservation Foundation.

After over eight years as conservator for collections at Shangri La Museum of Islamic Art Design and Culture in Honolulu, Hawai'i, **Kent Severson** has followed his partner to a new job in Sacramento, California, where he will re-establish a private practice in treatment of objects and, when travel again becomes viable, return to work on active archaeological sites and at the Iraqi Institute for Conservation of Antiquities and Heritage in Erbil, Iraq.

**Margaret (Meg) Geiss-Mooney**, costume/textile conservator & collections care/management consultant, was reappointed to the City of Petaluma Public Art Committee by the city council in July. She is also serving as a member of the Train the Trainer cohort associated with Northeast Document Conservation Center (NEDCC) County-Wide Emergency Preparedness courses for 4 counties in California (San Mateo, Sonoma, San Bernardino, Ventura) that started in August. And, she is still sewing up those cloth face masks – mind your gaps!

For the past year or so **Molly Lambert**



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## Regional News, continued

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(Architectural Conservation, Inc.) and team (**Teresa Jimenez**, **Sammantha Emmanuel**, **Emi Takahara**, and **Giovanna Carravieri**) have been conserving two 1930s frescoes at the San Francisco Art Institute. Why so long? Both murals were covered with 10-15 layers of paint - oils and latexes. Funded by grants from the NEA and Save America's Treasures (via NPS/IMLS) the work has continued even though the SFAI may be closing its doors for good. Here are a couple of images of the in-progress Olmstead fresco *The Marble Workers*. The central figure may be Bay Area sculptor Sargent Johnson.

The Fine Arts Museums of San Francisco's objects conservation department was delighted to welcome three healthy baby girls in the last month: Melissa, born July 16th to **Colleen O'Shea**, Nomi, born July 23rd to **Jena Hirschbein**, and Louise, born August 3rd to **Celine Chretien**. Graduate fellow **Emily Rezes** and assistant conservator **Teresa Jimenez-Millas** are helping to hold down the fort in objects conservation for the rest of 2020.

The paper conservation lab at the Fine Arts Museums of San Francisco is delighted to welcome **Tamia Anaya** as The Andrew W. Mellon fellow in paper conservation starting in October. Tamia is a 2020 graduate of the Garman art conservation department at SUNY Buffalo State College and recently completed her third-year internship at the Library of Congress. Some of her previous experiences in conservation include a fellowship at the Hirshhorn Museum and Sculpture Garden, as well as internships at the Museum of Modern Art, Academy of Motion Picture Arts and Sciences, and the Museo de Antropología e Historia in Mexico City. Tamia's scholarship is motivated strongly by her interests to facilitate cross-cultural relationships between regional and international conservation groups and to build partnerships with local art organizations seeking to protect their collections. Welcome, Tamia!

Hail and farewell! Chrysalis Art Conservation welcomes new textile conservation technician **Kaylie Sagara**. Kaylie is a recent UCLA graduate, where she earned her BA in art history

and anthropology. Her past experience includes serving as a conservation technician at the Autry Museum of the American West in Los Angeles. Farewell to **Meredith French**. Meredith is a talented textile conservation technician, mastering laid and couched stitches using silk monofilament and a fine curved beading needle, but her heart lies in conserving works of art on paper. She will be missed. Wishing her success as she begins the Garman art conservation department at SUNY Buffalo State College!

*Regional reporter:*  
Alisa Eagleston-Cieslewicz

### Texas

The Harry Ransom Center Preservation and Conservation Division was pleased to sponsor a virtual summer internship for a student from one of the members of the HBCU Library Alliance institutions who participated in the HBCU preservation internships program. The Ransom Center sponsored **Clarke Bagsby**, a rising junior at Fisk University, for eight weeks of online seminars and discussions on topics of preservation and conservation of collections. The seminars were available to all of the intern class this summer and were conducted on selected topics by the various participating institutions.

Ransom Center conservators **Heather Brown**, **Amber Kehoe**, **Andrea Knowlton**, and **Ken Grant** presented on the seminar topic of "interventive treatment" with topics of discussion including: treatment theory, ethics and goals, as well as various treatment methods for books, photographs, and works on paper. Examples of specific treatments were shared with the group to illustrate the principles discussed.

A personal tour of the conservation department at the MFA Houston for Clarke was generously provided by **Corina Rogge** and **Per Knutås** where she was introduced to the use of various analytical methods in the study of artist materials. Clarke's interest in biochemistry informed her decision to

select a final project presentation on the topic of science in conservation. We wish her all success as she returns to her academic studies at Fisk this fall!

This fall, **Sarah Norris** joins the University of Texas School of Information as assistant professor of practice in library and archives conservation and preservation. Sarah looks forward to working with students, conducting conservation treatment, and pursuing research and outreach projects at UT.

**Pamela Jary Rosser** reports from San Antonio that conservation work in the Alamo church has sped up during the shutdown. The Alamo complex closed to the public in March, providing an ideal time for Pam to setup her equipment, extension cords, and scissor lift without disturbing 5000 daily visitors. She discovered historic graffiti on three dimensional stones above the exit door during work which could not have been completed if the Alamo church was open to the public. Pam also discovered fragments of yellow ochre tinted lime wash on the east wall of the north transept.

Sadly, the Cenotaph located in Alamo Plaza was tagged with red spray paint in May. Pam partnered with the San Antonio Mission National Park Service, and together they tested various graffiti removal methods. The World's Best Graffiti Removal System's Heritage Graffiti Removal product provided the best test results. The product was applied to a wet surface, brushed on, allowed to set, then rinse and repeat. After 5 – 8 applications the tagging was removed per the excellent directions are on the bottle. No evidence of ghosting was noted after graffiti removal.

**Heather Hamilton** began her new position as conservator at Texas State Library and Archives Commission on May 1st. Starting in the middle of the COVID-19 shutdown has been a challenge, but she has been able to work on site wearing masks and practicing social distancing.

**Mark van Gelder** has been consulting with the State Preservation Board regarding the Texas governor's office in the state capitol building. They have recently begun deploying a high

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## Regional News, continued

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intensity, pulsed Xenon, broad-spectrum-UV-emitting “sanitation robot” in their office spaces during times when the building is closed. These “UV-robots” (loosely akin to portable x-ray machines and the like) are usually purchased by medical facilities and used as a final step in the disinfection procedures for rooms in between each hospital patient.

The Texas state capitol, however, is a historic building also used for displaying hundreds of significant historic artworks and artifacts, most of which could obviously be harmed in some way by exposure to high-intensity UV radiation, even if exposed for relatively short periods of time. The manufacturer of the UV-robot being used considers much of its emissions data to be proprietary, but the exposure dose effects are currently being monitored using standard “fade strip” cards, which will be used in conjunction with the exposure data stored by the robot in order to devise an appropriate plan for protecting historic materials at risk (including possibly covering and/or removing certain items to storage until post-pandemic).

In other medical-related conservation news, Mark has also been working with a number of arts organizations and concerned citizens trying to prevent the site-specific murals gracing the entry lobby of the Medical Park Tower building in central Austin from being covered over, removed, or otherwise damaged during the interior renovation plans proposed by the building’s new owners.

The murals were commissioned from Mexican muralist Rafael Navarro Barajas (b. 1921) during the building’s initial construction in 1967 and symbolically depict *The History of Medicine* in a pair of approximately 9 x 29 foot canvas panels adhered to the walls that flank the lobby. Mark previously did extensive conservation work for the murals in 2006, and generations of Austin residents have enjoyed seeing the murals as they pass by them during visits to their doctors in the building. The fate of the murals remains unknown as of this time.

*Regional Reporter:*  
Kenneth Grant

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## Vicki Cassman (1957 - 2020)

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Textile conservator Vicki Cassman’s life began in Berkeley, CA on March 2, 1957 and ended due to metastatic breast cancer in Santa Cruz, CA on August 6, 2020. Throughout her 63 years she should be remembered for her intelligence, humanity, and generosity.

Vicki began her career in conservation as an undergraduate art history student at the University of California- Davis. In 1977-78 she left to study Scandinavian design and earned a Diploma in weaving from the Textil Institutet in Borås, Sweden. When she returned, she began an internship with former UC Davis Lab textile conservators, Carmela Simmons and Nancy Sloper from 1979-1982. After completing a BA in 1981, she began a graduate degree in textile science. Her MS (1984) thesis was on the effect on color of accelerated aging processes on mordanted natural dyes.

In 1985 she completed the Winterthur University of Delaware Art Conservation Program with a MS and specialization in textiles, had summer projects in

northern Chile, and completed a third-year internship at the Textile Conservation Center at Hampton Court, England. In 1997 She was awarded a PhD in Archeology from Arizona State University with a dissertation based on the textiles of the Chinchorro mummies of northern Chile.

I met Vicki in 1985 when she worked at the Arizona Historical Society in Tucson. Her project was to develop a textile condition survey that was computer based. After her Chilean husband began graduate studies at Arizona State University they moved to Phoenix. She began her own doctoral degree classes and started a private practice for textile conservation [1987-1998].

Among her clients in Arizona, California, Nevada, New Mexico, Utah, Washington were the Arizona State Museum (Tucson, AZ), De Young Museum of Art (San Francisco, CA), Arizona State University (Tempe, AZ), Autry Museum of the American West (Los Angeles, CA), Los Angeles County Museum of Art,



photo Evan Krape



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Museums of New Mexico (Santa Fe, NM), Museum of People and Culture (Provo UT), and the National Park Service.

In 1993-4 she taught at University of Nevada, Las Vegas (UNLV) and continued her textile research in Chile. At UNLV she began working on curation standards for human remains. In 1996-98 she was the textile conservator (part-time) at the Asian Art Museum in San Francisco and finished writing her dissertation. From 1999–2006 she was an assistant professor at UNLV where she created and taught at least five different classes for the anthropology department. She also served as a master's degree committee member for 18 graduate students. In Las Vegas, she assisted the Lied Discovery Children's Museum, the Nevada State Museum, and the Las Vegas Natural History Museum.

Vicki and I began working together on several projects involving textiles and human remains soon after we met, and this continued throughout her life. There were several early projects in Arizona and Utah. From 1998 to 2011 we collaborated on the condition assessment of the remains known as Kennewick Man for the US Army Corps of Engineers. This project required us to come to the Burke Museum in Seattle several times a year while numerous researchers conducted their studies and bi-annual condition assessments were needed. We received commendation awards from the US government in 2000 and 2005.

In 2007 we were invited to develop a conservation plan for condition, exhibition, travel, and storage for the remains known as Lucy with Ron Harvey in Ethiopia, and later that year Vicki and I worked together on a new Chinchorro mummy project in Chile focused on the woven mat wrappings. Together, we professionally wrote and presented many times about these projects. In 1999 (Las Vegas) and 2013 (Seattle) we presented on the Kennewick project at the WAAC annual meetings. In 2003 Vicki received the Kress Publication Award for our book: *Human Remains: Guide for Museums and Academic Institutions*.

After accepting the offer to teach at the University of Delaware [2006-2018], she became associate professor and the

director of undergraduate studies in the art conservation department. She also oversaw the program for international studies and arranged internships. After the UD began its Iraqi Cultural Heritage Project partnership, Vicki became actively involved as a valuable advisor and instructor [2010- 2018].

Vicki was an outstanding teacher and mentor; her students and colleagues adored her. She described her teaching methodology as “activity based” and she was a strong advocate for preventive conservation. She was honored for her devotion to conservation education with the UD Mentor Award and the UD College of Arts and Science Service Award in 2012. In addition to her many undergraduates, she served on 5 PhD committees (4 as chair). In 2014, AIC awarded her with the Sheldon and Carolyn Keck Award for her sustained record of excellence in the education and training of conservation professionals.

Her knowledge, skills, experience, and ability to teach in Spanish led to many invitations to speak in Chile, Bolivia, Peru, and Mexico, to assist with APOYO projects, and to be an article reviewer for *JAIC*, *Latin American Antiquity*, and the Chilean archaeology journal *Cungará*.

Throughout her career, Vicki authored at least 30 peer-reviewed articles, over 9 *Newsletter* articles, greater than 8 research reports, delivered more than 25 professional presentations, and made countless community and university presentations. We co-authored over 20 of these in addition to the many internal, interim, or final reports on the various projects we did together. *WAAC Newsletter* articles appeared in 1990, 1992, and 2018. Vicki also wrote successful grant proposals and received funding from the NEH, NPS, NAGPRA grants, Fulbright Commission, US Department of State, and foundations (Kress, Mellon, Getty) for her work.

Vicki was a Professional Associate of the AIC and was chair of the Textile Specialty Group in 1996-7. In 2019 she was awarded the AIC Textile Specialty Group Achievement Award for her research and mentorship. She also participated in the Textiles Society of America and the Society of American Archaeology.

Vicki's extreme generosity and passion made her a special friend for many. She maintained lifelong relationships with classmates from Sweden, UC Davis, WUDPAC, and ASU; colleagues and friends in Chile; her former students; and co-workers from the many places she worked. She often shared her home with those in need, welcomed relatives, and always stepped up when someone asked.

Vicki helped her former husband complete his graduate studies in the US, raised a wonderful son, and dutifully cared for her aging mother. When her cancer returned in 2018, she continued her numerous academic obligations to UD students. After returning to the west, she settled in Santa Cruz, California where she was assisted by dearest friends. Over the past two years our time zones were similar, and we could talk often, especially as I walked to work. We had a long rewarding friendship and she is profoundly missed.

Nancy Odegaard

As a final tribute, Vicki would be eternally grateful if you would vote and inspire others to as well, to ensure a new Administration is in place next January. In lieu of flowers, she would be honored if you would please donate to a climate change fighting organization or health care charity like Partners in Health, gifts that would keep giving in very meaningful ways.



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## Drunk Conservation Science

Sept. 25

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By the time you read this, the first Drunk Conservation Science for Conservators will be history and archived at: <https://youtu.be/JyJHNakB8Z8> (no password)

The success of the Modular Cleaning Program online mini-workshops and MCP tutorial Zoom sessions inspired Drunk.... To those of us hosting the MCP sessions, it became clear that there is a gap between practical conservation knowledge and the scientific underpinnings of that practical know-how. We (Luke Addison, Craig Deller, Tiarna Doherty, Nina Roth-Wells, and Chris Stavroudis) wanted to try to bridge that gap by offering short sessions on conservation science as it relates to daily conservation practice.

It seems every museum has started online cocktails with someone or about something. We felt we had to up the game. The name was taken from the web series turned Comedy Channel cable hit *Drunk History*. That show's basic premise was: a guest would be invited to talk about their area of historical research. Drinks would be consumed – lots of drinks. The show would then offer low-budget dramatizations to accompany the narration of the story by the seriously drunk historian.

We don't have the collective stomachs for truly drunk conservation science. (It should probably call it *Tipsy* ...) What we aim to offer is a much less formal setting to discuss the applications of basic science to the practicing conservator.

The subject of the first Zoom Drunk Conservation Science for Conservators was: what else, ethanol.

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## Membership

**Chris Stavroudis**  
*membership secretary*

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**WAAC welcomes the following new members and late renewals.**

Tamia Anaya, Art Gallery of New South Wales Paper Conservation, Chantal Bernicky, Sara Bisi, Im Chan, Jacklyn Chi, Wendy Cowan, Mary Jo Davis, Rhea DeStefano, Anne Driesse, The Menil Collection, Amparo Escolano,

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## Jobs

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### **Shangri La, Museum of Islamic Art, Culture, and Design** **Conservator**

The Conservator is responsible for overseeing the proper care, conservation and preservation of Shangri La's collections of artworks, cultural resources and architectural elements. In collaboration with museum staff, the Conservator develops, leads and implements the institution's conservation plan, manages and performs daily conservation activities—including the work undertaken by a part-time conservation technician and conservation contractors and vendors—and advises on building and grounds preservation and capital projects. Reports to Curator of Collections & Exhibitions. Status Full Time - Exempt

The ideal candidate is an innovative problem-solver who develops solutions for complex conservation challenges in an artistically active museum located in a tropical, oceanfront environment. The Conservator must be a consummate professional who strives to achieve the highest standards of care and protection for the collection as embodied in the American Institute for Conservation (AIC) Code of Ethics and Standards of Practice while being mindful of issues of sustainability and the cultural history and needs of the institution.

Send resume with cover letter to [hr@ddcf.org](mailto:hr@ddcf.org). Include your last name followed by "Conservator" in the subject line. Application reviews will begin August 24, 2020 and continue until position is filled. No phone calls or in-person applications, please.

membership continued

Alison Freake, Dawn Heller, Rosaleen Hill, Amy Hughes, Harriet Irgang Alden, Andrew Jacobs, Jamye Jamison, Marianne Kelsey, Marika Kocsis, Michelle LeBleu, Patrice Lejeune, Jennifer Loubser, EmilyKate Lynch, Edward Macomber, Crystal Maitland, Jo Anne Martinez-Kilgore, Museum of Fine Arts, Houston, Madeleine Neiman, Adam Novak, Bonnie Parr, Andrea Pitsch, Emily Rainwater, John Slavin, Carol Ann Small, Denise Stockman, and Viviana van Vliet.

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## WAAC Publications

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### **Handling Guide for Anthropology Collections**

Straightforward text is paired with humorous illustrations in 41 pages of "do's and don'ts" of collection handling. A Guide to Handling Anthropological Museum Collections was written by Arizona State Museum conservator Nancy Odegard and illustrated by conservation technician Grace Katterman. This manual was designed to be used by researchers, docents, volunteers, visitors, students, staff or others who have not received formal training in the handling of museum artifacts. Paperbound and printed on acid-free stock.

**Price: \$10.00**

(\$8.00 copy for orders >10 copies)

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### **Back Issues of WAAC Newsletter**

Back numbers of the *Newsletter* are available. Issues Vol.1 - Vol.14, #3 (Sept. 1992) are \$5/copy. Issues Vol.15 - Vol.29, #3 (Sept. 1997) are \$10/copy. Issues Vol.30 (Jan. 2008) and after are \$15/copy. A 20% discount will be given to libraries seeking to obtain back issues to complete a "run" and for purchases of ten copies or more of an issue.

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**Prices include shipping and handling.**  
**Make checks payable to WAAC**  
**drawn in US dollars on a US bank.**

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# Playing it by Ear: Piano Roll Preservation in the Stanford Player Piano Program

by Jill Sison  
and Elizabeth Ryan



Large research libraries often maintain collections of objects distinct from book and paper formats. As a result, library conservation departments can become involved in complex projects with multiple departments and unfamiliar materials. In such a way Stanford Libraries Conservation Department became engaged in the Player Piano Program to repair piano rolls for digitization. The nuances of running thin, perforated paper through a custom-built roll scanner; repairing and replacing roll paper, cores, and flanges; and learning about the musical significance of perforation placement have been unexpected challenges and learning experiences!

## Program background

The Player Piano Program “promotes study and research on the player piano and organ, with a focus on historically informed performance practice of the late nineteenth and early twentieth centuries.” (<https://library.stanford.edu/projects/player-piano-project>.) The Program grew out of “*Reaction to the Record, early recordings, musical style, and the future of performance*,” a symposium by the Stanford Archive of Recorded Sound and Music Library that began running in 2007. Discoveries made at the symposium revealed untapped research potential in piano rolls for studying historic piano performance.

Project goals are to collect, preserve, study, and improve access to piano rolls. The program was initiated by the Music Libraries’ acquisition of the Dennis Condon Collection of piano rolls and instruments, which includes works by Debussy, Gershwin, Prokofiev, Stravinsky, and many others playing their own works. Additional acquisitions of piano roll collections followed. To promote access and research use, a dedicated scanner that produces digital images and audio files through software analysis was custom-built in conjunction with the Music Library and Stanford Center for Computer Research in Music and Acoustics (CCRMA) and The Center for Computer Research in the Humanities (CCARH).

The Player Piano Program team includes staff from conservation, the Music Library (Metadata, curatorial staff), Archive of Recorded Sound (ARS), Digital Production Group (DPG), music faculty, the Center for Computer Research in Music and Acoustics (CCRMA), and The Center for Computer Research in the Humanities

(CCARH).. The conservation department’s close work with the program team and the related technical issues in scanning have influenced conservation decisions about repair, replacement papers, documentation, workflow, and other aspects of the project.

## Piano roll basics

Player piano rolls are constructed of long sheets of paper with perforations representing prerecorded music punched in specific configurations and wound around a core. Piano roll paper is thin with a slick surface and can easily tear if torqued. The rolls have a leader on one end that contains information about the music, and a method of



attaching the roll to a take-up scroll in the player piano. The trailing end of the roll is adhered to the core, and flanges that fit in the tube secure the roll in place.

A number of manufacturers are represented in Stanford’s collection. Manufacturers had different specifications for paper width and color, perforation placement, leader and flange style, core length, and other features.

In the flanges alone, variants are found in orientation (drive or idle side), material (wood, plastic, metal), and securing method in the player (pins, slots, or holes). The leaders may be paper or fabric and may anchor the roll with D-rings, eyelets, adhesive tabs, or hooks.

Piano rolls are typically categorized as either “standard” or “non-standard.” Standard rolls have a core length of ~11-1/4”. Non-standard rolls have cores of greater or lesser length than 11-1/4”.



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## Playing it by Ear: Piano Roll Preservation in the Stanford Player Piano Program, continued

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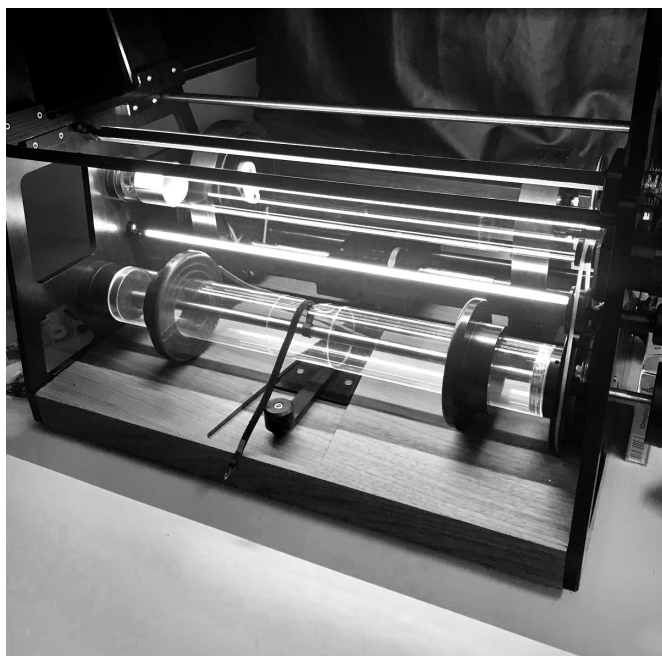
The conservation department's approach throughout the project has been to balance making functional repairs with respecting the artifactual value of the object.

### Assessing the damage and preparation for scanning

An initial assessment of a portion of the Condon collection identified 12 % as having preservation issues; i.e., damage through general use and poor storage conditions. With additional collections totaling 19,841 rolls, this project could potentially generate a large volume of work for conservation. Therefore, establishing clear protocols for intervention would be important. Frayed edges, paper tears and holes, folded edges, broken perforations, poorly executed repairs, broken flanges, and damaged leaders are some common problems. Other challenges include previously taped repairs causing planar distortion and rolls with detached and missing cores and leaders.

The conservation department's involvement in the project began during the scanning test phase. The purpose-built scanner in DPG can be adjusted to hold different sizes and types of rolls. The scanner has a holder for the roll on one side of the imaging area, and a pickup spool that the roll's leader attaches to on the other side. The roll is automatically run through the imaging area, allowing an overhead camera to capture a long continuous image.

Overhead lighting lets the camera capture the color and details such as labels and lyrics on the front of the roll, while a backlight shines light through the roll perforations. When the image goes through software analysis, this relatively bright transmitted light is used to determine which areas are perforations on the roll. Based on this information, a midi output is created.

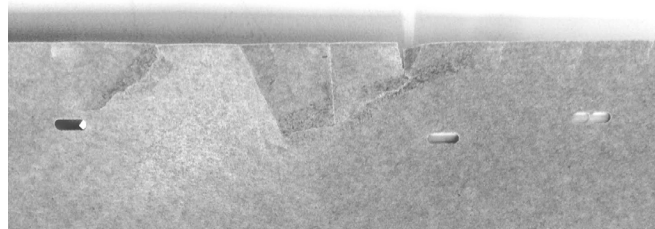


Because of this system, ensuring that the perforations aren't obscured or otherwise distorted is one of the main considerations when making repair decisions for stabilization. Experiments with repair techniques on deaccessioned rolls were carried out, and protocols for repair and handling rolls during scanning were developed during the project test phase. Over time, these protocols have been adjusted as the needs of the project evolved.

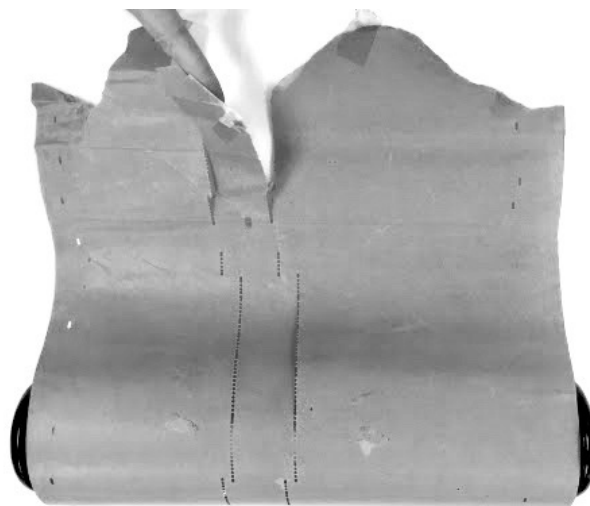
Red-colored rolls manufactured for the Welte-Mignon player piano were the first rolls to be scanned. Often simply called red Welte rolls, these reproducing rolls predate standardization and capture significant classical piano performances. A collection of 19 Spanish- and French-published rolls have also been scanned for an online exhibition. Because our initial protocols were based largely on the relatively uncommon Welte rolls, we revisit them periodically as we get other types of rolls in the lab.

Given the heavy work load the project could potentially generate for conservation, it was important to distinguish between acceptable damage for scanning and damage that required intervention. Working with DPG, conservation chose a test roll with minor edge tears to determine acceptable damage levels for successful scans.

The test run revealed that rolls with minor tears like this could be successfully run through the scanner.



This knowledge eliminated the need for conservation work on rolls with minor problems and allowed us to focus on more significant damage like this (below).





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## Playing it by Ear: Piano Roll Preservation in the Stanford Player Piano Program, continued

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Conservation has addressed damage in these broad categories: roll paper tears and damaged or missing piano roll components such as leader attachments, cores, and flanges. Tackling these repairs, however, first required acquiring some specialized equipment and supplies!

### Specialty equipment and supplies

A number of rolls that came to conservation were missing specialty parts, such as cores, flanges, and leader attachments. These components are necessary for scanning and needed to be replaced. Fortunately, some piano roll replacement parts are still commercially available. ARS worked with dedicated piano roll collection care and repair communities to source suppliers for these items, which include new standard cores and flanges, as well as D-rings for leader attachment.

Core and flange replacements for non-standard rolls are not readily available, commercially or otherwise. Therefore, compatible core measurements were derived from Welte rolls in the lab. The cores were custom-ordered from a mailing tube company. Fortunately, the slightly trickier-to-replace Welte flanges are not attached to the core and can be easily removed. DPG was able to obtain a spare set. Instead of needing to source a replacement pair of flanges for each roll, the spare set is temporarily swapped into flange-less Welte rolls for the purposes of scanning.

Conservation has also obtained two specialty manual repair systems through the piano roll community; one is a fixed-width tabletop device for standard rolls, and the other is a set of adjustable holders that clamp onto a table for non-standard rolls. Some initial repairs were done on the bench, but these devices allow for quicker and easier scrolling through rolls, while keeping everything aligned and tensioned. The same type of tabletop device is also used in ARS for their studies.



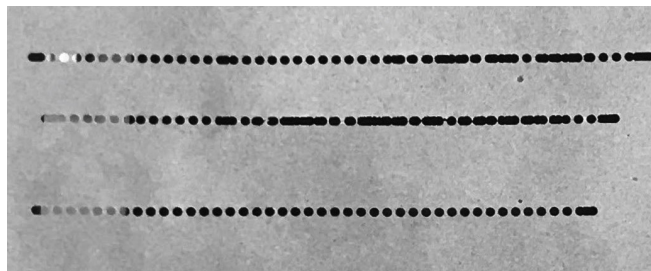
### Repairs

Repairs described here will focus on the relatively uncommon red Welte rolls, which have comprised the bulk of conservation's work thus far. Repair decisions were based on physical stabilization for scanning, retaining perforation information for software analysis, and efficiency.

### Tear repairs

Our default repair material on the red Welte rolls is Filmoplast R. This repair tissue is thin, flexible, and efficient; therefore, well-suited for high volume repairs on this water-sensitive roll paper. Occasionally a dry wheat starch paste is used for tears with a heavy scarf. For other rolls, we've also used a light Japanese paper mend - generally Hidaka Washi Tengucho - when Filmoplast R has felt too heavy or has not adhered well to the paper. Filmoplast R or wheat starch paste also works for detaching leader material. Fills on the main part of the roll are done if needed for stability with the Tengucho and wheat starch paste.

A technical challenge presented early in the project was how to repair extended tears across very thin paper bridges between closely spaced perforations. This damage was seen in both the test rolls and the first batch of Welte rolls. Long mends of thin Japanese paper that covered the tears and perforations were tried. While the paper was translucent to us, it blocked enough light that the software couldn't differentiate between the paper and the perforations. The thought of repairing each thin bridge was daunting, to say the least.



Surprisingly, though, it turned out these thin bridges don't necessarily need repair to be physically scannable or analyzed correctly by the software. As we found out, the scanner runs the roll more smoothly and tightly than we are able to on our manual table - if it doesn't present issues for us, then it rarely presents issues for the scanning operation.

The midi conversion is also unaffected because when perforations are grouped together at their closest (and therefore more likely to tear), they are read by an analog player piano as a single, held key strike rather than multiple key strikes of the same note. This means a close enough perforation grouping would create the same sound regardless if any of the bridges between the perforations were torn or not. Since the software bases its midi output on analog player piano interpretation, it does the same for tears in close perforation groupings.

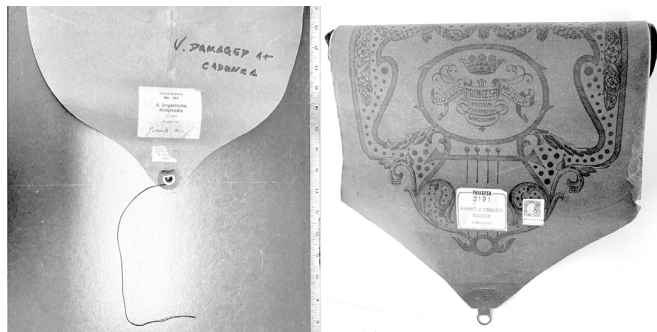
### Leader attachment repairs

Two different leader attachment types have come to conservation so far: reinforced eyelets on Welte rolls, and fabric tabs with D-rings on the Spanish and French rolls.

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## Playing it by Ear: Piano Roll Preservation in the Stanford Player Piano Program, continued

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Reinforced eyelets are created by a metal grommet being punched either directly on the leader or on a small extended tab. The reinforcements are often fabric or cardboard discs, or additional paper on the verso. A string is common for securing the piano roll when it's closed. As a result of stress on this area, the eyelets are often damaged. They may be partially or fully torn away and the eyelet area is often permeated with adhesive.

For torn eyelets, a layer of heavy Japanese paper, such as thick Yukyu-shi, is used for initial loss fills. Larger fills can have an additional layer of Perma/Dur for added strength and to better match the thickness of the adhesive-permeated paper.

Fabric tabs with D-rings are tabs adhered to the tip of the leader with an extension that folds around a small D-ring. The damage here has been mostly wear-and-tear on the fabric where the D-ring attaches, as well as adhesive failure and loss of D-rings. Wheat starch paste and Japanese paper are used to reinforce weak areas and mend splits in the fabric, and missing D rings are replaced.

Sometimes a larger portion of the leader is missing. Often this is just due to extended mechanical damage, but we learned from ARS that another reason for missing leaders (and cores) in the Condon collection was that Dennis Condon, the previous owner, had spliced some of his rolls together for a longer playtime.

To do so, he removed the leader of one roll and the core of another and taped the two along the cuts (as well as taping over perforations on the first roll that normally signals the player piano to rewind). For the Library's purposes, we are undoing the splices, removing the tape, and attaching new cores or leaders to the rolls.

When a larger portion of the leader is missing, a replacement is made with Perma/Dur - chosen for its slickness and similar weight to roll paper - with the grain running long to match the roll paper. An eyelet is made on the new leader by punching a hole at the tip and adhering a ring of heavy Japanese paper for reinforcement. The roll paper is trimmed to a straight edge and the new leader attached with Filmoplast R and a penciled-in label.

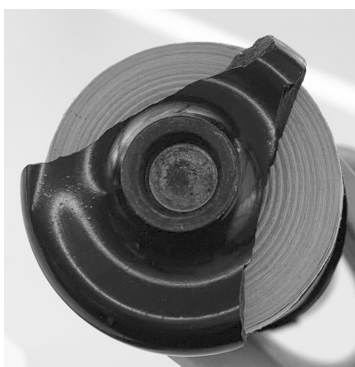
### Non-paper repairs

#### Core repairs

Core repairs have either been roll reattachments or full replacements. Reattaching rolls is done by attaching a short stub of Perma/Dur that's long enough to wrap around the original core with offset strips of Filmoplast R on either side. The roll is trimmed to a straight edge if needed, and the stub is attached to the roll. Full core replacements are done in the same way, as both core types obtained in the lab are acidic. Full replacements are done when either the core is completely missing, or the flanges are both unusable and unremovable from the core.

#### Flange issues

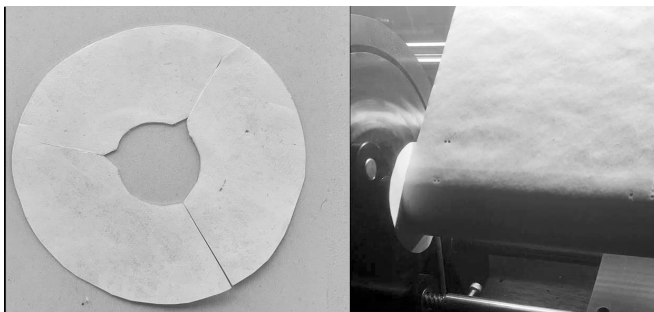
Flange issues are due to either loose flanges or endcap damage. For loose flanges where we're keeping the original cores and flanges, we have created removable spacers of 1/8" Volara, cut into a doughnut. New replacement flanges can also have layers of Japanese paper and wheat starch paste built up directly on them.



Endcap damage is when the part of the flange outside the core has portions broken off. With care and practice, the scanner operators can scan rolls with a large amount of the endcap missing, but there is some risk that the paper edge may catch on the remaining part of the endcap or be difficult to keep aligned.

A shim made of laminated Mylar and Tyvek works as a failsafe when larger portions of the endcap are missing. There is generally a small space between the roll edge and the flange that the shim is thin enough to sit in.

To insert, the split is opened and lined up with the biggest loss on the flange. The shim can then be gently worked into the space, with the flange loss creating extra room for the middle portion of the shim to flex into if needed. Then the slit is rotated around to the flange loss and taped to secure. If there is not enough left of the original endcap to secure a shim or it is missing completely, the core is removed and replaced with a new one.





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## Playing it by Ear: Piano Roll Preservation in the Stanford Player Piano Program, continued

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### Previous Repairs

Over time and through use, piano rolls have been repaired with a variety of materials with mixed success. Previous repairs have been found throughout the roll paper, and also to various roll components - cores, leaders, and flanges. Many of these are still holding up and are left in place if they are not interfering with scanning or analysis. Our main concern is with repairs that are no longer functioning.

Previous paper tear repairs were commonly done with translucent pressure-sensitive adhesive tape. In the Condon collection, many short strips of tape cover paper tears. Losses were generally ignored, but in one case, a roll was found with small fills of white paper attached with tape. We remove and replace previous tear repairs if they are partially detached, brittle, or misaligned; trap folds underneath them; or overhang perforations or the edge of the paper.

We've also found cores that have been reattached in the past with centered strips of adhesive tape. These fail when tape becomes brittle.

Previous repairs on leader attachments include commercial replacement parts; yarn or thread loops in fabric tabs; and rubber bands. We replace these if they are no longer functioning or causing damage to the piano roll.

Previous flange repairs are generally adjustments made to secure loose flanges. These are typically layers

of masking or translucent tape around the portion of the flange that extend into the core. On some wooden flanges, that portion forks into 4 prongs, similar to an old-fashioned clothespin. Fabric layers have been found packed between the prongs, which seems to be another way to adjust the flange tightness.

These adjustments have generally fared well, and only need a spacer added if the flange is still loose. Further down the line, as rolls from different manufacturers and time periods arrive in the lab, we anticipate having to adapt materials and techniques to the particular physical quirks of each type. Despite its seemingly simple format, there is still a lot to learn from working hands-on with piano rolls!

We look forward to our continuing support of the Player Piano Program which is expanding awareness of and access to this perhaps previously underappreciated, historically significant music storage system.

photos by Elizabeth Ryan and Jill Sison

For more information about the Stanford Player Piano Program:

The Player Piano Project, Stanford Libraries <https://library.stanford.edu/projects/player-piano-project>

Stanford University Piano Roll Archive online exhibit <https://exhibits.stanford.edu/supra>

KQED: Century-Old Player Pianos Come to Life at Stanford <https://www.kqed.org/news/10493594/player-pianos-come-to-life-at-stanford>



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# Conserving Canvas: François Boucher's *Vertumnus and Pomona* at the Fine Arts Museums of San Francisco

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In May 2018, Fine Arts Museums of San Francisco (FAMSF) received a Conserving Canvas Initiative grant from the Getty Foundation to carry out the treatment of *Vertumnus and Pomona*, an oil on canvas painting dated to 1757. This initiative was designed to help bridge a widening knowledge gap between generations of conservators on the topic of structural interventions on canvas paintings.

Following the groundbreaking Greenwich Conference on Comparative Lining Techniques in 1974, many paintings conservators transitioned from the use of traditional lining methods to favoring minimally invasive treatment. This approach had many beneficial impacts, but as traditional lining methods were phased out of training programs, another outcome was the reduction in practical experience of structural treatment amongst the younger generation of painting conservators.

The Conserving Canvas Symposium supported by the Getty Initiative, held October 14-17, 2019 brought together conservators from around the world to consider the current state of structural treatment of canvas in paintings for the first time since 1974. An excellent summary of the symposium can be found in the *WAAC Newsletter* volume 42 no. 1 (January 2020).

## The Project

Measuring 123  $\frac{3}{4}$  x 72  $\frac{1}{2}$  inches (314.3 x 184.1 cm), *Vertumnus and Pomona* is one of the largest paintings in the collection of FAMSF. The painting had been a priority for treatment for years due to its compromised condition, which include strong canvas distortions, extensive retouching, and yellowed varnish.

The large size of the painting and the complexity of the treatment prevented the conservation team from undertaking this project in the past. The Conserving Canvas grant provided a perfect opportunity to use the treatment of this painting as a tool for teaching and learning, and to forge connections between senior, mid-career, and emerging conservators. Written into the grant was a position for an early-career fellow to work alongside Elise Effmann Clifford, Tricia O'Regan, and Sarah Kleiner.

The project also includes participation of two mid-career conservators, Lauren Bradley (Brooklyn Museum) and Sophie Scully (The Metropolitan Museum) and is supported by advisors Dorothy Mahon, Paul Ackroyd, Mark Tucker, Robert Proctor, and the late Frank Zuccari.

With regard to the textile aspects, we consulted Charissa Bremer-David (formerly of the Getty decorative arts curatorial department) and FAMSF director Thomas Campbell, as well as, of course, FAMSF staff conservators Sarah Gates and Ane Getts.

Originally planned as a three-year, three-phase project organized into cleaning, structural treatment, and retouching, the course of treatment evolved as discoveries were made about the structure and history of the painting.

## *Vertumnus and Pomona*, Original Composition and Use

The story of Vertumnus and Pomona originates in Ovid's *Metamorphosis*; Vertumnus, the Roman god of seasons and fertility transformed himself into an old woman in order to seduce Pomona, the goddess of fruit and gardens.

This seduction was a popular motif from the sixteenth through eighteenth centuries because it allowed artists to depict an erotic scene with tasteful modesty. In fact, this was not the first depiction of this scene that François Boucher made; there is an earlier version dated to 1749, now in the collection of the Columbus Museum of Art.

The history and use of FAMSF's *Vertumnus and Pomona* is fascinating and foundational to the complex structural challenges faced during this treatment.

The painting as it appears today reflects neither its original format nor context. The painting was created to be used as a cartoon for tapestry weavers working on low-warp (bas-lisse) looms at the Beauvais Manufactory. The original composition was larger, as can be seen by comparison with a tapestry made from the entire painting.

The tapestry was a part of a series *Fragments d'Opéra*, produced by Beauvais from 1751 to 1776. To be used as a

*Vertumnus and Pomona*, before treatment (FAMSF)  
123  $\frac{3}{4}$  x 72  $\frac{1}{2}$ " (314.3 x 184.2 cm)





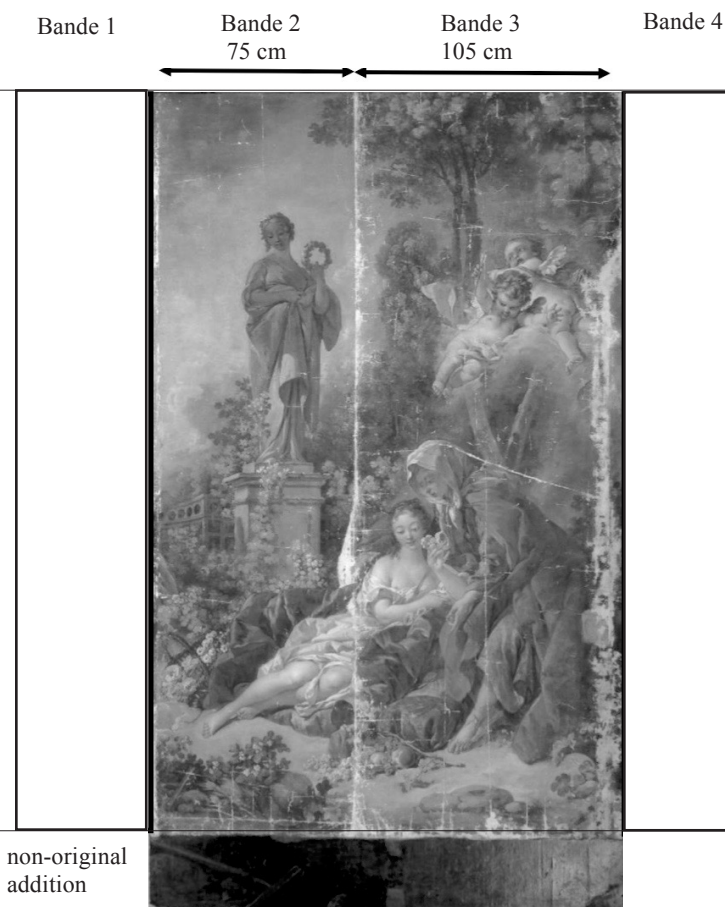
cartoon for weaving, a painting would be cut into vertical bandes to fit below the warp threads, facing the weaver. The front side of the tapestry faced away from the weaver and toward the bande, producing a completed tapestry in the mirror image of the cartoon.

The question had been debated by scholars for years, whether the painting had been used as a cartoon (a design intended to be used as a direct pattern) or a model (a full-scale or reduced-scale design intended for indirect copying). An X-radiograph made in 2018 revealed that the vertical join, previously visible only in raking light, was in fact an intentional and careful cut in the finished painting to produce the strips or bandes, confirming its use as a cartoon.

In total, there are six tapestries known to have been made from the cartoon. The FAMSF painting comprises only the central two bandes of the original composition. This is known based on written records from Beauvais and confirmed by the comparison with the tapestries made with the full four-bande design.

#### Later Adaptations

*After cleaning: the vertical white line in the center is the cut line between bandes 2 & 3. The discolored varnish and overpaint on the bottom addition which was once integrated is now very visible.*



Tapestries such as *Vertumnus and Pomona* were woven on a commission basis; after its design fell out of use, the bandes were presumably rolled and stored at the Beauvais Manufactory for decades. In 1829, a decree was made authorizing the sale of the cartoons as decorative paintings. Likely after the decree, the central bandes were joined into the current format, and lined.

Sold as a decorative suite along with three other paintings, the format of *Vertumnus and Pomona* was matched to these other paintings by applying a 10 ½ inch high addition along its bottom edge. The addition brought the figures to the same size as those in the two other known paintings from the suite: *Evening* and *Love's Offering*, currently located in the Casa Labia Collection in South Africa.

X-radiography revealed that the addition at the bottom actually comprises four disparate pieces. Cross sectional analysis suggests that the fragments came from other Boucher workshop cartoons.

The ground layers are consistent across these fragments,

*One of the tapestries made from the cartoon, a mirror image of the original painting, includes Bande 4 and shows the portion of the top edge that was folded over in the FAMSF painting. (Metropolitan Museum)*



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## Conserving Canvas: François Boucher's *Vertumnus and Pomona* at the Fine Arts Museums of San Francisco, continued

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characterized by a red primary ground layer covered by a thicker off-white ground layer containing black, brown, and red particles, while upper layers of paint suggest they originated in different areas; some from blue sky and others from vegetation.

It is theorized that at an early point in their lives as lined paintings, the suite was further re-purposed to be installed for a time in an architectural setting. There are arced cut-outs at all four corners, approximately 6 inches high by 7 inches wide, as well as arced abrasion and residues of gilding a few inches inside the edge of these cut-outs.

Additionally, there are tack holes through the face of the painting along the left and right edges, as though the painting was once attached in this way to a stretcher or strainer.

Finally in the last alteration, the paintings were removed from the architectural setting, and attached to matching stretchers. At this time, the overall height of *Vertumnus* and *Pomona* and its companion paintings were reduced by folding approximately six inches of painted canvas around the turnover edges at the top and bottom, and attaching this to the back of the stretcher.

### Treatment

The sequential changes in the format and size of the painting are, not surprisingly, now manifested in disturbing planar distortions. The question of the folded-over section at the top, and the bottom addition also needed to be addressed.

After the cleaning phase of the project was completed in early 2019, the structural treatment phase commenced. *Vertumnus and Pomona* is glue-paste lined to two pieces of a medium-weight, plain weave fabric with a vertical seam at the center. The seam of the lining canvas does not align with the seam in the primary canvas, which made initial interpretation of the X-radiograph more challenging.

There is an interleaving layer of a very open weave gauze-like fabric between the primary canvas, typical of French linings, and it is continuous across the seam in the lining fabric. The layers and seam indicate that this is the original lining.

The initial examination of the painting suggested that the lining was failing in several large areas, leading to the recommendation that the lining be removed and the painting be re-lined. As treatment progressed, however, it became clear that some of the distortions were not caused by delamination, but by old repairs, which were removed from the verso of the lining fabric. It was determined that other small areas of delamination

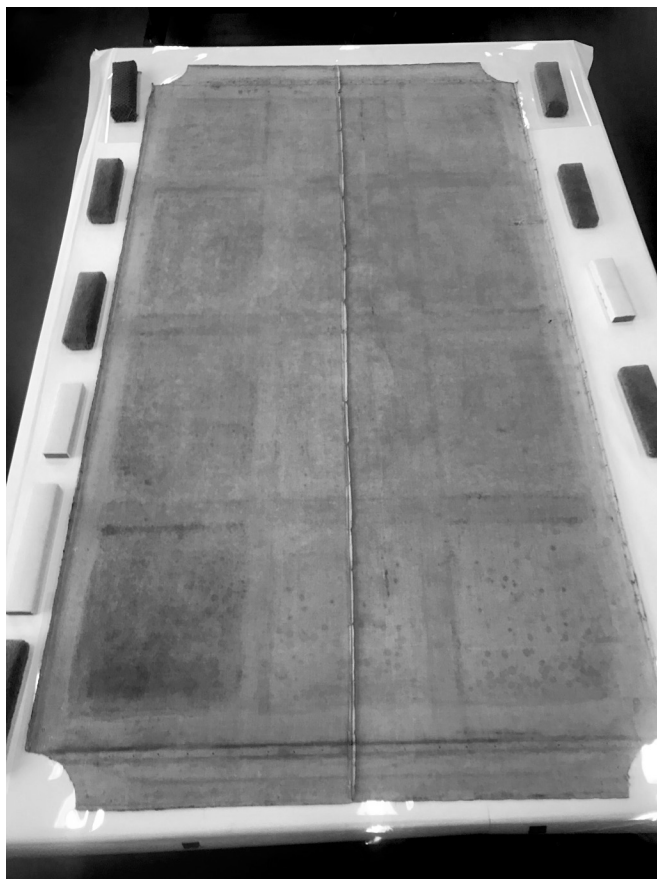
could be addressed in a targeted and localized manner, and so the decision was made not to re-line the painting.

As the structural treatment progressed, conversations with the project's advisors and curators at the Museums about what to do with the non-original, severely discolored addition at the bottom of the painting led to further attention given to the six inches of original paint at the top turn over edge. There was general agreement that while addressing the aesthetically incompatible bottom strip, it was equally important to reclaim this area of original composition at the top.

Although no longer a relining, the format changes necessitated removal from the stretcher. This was completed with a great deal of patience as the turn-over edges at the top and bottom were incredibly stiff and brittle, effectively locking the stretcher in place.

After facing the fragile paint at the turn-over edges, moisture was slowly introduced from the verso to relax the bent canvas and incrementally open it away from the stretcher. Once enough space was created, the stretcher was removed and the top and bottom turn over edges

*After flattening the top and bottom turn over edges, the arced cut-outs at the four corners could be seen more easily.*





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## Conserving Canvas: François Boucher's *Vertumnus and Pomona* at the Fine Arts Museums of San Francisco, continued

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were further humidified and flattened with the painting face-down on a worktable.

After completing the initial campaign of flattening these turn-over edges, the painting was sandwiched between two custom-fitted Gatorfoam® boards and flipped face-up on the table to address the non-original bottom addition.

While it no longer relates to the cleaned composition, it does bear historical significance to the painting, acting as a record for how these recycled tapestry cartoons were transformed into decorative paintings. However, the addition could not be displayed

Treatment options revolved around how best to preserve the addition; these included creating a new bend or curve to hide it behind the stretcher, constructing a frame liner with an exceptionally wide bottom edge to hide the addition, and removing the addition from the painting.

The first option was rejected because introducing a new bend would have further damaged the addition. The second option was rejected, because the width of the liner would have unbalanced the aesthetics of the frame.

Ironically, it became clear that the best way to preserve the addition was to remove it. With the removal of the bottom addition and the reclamation of the top edge, the overall height of the painting is reduced by 4 ½ inches. There is an ongoing discussion about modifying the stretcher and frame to accommodate this change, or constructing a frame liner to adjust the frame window to these new dimensions.

While the painting was face-up, the success of the initial flattening was also assessed.

Along the old bend at the top, there were many tough distortions and overlaps in the paint layer that required more targeted application of humidification and weight. The presence of the lining, gauze, and glue layers impeded this targeted flattening.

The painting was turned face down and the lining along the top edge was peeled away approximately seven inches. Because this portion of the lining and gauze layers was stretched and warped from pulling and retained the old distortions, the decision was made to remove this section of the lining.

The old glue paste adhesive on the reverse of the original canvas was reduced mechanically, first dry and again after the application of moisture using gellan gum. Localized humidification and weights were applied from the back to further reduce distortions. While the canvas slowly dries under weight, the

challenge of how to compensate the arced corner cut-outs is under debate. Testing of materials to use as inserts in these cut-outs is ongoing, and ideas about how to mimic the layered structure of the old lining are being investigated.

Whatever material is chosen as a support along this top edge must be sufficiently stiff to prevent distortions from reappearing in the future. Once a material and method for filling the corner cut-outs has been determined, the fills must be integrated to match the surface texture of the painting. Ultimately a strip lining will be attached to the painting so that it can be returned to the stretcher.

One of the most valuable aspects of participation in the Getty Conserving Canvas Initiative is the opportunity it has given the Fine Arts Museums to be a part of a greater conversation surrounding structural treatment of canvas paintings and in the transmission of knowledge and experience between different generations of conservators.

The onset of the COVID-19 pandemic significantly altered the timeline for the treatment, and has obliged the conservators at FAMSF to postpone one important component of the project: a workshop for the project participants, hosted at the de Young, focusing on canvas inserts and fills.

Originally planned for May 2020, the workshop was planned to utilize the experience of Robert Proctor and Mark Tucker to explore and practice different ways of loss compensation and integrating the surface texture of fills and original seamlessly over large areas.

While the project has diverged significantly from its original timeline, digital communication between the FAMSF conservators and their external collaborators has blossomed and has been an unexpected silver lining during a time of physical social distancing.

The chance to delve into engaging discussions about materials and methods has been particularly welcome, and collaboration with the textile conservators at FAMSF has been of particular help throughout this project. The painting conservation team at FAMSF looks forward to sharing news about the Boucher project in the future as the treatment progresses.

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*It's a humbling reminder for painting conservators  
of the relative importance of different art forms in different times  
that a Boucher painting was made and then cut into pieces to  
serve as a cartoon for tapestry weaving.*

(Ed.) (painting conservator)

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## Surfactants & Solvents: Potential for MCP - Designed Nanostructured Fluids for the Removal of Polymer Films

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For conservators few things are as frustrating as designing a solution for a complex cleaning problem and ending up with undesirable, inconsistent, or negligible results. It's detrimental to the object, our time, and our already restricted budgets. The Modular Cleaning Program (MCP) developed by Chris Stavroudis and its widely accepted underlying methodology go a long way in providing a systematic approach to solving difficult cleaning problems, giving conservators a variety of tools to manipulate in a controlled manner.

However, an underutilized and often misunderstood cleaning tool within the MCP (with untapped potential in solving our cleaning problems) is the surfactant. In order to effectively utilize surfactants we need to understand as many of their properties and interactions as possible.

While their activity at the solid-liquid interface is widely reported in the relevant literature, it is not sufficient to consider this alone. We need to understand the interactions between the surfactant and other components within the solution itself in order to effectively control and fine-tune what we're doing. As emulsions and microemulsions become more prevalent we especially need to consider surfactant interactions within systems that contain both water and organic solvents.

In this article, I am going to delve into surfactant and solvent properties, their interactions, and how we can manipulate them to give us our desired results: safer, more effective, and more controlled removal of soiling materials and polymer films.

We'll explore how polar solvents increase detergency, the advantages of nonionic surfactants in comparison to ionic surfactants, the dewetting of polymer films, and how to practically apply these concepts using the MCP.

### Out of the Clouds and into the Studio

A significant property of a surfactant to consider is the cloud point temperature ( $T_c$ ). The  $T_c$  of a surfactant solution is the temperature at which phase separation occurs, resulting in two distinct phases: surfactant rich & surfactant poor. Cloud point temperature is generally measured by dissolving 1% (w/v) surfactant in water, then warming the water until it transitions from clear to cloudy (phase separation). A surfactant's  $T_c$  is often higher than ambient room conditions, so normally a solution will be clear.

So, the cloud point temperature can be reached by raising the temperature of a surfactant solution. It can also be reached if the  $T_c$  is lowered by something that interacts with the surfactant, such as increasing salt concentration or adding polar hydrogen bond accepting (HBA) solvents.

An example of a lowered  $T_c$  caused by a polar HBA solvent would be the addition of a solvent like MEK (butanone) to a nonionic polyoxyethylene surfactant like Ecosurf EH-6. Here, clouding results from decreasing the hydration of oxyethylene oxygens in the surfactant's hydrophilic head group(s).

Solvent-induced lowering of  $T_c$  occurs by increasing the ratio of the dispersed polar solvent phase (MEK) to the aqueous continuous phase. Essentially, MEK is such a strong hydrogen bond acceptor<sup>1</sup> that it interferes with the interaction between water and the polar head of the surfactant, resulting in dehydration of the polyoxyethylene (POE) chains, thus bringing the system's  $T_c$  closer to room temperature. Understanding this interaction enables us to use it to our advantage.

### Detergency and You

So why would we want to move the  $T_c$ ?

Because detergency, a surfactant's relative effectiveness in separating a soiling material from a substrate as a function of concentration, increases as the surfactant gets closer to its  $T_c$ . Maximal detergency occurs just before phase separation at  $T_c$ .<sup>2</sup>

In this instance detergency consists of rolling-up, emulsification, and solubilization of oily soil layers or components of polymer films. By manipulating the cloud point temperature of a surfactant, for example through the addition of a polar organic solvent, increased detergency can be achieved while utilizing less surfactant.

For some surfactants, like those in the MCP, 2-5x critical micelle concentration (CMC) can generate the same cleaning effect as the 10x CMC generally recommended for aqueous cleaning systems. This significant reduction of surfactant concentration results in easier clearance and less potential residue on the surface being cleaned.

Further, some surfactants nearing their  $T_c$  experience an elongation of their spherical micelle shape, which results in a prolate spheroid. Size reduction of micelles has also been consistently observed near  $T_c$ . Both behaviors improve cleaning through an increase in the soil-micelle interfacial contact zone (Fig. 1).<sup>3</sup>

The disadvantage of a reduced cloud point temperature is that exceeding it will result in phase separation, a potential disaster in conservation treatment context. This is a very real concern when working in environments where uncontrolled temperatures may influence a surfactant's  $T_c$  (outdoor sculptures, wall paintings, archaeological sites, etc.).

### Microemulsions vs. Micellar Solutions

Before going any further, a brief clarification on the difference between oil-in-water (o/w) microemulsions and the swollen o/w micellar solutions will be discussed here.

O/w microemulsions contain organic solvents that are not soluble in the aqueous continuous phase. The dispersed solvent is contained completely within the micelles, resulting in a more thermodynamically stable system.

This also enables you to tune the size of the micelles by increasing or reducing the amount of solvent in the microemulsion. Less solvent results in smaller, but still



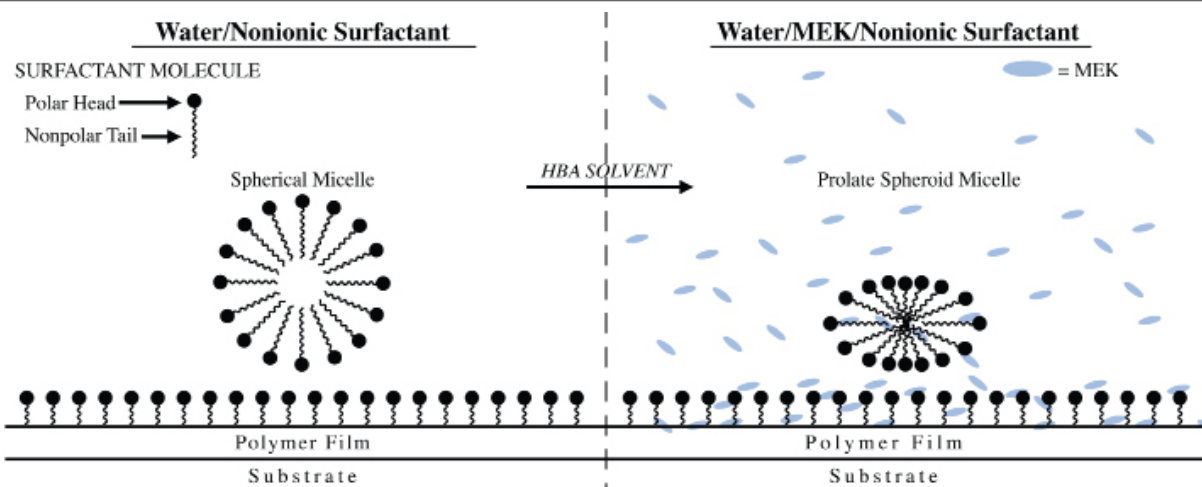


Figure 1. Left: Spherical micelle in water with surfactant layer adsorbed on polymer film. Right: Addition of HBA solvent resulting in prolate spheroid micelle and interaction with polymer film. Illustration by Joe Brown.

strained micelles. A micelle size of less than 100nm in diameter is generally favorable for microemulsions and often results in an optically translucent solution.

In a swollen micellar solution the dispersed organic HBA solvent (like MEK or propylene carbonate) is partially soluble in the aqueous continuous phase. As a result the solvent is not only dispersed throughout the aqueous continuous phase, but also inhabits the interface between the micelle shell and water (Fig. 2).<sup>4</sup>

For water-in-oil (w/o) microemulsions, water is the dispersed phase contained inside the micelles while the organic solvent (Shellsol D38, xylenes, etc.) is the continuous phase. All of the above can be generally classified as nanostructured fluids (NSFs) due to the self-assembly properties of the surfactant.

### Nonionic vs. Ionic Surfactants

The ternary water/polar solvent/nonionic surfactant systems investigated by Baglioni et al.<sup>5</sup> are excellent examples of swollen o/w micellar solutions.

A typical formulation would be 80mL water, 20g MEK, and Triton X-100 (2-5x CMC) at room temperature 25°C.. These newer systems have multiple advantages in comparison to previously reported ionic surfactant systems consisting of the strongly anionic surfactant sodium lauryl sulfate (SLS), 1-pentanol (cosurfactant), propylene carbonate, and ethyl acetate.<sup>6</sup>

Anionic surfactants such as SLS are particularly sensitive to ionic materials, whether present in the cleaning system or the surface undergoing treatment. Consider  $\text{Ca}^{+2}$  ions that may leach from a gesso layer on a panel painting, polychrome wooden object, or fresco. The resulting complex of  $\text{Ca}^{+2}$  and anionic surfactant would yield a difficult to clear metal soap with very low water solubility.

Three major advantages of nonionic surfactants are that they are not as affected by ionic materials (salts), are more easily compatible with the buffers and chelators already in the MCP, and more readily self-assemble into micelles and at interfaces.

Another advantage is that they much more effectively solubilize triglycerides, the backbones of oil & alkyd coatings, near their  $T_c$  in comparison to ionic surfactants.<sup>7</sup>

Further, these newer systems utilize MEK, which is generally available throughout the U.S. while ethyl acetate and propylene carbonate are more boutique solvents that are less available and familiar. While propylene carbonate is an excellent material that outperforms MEK in certain applications, MEK still gets the job done.

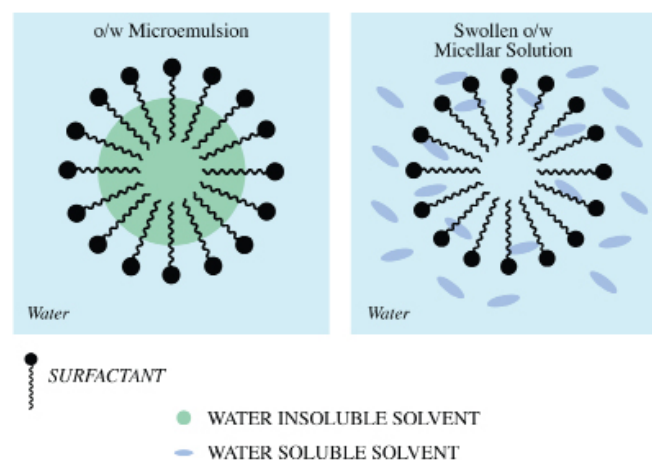


Figure 2. Left: Oil-in-water microemulsion droplet. Right: Swollen o/w micellar solution with a water soluble solvent. Illustration by Joe Brown.

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## Surfactants & Solvents: Potential for MCP - Designed Nanostructured Fluids for the Removal of Polymer Films, continued

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One final advantage of these newer systems is the solubility of MEK in water: 21.1% w/v at 25°C, making a max 20% w/v solution of MEK/water and surfactant straightforward in preparation. No cosurfactants or additional cosolvents are required.

Baglioni reports the cleaning process (removal of a soil or polymer coating) likely consists of two processes:

- 1) swelling and partial detachment of the coating by the solvent/NSF, then
- 2) removal of the coating by a detergency-like and/or dewetting mechanism.<sup>8</sup>

With detergency contributing to these processes it should be clear why working closer to the  $T_c$  is advantageous (closer to  $T_c$  = stronger detergency). The closer the surfactant is to its  $T_c$  the more quickly and efficiently both steps should proceed – an important consideration when dwell times can be upwards of 1.5-3 hours.

### Dewetting & Detergency

It is important to note that detergency and dewetting are separate, distinct mechanisms.

Dewetting is a complex phenomenon, but for our purposes it can be practically understood as the spontaneous separation of a polymer film from a substrate. It can be induced by application of any class of appropriately designed NSF.

Detergency contributes to the dewetting process. Film components like free fatty acid chains, synthetic polymer chains, intermixed grime, etc. can be extracted during NSF-induced swelling of the film, thus accelerating dewetting.

Further, as the hydrophobic polymer film dewets or detaches from the substrate the surfactant aids in desorption and solubilization of the film itself. The dewetted state of a hydrophobic polymer film is actually more thermodynamically stable and energetically favored in comparison to its metastable swollen state.

Essentially, we are taking advantage of the fact that the polymer film has a greater affinity for itself than for the substrate under the conditions we subject it to. We coax it into pulling away from the surface and into itself to form more stable polymer droplets.

Think of a spherical droplet of water on a waxed car. If you press the droplet down with your finger you force it to spread over the hydrophobic wax surface (wetting). When you remove your finger the water droplet spontaneously reforms in a spherical shape (dewetting).

The water molecules require less energy to be in contact with each other than with the waxed surface due to the surface energy difference between the materials. It requires energy, or a surfactant, to overcome this difference. So, the lowest-energy configuration for that water droplet is a sphere because as few water molecules as possible are in contact with the hydrophobic surface in that configuration.

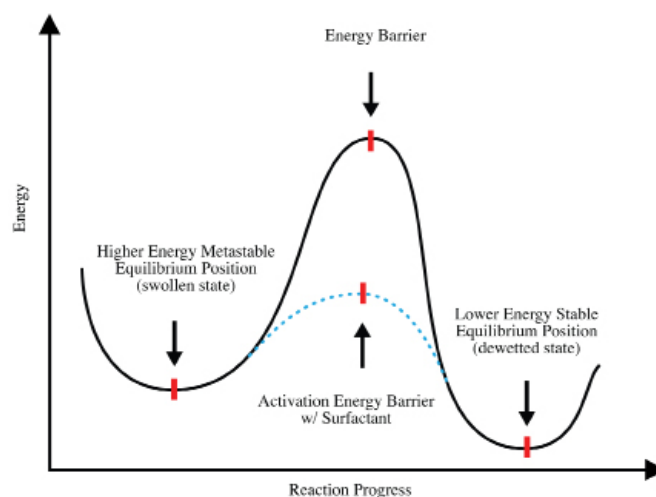
By applying a nanostructured fluid to the polymer film and swelling or rehydrating it, you are removing the finger holding the droplet down and enabling it to reform as a droplet (dewetting).

If you're having flashbacks to physics and surface tension equations, hang on. It's only going to get a little worse before it gets better.

The NSF-induced swelling of a polymer film lowers the film's glass transition temperature ( $T_g$ ) below room temperature. This effectively weakens intra- and interchain polymer interactions and enables the mobility of the polymer chains.

Think of the swollen film as a fluid instead of a solid, or cooked vs. uncooked spaghetti.<sup>9</sup> After swelling, to induce dewetting, the surfactant plays an important role in reducing the interfacial energy difference between the involved phases. It also decreases the activation energy barrier that prevents the spontaneous dewetting of the film. At this point dewetting occurs due to wave-like oscillations within the polymer film. These are caused by thermal energy, motion, and vibration of polymer molecules (Fig. 3).<sup>10</sup>

With appropriate surfactant concentration (2x CMC or greater), partial or complete dewetting can occur.<sup>11</sup> Without the surfactant, the solvent/water system will swell the film and create pockets of detachment at the film-substrate interface, but dewetting will not occur. This is a simplified version of the role surfactants play in dewetting, and it is important to mention they perform other functions during this process.



*Figure 3. Higher energy metastable equilibrium position (swollen film) → oscillations (due to thermal energy, motion, vibration of polymer molecules) overcome activation energy barrier → lower energy stable equilibrium position (dewetted film) results. Illustration by Joe Brown.*



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## Surfactants & Solvents: Potential for MCP - Designed Nanostructured Fluids for the Removal of Polymer Films, continued

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### Practical Applications

In the studio we have used a ternary water/MEK/nonionic surfactant system with 20% (w/v) MEK and Triton X-100 (5x CMC) to partially dewet a thick (>60 $\mu$ m) catalyzed nitrocellulose lacquer coating on a nineteenth-century marquetry table.<sup>12</sup>

The swollen micellar solution was uploaded into Evolon CR micro-filament textile and allowed to dwell on the surface, covered with polyethylene, for approximately one hour. We achieved partial dewetting and lifted the coating off the surface with a plastic business card.

Triton X-100 contains nine ethoxy groups that undergo a similar dehydration process as the surfactants tested by Baglioni. They exhibit a comparable drop in  $T_c$  due to the similar length of their POE chains. In fact, all nonionic ethoxylated and/or propoxylated surfactants should function in a similar manner in conjunction with water and a polar HBA organic solvent.

As a result the Brij, Ecosurf, Ethofat, Pluronic, Surfonic, and Triton surfactant families in the MCP should exhibit some degree of reduced  $T_c$ . In combination with strong HBA solvents a related increase in detergency, reduction in micelle size, and elongation of micelle shape can be reasonably expected.

Fortunately, this is an instance where practice supports theory. At the Arizona State Museum conservation laboratory we successfully tested a swollen micellar solution that swelled and detached a significantly cross-linked, non-original, shellac coating from the delicate paint layer of a basket.

We dispersed kaolin nanoparticles into an MCP-designed pH 8.5 triethanolamine/HCl, Ecosurf EH-6 (5x CMC), 20% (w/v) MEK, and 3% (w/v) benzyl alcohol solution to form an emulsion. It was covered with polyethylene and allowed to dwell on the surface for approximately 1.5 hours. We achieved partial dewetting which resulted in the coating swelling and detaching from the surface (Fig.4).

If you're wondering what the fuss about these systems is and why someone would go through all this trouble, consider that here we are swelling and detaching the film, not dissolving it. The normal associated issues of redeposition and absorption of soiling materials by the substrate (and the frankly sticky mess) are completely sidestepped.

More importantly, significantly cross-linked coatings that may not be possible to dissolve can be relatively safely removed through swelling and partial dewetting.

Finally, much less solvent is used compared to the neat solvent blends typical for this kind of treatment, resulting in safer and greener working conditions for the conservator and the environment.

### MCP Implications

So, how does this affect the MCP, its ability to add cosolvents to aqueous solutions, and its new microemulsion phase diagrams? How can we use the MCP more effectively in designing NSF's?

From a safety and phase separation standpoint, most surfactants in the MCP with a listed cloud point temperature have a 1% (w/v)  $T_c$  above 50°C, so most surfactants should still be safe to use in lab or studio conditions with a polar HBA solvent. Be aware that some viscosity modifiers do affect  $T_c$ . This is why relatively inert cellulose pulp poultices and chemical gels are often utilized in cleaning with NSF's.

Using the broad range nonionic POE surfactants Baglioni investigated as analogs, we can reasonably expect the drop of surfactant  $T_c$  by addition of 20% MEK to the aqueous solutions we develop using the MCP to be around 10°C, and cautiously 15°C.

For example, Surfonic JL-80X has a  $T_c$  of 59°C at 1% (w/v). A 10°C drop in cloud point temperature would result in a new  $T_c$  at 49°C. A drop of 15°C would result in a  $T_c$  at 44°C. Ecosurf EH-9 has a  $T_c$  of 61°C. A 10-15°C drop would result in new  $T_c$ s at 51°C and 46°C respectively. Thus both surfactants would be reasonable choices for certain outdoor applications.

However, if planning to use either on a bronze sculpture or at an archaeological site in the middle of summer you may want to reconsider. A biodegradable surfactant like N,N-Dimethyldodecan-1-amine oxide (DDAO) that does not exhibit a cloud point temperature when maintained at a neutral pH would be a safer choice.<sup>13</sup>



Figure 4.

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## Surfactants & Solvents: Potential for MCP - Designed Nanostructured Fluids for the Removal of Polymer Films, continued

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Ecosurf EH-6 has a  $T_c$  of 40°C at 1% (w/v). A solvent-induced  $T_c$  drop of 10-15°C would make it a poor choice for outdoor applications. However, it is a very interesting option for working close to  $T_c$  in climate-controlled lab or studio conditions. Addition of 20% (w/v) MEK would result in nearly room temperature  $T_c$ s at 30°C or 25°C. This makes it an excellent choice for removing soiling materials and polymer films from surfaces via increased detergency.

This is another instance where practice and theory align. A piece of pottery in the Arizona State Museum collection accumulated a layer of practically insoluble, chemically complex soot during a house fire. We designed and tested a relatively high pH aqueous solution in the MCP consisting of sodium bicarbonate buffer, EDTA & citric acid chelators, triethanolamine, and Surfonic JL-80X (10x CMC) 20% (w/v) propylene carbonate, and 2% (w/v) benzyl alcohol.

This solution had almost no effect on the soot. By substituting the Surfonic JL-80X with Ecosurf EH-6 (10x CMC), there was a dramatic shift in the cleaning effect in agreement with the predicted properties of a solution close to its cloud point temperature. (Fig. 5)



Figure 5.                      cleaning test                      soot layer

### Conclusion

Going forward it may be worthwhile to investigate new surfactants, considering hydrophilic-lipophilic balance (HLB), CMC, and  $T_c$  together to more finely tune the result we are trying to achieve. If the goal is film removal and not simply cleaning of soiling materials, more deliberate and informed choices of surfactant and solvent are required.

Practically, new formulations can be tested for  $T_c$  after addition of surfactant and solvent by gently heating on a magnetic stirrer with a thermometer and observing at what temperature clouding occurs. A formulation with optimal detergency at room temperature should not take much heating to reach  $T_c$ .

If using an MCP-designed NSF, regardless of surfactant or solvent choice, the conservator should at least consider:

- 1) if the solvent is a hydrogen bond acceptor that may interfere with the interaction between water and the polar head of the surfactant,
- 2) the surfactant's listed and predicted resultant  $T_c$ , and
- 3) how these factors could affect the solution's cleaning properties. While difficult to predict, at least being aware of the possible effects and knowing to watch for phase separation will go a long way.

### End Notes

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<sup>2</sup>Kralchevsky, P. A., et al. "Kinetics of Triglyceride Solubilization by Micellar Solutions of Nonionic Surfactant and Triblock Copolymer. 1. Empty and Swollen Micelles." 2002.

<sup>3</sup>Kralchevsky, P. A., et al. "Kinetics of Triglyceride Solubilization by Micellar Solutions of Nonionic Surfactant and Triblock Copolymer. 2. Theoretical Model." 2002.

<sup>4</sup>Baglioni, Piero and David Chelazzi. *Nanoscience for the Conservation of Works of Art*. 2013. pp. 189-190.

<sup>5</sup>Baglioni, Piero, et al. "Nanostructured Fluids from Degradable Nonionic Surfactants for the Cleaning of Works of Art from Polymer Contaminants." 2014.

<sup>6</sup>Stavroudis, Chris and Soraya Alcalá. "Nano-Lime, Emulsions, Gels, and Nanostructured Materials." 2018.

<sup>7</sup>Kralchevsky, P. A., et al. "Kinetics of Triglyceride Solubilization. 2. Theoretical Model." 2002. P. 7888.

<sup>8</sup>Baglioni, Piero, et al. "Surfactants Mediate the Dewetting of Acrylic Polymer Films Commonly Applied to Works of Art." 2019.

<sup>9</sup>Baglioni, Piero, et al. "The Use of Surfactants in the Cleaning of Works of Art." 2020.

<sup>10</sup>Ibid, p. 115.

<sup>11</sup>Baglioni, Piero, et al. "Dewetting Acrylic Polymer Films with Water/Propylene Carbonate/Surfactant Mixtures – Implications for Cultural Heritage Conservation." 2017.

<sup>12</sup>Baglioni, Piero, et al. "Polymer Films Removed from Solid Surfaces by Nanostructured Fluids: Microscopic Mechanism and Implications for the Conservation of Cultural Heritage." 2015.



<sup>13</sup>Baglioni, Piero, et al. "An Amine-Oxide Surfactant-Based Microemulsion for the Cleaning of Works of Art." 2015.

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## AYMHHM

**Susanne Friend**  
column editor

**"Light Relief: Could New Lighting Technology Avert the Need for Restoration?,"** *The Art Newspaper*, 01/31/2020

Lighting affects our perception of a work of art. Just ask Robert van Langh, the head of conservation and science at the Rijksmuseum, where the Netherlands's most famous painting, Rembrandt's *The Night Watch*, is undergoing the most ambitious conservation effort in its 378-year history.

A chance observation made when the 1642 painting was temporarily relocated to a side gallery alerted the museum staff to details that had been previously thought lost, such as the architectural background.

Changes in technology over the past decade have transformed art lighting from a presentational aid to a tuneable precision tool that can function as a non-invasive means of limiting the need for traditional restoration techniques. The steady replacement of traditional halogen lamps with energy-efficient LEDs has resulted in significant savings for museums and galleries, while reduced heat emissions and little to no ultraviolet or infrared radiation have lowered (though not eliminated) the risks posed to works of art from light sources, thereby granting greater freedom to conservators and curators.

The treatment plan for *The Night Watch* has yet to be determined, Van Langh emphasises, and while he was not prepared to say whether lighting might offer a substitute for other conservation steps, he makes it clear that non-invasive interventions are always preferable.

Van Langh insists that observations must be substantiated by science, with one likely source of data a map of the painting's chemical constituents currently being compiled through macro X-ray fluorescence (XRF) scans. For now, Van Langh is focused on establishing "which wavelengths of light to use so that we see as much as possible of *The Night Watch*".

**"'The Scream' is Fading. New Research Reveals Why."** *The New York Times*, 02/07/2020

"The Scream" is fading. Tiny samples of paint from the 1910 version of Edvard Munch's famous image of angst have been analysed as scientists have used cutting-edge technology to try to figure out why portions of the canvas that were a brilliant orangeish-yellow are now an ivory white.

The research also provides insight into Munch and how he worked, laying out a map for conservators to prevent further change, and helping viewers and art historians understand how one of the world's most widely recognized paintings might have originally looked.

Jennifer Mass, the president of the Scientific Analysis of Fine Art lab in Harlem, whose team is on "The Scream" research, explained the science. Nanocrystals are growing on the painting — stark evidence of the degradation near the central figure's mouth, in the sky and in the water. Dr. Mass's team was able to narrow down Munch's paint choices using his paint tubes, some 1,400 of which are held by the Munch Museum.

Over time, with exposure, the yellow cadmium sulfide has oxidized into two white chemical compounds, cadmium sulfate and cadmium carbonate. The analysis, Dr. Mass said, has implications for Impressionist through Expressionist paintings made between the 1880s and the 1920s painted with cadmium yellow, 20 percent of which she estimates are experiencing

similar phenomena. Recapturing these hues is impossible, but science can get us closer.

**“HBCU Students Restore 1940s African American Art in Delaware”**  
*WHYY PBS, 02/11/2020*

In the late 1800s and into the early 1900s there was a big trend of exhibitions and world’s fairs. Unfortunately, the world’s fair has a long history of racism. At the Chicago World’s Fair in 1933, “African Americans were shoved in the back in little shanties and they couldn’t even come to the main part,” said Joyce Hill Stoner, director of preservation studies at Winterthur Museum in Delaware.

After years of work, the 1940 American Negro Exposition in Chicago finally put the spotlight on African American heroes, both historic and of that time. The event featured 12-foot-long murals and 33 diorama boxes.

The creations depict scenes as far back as the construction of the Sphinx in Egypt some 4,500 years ago. They trace African American history from the arrival of the first enslaved people in Virginia in 1619 to the Reconstruction era following the Civil War.

The exhibits were on display for two months in 1940. Most of what was created for these fairs was designed to be temporary. The dioramas were rescued from being destroyed by artist Charles Dawson, who helped organize the exposition. Dawson transported 20 of the 33 dioramas from Chicago to Tuskegee, AL.

“They were 60% destroyed when they got to Tuskegee,” Stoner said. For decades, the dioramas remained hidden in an Alabama basement.

Now, meticulous restoration work is underway at Winterthur Museum. The larger goal of the restoration effort is encouraging African American art students to study the chemistry and art history needed to work in conservation.

Only 1 to 2% of conservators are African American, Stoner said. “So by these displays, by our tours and by the four students we’re accepting each June to work on the dioramas, we’re getting more African American undergrads excited, we hope, about the rather complicated background you need as a conservator.”

**“Work on Notre-Dame in Paris Halted by Coronavirus”**  
*ArtDaily Newsletter, 03/17/2020*

French authorities halted restoration work on the fire-ravaged Notre-Dame cathedral in Paris on Monday as the country braces for additional measures to contain the spread of the coronavirus.

Workers at the historic landmark in the centre of the French capital had been dismantling the molten metal scaffolding around the church’s spire, which collapsed in the catastrophic blaze last April.

Officials told AFP that decontamination measures set in place to deal with danger from the huge quantities of lead that melted in the fire were incompatible with rules set down to deal with the coronavirus.

**“Newly Attributed Artemisia Gentileschi Painting of David and Goliath Revealed in London”**  
*The Art Newspaper, 02/28/2020*

Ahead of the first major UK exhibition of the work of Artemisia Gentileschi, a London conservation studio has unveiled a painting newly attributed to this best-known female artist of the Italian Baroque.

The large oil on canvas depicts David and Goliath, a favourite Biblical subject for both Artemisia and her father, Orazio Gentileschi. When the work was sold at Sotheby’s in 1975, it was attributed to Giovanni Francesco Guerrieri. However, by the time it resurfaced in 2018 at Hampel Fine Art Auctions in Munich, Artemisia had entered the art historical canon, and the work came under scrutiny from scholars and dealers.

It was reattributed at the eleventh hour to Artemisia, selling to a UK-based collector who engaged the private conservator Simon Gillespie to restore the painting in London. Gillespie and the Italian scholar Gianni Papi, a Caravaggio and Gentileschi specialist, back the new attribution of David and Goliath to Artemisia in the latest issue of the Burlington Magazine.

Gillespie’s restoration also uncovered the faint signature “Artemisia” and “16-” along the blade of David’s sword. Such images of strong, vengeful women have often been read in the light

of Artemisia’s own biography, which has resonances in the age of #MeToo.

Aged 17 and already an accomplished painter, Artemisia was raped by an artist acquaintance of her father, Agostino Tassi, who was later tried and found guilty. Artemisia was tortured in court to prove her testimony was true. After a gruelling and high-profile trial, she was hastily married off and moved to Florence, where the “shameful” story would be less well known.

The tables were turned in Gentileschi’s work. According to a new biography by the Guardian newspaper’s art critic Jonathan Jones, she was “the most radical of [Caravaggio’s] followers... building brilliantly on his revelation that art and life are doubles of each other”.

**“Greasy Scumbags Vandalize Sacred Uluru’s Ancient Aboriginal Rock Art,”**  
*Ancient Origins, 03/01/2020*

Uluru, or Ayers Rock, is the massive natural sandstone monolith standing at the sacred heart of Australia’s Northern Territory’s ‘Red Centre’ and after years of abuse, now, ancient Aboriginal rock art at the base of Uluru has been vandalized with vegetable oil.

According to an ABC News report, the park’s tourism manager said that about a third of the cave art was covered in vegetable oil, partially obscuring the paintings, and police are consulting the national park body with contractors to plan how to best repair the damage.

The cave containing the art fills with water during periods of rain and a viewing platform had been installed above this basin for tourists, which limits how close people can get to the ancient art. But Baldwin says the oil had been “thrown” from the platform.

Traditional owner Leroy Lester said the community was discussing its response to the damaged rock art, which he said was “old and important” to them. He suggested more education is needed regarding Uluru’s importance and explained that the art tells “creation stories” all around the base of Uluru and they “link to the landscape around Uluru.” This makes them very important to the ancestral people who protect the ancient site.

While a criminal charge looms over the perpetrator(s), Australian police



said they don't yet know who carried out the crime and they couldn't even begin to guess at this stage why someone used vegetable oil to deface the ancient art.

Meanwhile, the sites traditional owners and Parks Australia are consulting with a Melbourne-based consultant who is very experienced in rock art restoration about how to best restore the paintings without causing them any further damage. So far, the advice they have been given was "to do nothing reactively or quickly" so that the restoration project unfolds in a careful and a considered way.

**"Restoration of 'The Blue Boy' Complete at California Museum" *US New and World Report*, 02/28/2020**

An 18-month restoration of Thomas Gainsborough's "The Blue Boy" has been completed and the circa 1770 painting will go back on display next month at The Huntington Library, Art Museum, and Botanical Gardens in Southern California.

The conservation process involved high-tech data gathering and analysis and more than 500 hours of work to remove old overpaint and varnish, repair structural materials and restore areas where paint was lost due to flaking and abrasion, the institution said in a statement Thursday.

"Now, minute shades of color, fine brushstroke textures, and nuanced details of the famous figure of a young man in a blue satin costume, as well as the landscape in which he stands, are once again legible and closer to what Gainsborough intended," it said.

Huntington President Karen R. Lawrence said the painting has been the star of its collections since it opened as the first old masters museum in the Los Angeles area in 1928. "The Blue Boy" will be returned to public display on March 26.

**"Blockbuster Raphael Show Opens in Rome Amid Coronavirus Angst, Conservation Row," *France24*, 03/05/2020**

An exhibition marking the 500th anniversary of Raphael's death opens in Rome this week, with experts hailing a once-in-a-lifetime opportunity to admire the Renaissance artist's greatest works in a single show.

But the event's opening has been marred by the coronavirus outbreak sweeping Italy and a row over a treasured portrait some feared was too fragile to move.

The paintings, drawings, tapestries and sketches on show at the Scuderie del Quirinale – the most ambitious collection of Raphael's works to date – are collectively insured for €4 billion (\$4.4 billion) against theft, vandalism or other damages.

But no amount of money can guarantee that Italy's outbreak of coronavirus, the largest in Europe, won't play havoc with the three-month run in Rome of this year's eagerly-awaited art blockbuster.

The Roman gallery has sold almost 70,000 tickets in online sales even before the doors open to the public, a record for such an exhibition here, but the government battle to halt the infection could yet wreck the event.

The curators have managed to bring together 204 works of art, including 120 by Raphael himself and other pieces that give an insight into the times he lived. "I am sure we will never see again such a concentration of works by Raphael together in one venue as we do here," said Eike Schmidt, the director of Florence's Uffizi museum which itself offered up nine paintings and 40 drawings.

The entire scientific committee of the Uffizi Galleries has resigned in protest of the museum's decision to lend Raphael's portrait of Pope Leo X when it advised against it. The committee said the portrait of Pope Leo X was core to the identity of their collection and should never be let out of Florence, arguing that the work was too fragile to be moved. Schmidt overruled them, deciding that such an iconic painting deserved to return to the city it was created in.

**"The Prado Museum's Unsung Workers Step into the Limelight", *The New York Times*, 03/11/2020**

Manolo Osuna lacks a formal art education, but he has spent years roaming the galleries of the Prado Museum as a guard and leader of a brigade that hefts national treasures by Spanish masters like Velázquez and Goya around the building.

With that background, Mr.

Osuna has emerged from an invisible role at the museum to become an unlikely art critic in an Instagram video series that has become a hit. The videos have attracted a growing international following of up to nearly 100,000 daily viewers.

For many fans, to listen to the videos has become a routine breakfast ritual, in which art specialists share equal play with the men and women who guard the galleries, restore Goya paintings or analyze medieval pigments in the museum's lab.

The attention to unsung employees is something of a rarity for international museums, where demoralized lower-tier staff members in recent years have banded together to form online support networks. The creator of the Prado's Instagram series is Javier Sainz de los Terreros, 37, who never appears on camera but whose soft, anonymous voice guides viewers through the galleries.

If he misses a morning, he gets inquiries about his health from viewers. The videos often feature the unhurried, deliberate work of employees such as Elisa Mora, a restoration expert who is just beginning to contemplate the renovation of a Goya portrait of the Countess of Chinchón.

More than 99,000 people watched Ms. Mora's video on Instagram and 260,000 on Facebook, and many comments praised the quick lesson in the makeover process. The museum is working on an alliance with the American Friends of the Prado Museum to create videos in English. Museums in Málaga and Venice have sought the Prado's advice about creating their own live Instagram videos.

**"Ancient Egyptian Mummy Reveals her Secrets to Perth Conservation Team"**

*The Courier.co.uk*, 03/14/2020

The Perth Mummy has been resident inside the gallery since the 1930s and now visitors to the museum can watch as conservators carry out their expert work.

The exhibit, a survivor from the time the pyramids were built, is being prepared as a star attraction for the soon-to-be launched Perth City Hall museum. The 3,000-year-old priestess Ta-Kr-Hb – pronounced Taherheb – has

been a source of fascination since she was first presented to Perth Museum and Art Gallery in the 1930s.

A conservation programme is now under way, and Ta-Kr-Hb has come out of her coffin so she can be fully assessed.

The lower part of the coffin is a forensically rich environment featuring soil, plants and insects. The conservation team at the museum is confident scientific analysis of these substances, as well as the resin used to cover the bandages, will reveal more about the mummification process and the places her body was kept.

Perhaps the most exciting development so far is the discovery of painted figures on the internal and external bases of the trough. They are representations of Egyptian goddess Amentet or Imentet, known as 'She of the West' or 'Lady of the West.'

The best preserved of the two paintings is on the inside of the coffin and had been hidden by Ta-Kr-Hb's body. It shows the goddess in profile, her arms slightly outstretched and standing on a platform, indicating the depiction is of a holy statue or processional figure.

Conservators Helena and Richard Jaeschke have been working closely on the project with the Culture Perth and Kinross' Conservation in Action team. The conservation project is the first time Perth Museum has hosted this style of display, bringing meticulous preservation work into the public domain, allowing visitors to get a glimpse behind the curtain.

**"Thyssen-Bornemisza Museum restores Canaletto's 'The Piazza San Marco in Venice'"** *ArtDaily Newsletter*, 03/17/2020

The Thyssen-Bornemisza Museum has completed the technical study and restoration initiated more than a year ago of Canaletto's painting *The Piazza San Marco in Venice*.

Painted between 1723-1724, the painting is one of the few works by Canaletto in a Spanish museum and one of the most representative of his style and finest quality.

The museum's restorers removed old varnish and areas of deteriorated repainting while also reintegrating some areas of paint loss. This has been a complex and delicate undertaking due to the damaged and

altered state of the pictorial layer, particularly in the darkest zones and due to the presence of old areas of repainting and different layers of oxidised varnish.

For this reason, the entire restoration process has benefited from a supervisory procedure by the museum's laboratory, which evaluated the risks of intervention at each moment. This allowed for any necessary adjustments to be made to the working method and the techniques employed on the basis of the results obtained.

The painting was relined at an unknown date and its original size was altered, with around 2cm of the canvas folded over the stretcher at the top and another 2 cm added at each side, modifying the original dimensions.

The cleaning has revived the crispness and precision of the numerous details in the composition, such as the figures, either alone or in groups, the architectural and ornamental elements, the market stalls with animals and other objects, etc.

Some small details that were difficult to see with the naked eye have now reappeared and can be appreciated in the macrophotographs taken. These images bring us closer to Canaletto's working method and to his mastery in the depiction of minute details, painted with rapid but very precise brushstrokes.

**"Met Museum Prepares for \$100 Million Loss and Closure till July"**, *The New York Times*, 03/18/2020

In a powerful sign that casualties of the coronavirus outbreak include even the country's strongest cultural institutions, the Metropolitan Museum of Art is projecting a total shortfall of close to \$100 million for the near future and expects to be closed until July.

The Met is an important canary in the coal mine for arts institutions all over the country; when the museum announced on March 12 that it was closing, others followed close behind.

If even a behemoth like the Met — with an operating budget of \$320 million and an endowment of \$3.6 billion — is anticipating such a steep financial hit, smaller institutions may not be able to survive at all.

About a third of museums surveyed in the United States were operating in the red or close to it before coronavirus, said Laura Lott,

the president and chief executive of the American Alliance of Museums, a professional association that has urged Congress to include \$4 billion in relief for museums.

The Met has developed a three-phase response: having all staff members work from home and continue to be paid through April 4 as the museum evaluates possible furloughs, layoffs and voluntary retirements; from April to July, evaluating how to control spending and reduce operating costs, including freezing discretionary expenditures and hiring; and from July to October, "reopening with a reduced program and lower cost structure that anticipates lower attendance for at least the next year due to reduced global and domestic tourism and spending."

The Met, which estimates the overall damage from the virus will be spread over this fiscal year and next, is also creating an emergency fund of more than \$50 million by reallocating discretionary resources usually used for acquisitions and programming toward operating expenses, fund-raising from foundations and donors and pursuing government assistance.

Looking at lost revenue, together with carrying costs, the Met estimates losses around \$60 million through the end of the fiscal year on June 30. The museum estimates another \$40 million in lost revenue heading into July and the expected early phases of recovery.

**"Swiss Museum Settles Claim Over Art Trove Acquired in Nazi Era"**, *The New York Times*, 03/27/2020

Twelve years after the city of Basel, Switzerland, rejected a claim for restitution of 200 prints and drawings in its Kunstmuseum, officials there have reversed their position and reached a settlement with the heirs of a renowned Jewish museum director and critic who sold his collection before fleeing Nazi Germany.

In 2008, the museum argued that the original owner, Curt Glaser, a leading figure in the Berlin art world and close friend of Edvard Munch, sold the art at market prices. The museum's purchase of the works at a 1933 auction in Berlin was made in good faith, it said, so there was no basis for restitution.

But after the Swiss news media unearthed documents that shed doubt

on that version of events, the museum reviewed its earlier decision and today announced it would pay an undisclosed sum to Glaser's heirs.

In return, it will keep works on paper estimated to be worth more than \$2 million by artists including Henri Matisse, Max Beckmann, Auguste Rodin, Marc Chagall, Oskar Kokoschka, Ernst Ludwig Kirchner and Erich Heckel.

Among the most valuable pieces are two Munch lithographs, "Self Portrait" and "Madonna." The Kunstmuseum said it also plans to mount a comprehensive exhibition in 2022, in consultation with the heirs, about Glaser's role as "a collector, art historian, critic and museum director."

**"Philly Museums and Med Students Band Together to Donate Protective Gear to Front-line Health-care Providers", *The Philadelphia Inquirer*, 03/30/2020**

In the scramble to find PPE — personal protective equipment, an acronym unknown to most just a month ago — some unexpected groups have stepped up with donations to help out the area's hard-pressed hospitals, all of which say they are running critically short of protective gear.

Museums and art schools, it turns out, use PPE virtually daily in their conservation departments and to care for and create artworks. At the University of Pennsylvania Museum, as word of shortages spread, officials knew they had a stockpile of PPE stashed away.

"The head of conservation went down into the belly of the beast" — the museum's basement storage — "and basically gave them everything," said a museum spokesperson. Anna Dhody, curator at the College of Physicians of

Philadelphia's Mutter Museum, closed now for more than two weeks, returned to the building on South 22nd Street last week and gathered up 20 boxes of gloves, a pair of wrapped goggles, gowns, packages of hair nets, respirator cartridges, and a few full-body Tyvek suits. Down in the basement conservation lab, she pulled out everything she could find that might be useful to hospitals. The cartload of supplies was picked up by Penn medical students at the end of last week.

The med students have organized PPEnn PALS, a growing

effort to gather supplies from across the region for donation to the Hospital of the University of Pennsylvania, although the effort is almost certain to be broadened to include other facilities as the pandemic engulfs the region.

The Philadelphia Museum of Art, the Barnes Foundation, and the Pennsylvania Academy of the Fine Arts contributed a significant supply of masks, respirators, gloves, shoe covers, and Tyvek suits.

As of last week, the students had solicited and delivered more than 5,650 face masks, 1,700-plus N95 respirators, more than 380 face shields and safety glasses, more than 500 boxes of gloves, and 1,100 pairs of sterile surgical gloves.

**"Germany Offers Help in Restoring Notre Dame's Stained-glass Windows," *The Art Newspaper*, 04/15/2020**

A year after the devastating fire at Notre-Dame cathedral in Paris, Germany has put forward concrete proposals for its role in the reconstruction including funds from the government and donors and expertise in stained glass and cathedral restoration.

A fund-raising campaign launched in Germany a day after the fire has raised more than €450,000 according to a statement issued by Armin Laschet, the prime minister of the state of North Rhine-Westphalia, and Culture Minister Monika Grütters.

"The reconstruction of Notre-Dame offers an opportunity to become a European symbol of hope," Laschet said. "For me this reconstruction is also a symbol of German-French friendship." Germany's contribution is to be coordinated by Barbara Schock-Werner, formerly the official in charge of conservation at Cologne Cathedral, the statement said.

"German cathedrals' glass workshops can offer real help," Grütters said. The exact scope and nature of Germany's contribution will be determined in the coming months on the basis of studies on the ground, the statement said, adding that three glass workshops at German cathedrals have the extensive expertise and experience necessary to undertake the restoration of the clerestory windows. Germany would cover the costs of restoring the upper windows, Grütters said.

**"X-ray Analysis Sheds Light on Construction and Conservation of Artefacts from Henry VIII's Warship" *EurekAlert.com*, 04/28/2020**

Three artefacts believed to be remains of chainmail recovered from the hull of the Tudor ship Mary Rose have been analysed by an international team of scientists led by the Universities of Warwick and Ghent using a state-of-the-art X-ray facility called XMaS (X-ray Materials Science) beamline.

They analysed three brass links as part of continuing scientific investigations into the artefacts recovered during the excavation of the wreck.

Often considered to be King Henry VIII's favourite warship, the Mary Rose sank in the Solent during a battle with a French invasion fleet in 1545. Over time the silts covered and preserved its remains as a remarkable record of Tudor naval engineering and ship board life.

In 1982 the remaining part of the hull was raised and is now housed in the Mary Rose Museum in Portsmouth alongside many thousands of the 19,000 artefacts recovered.

The three artefacts were subjected to different cleaning and conservation treatments to prevent corrosion. This research also analysed the surface chemistry of the brass links to assess and compare the levels of corrosion between the different techniques, finding that all had been effective at preventing corrosion since being recovered.

The analysis shows that basic measures to remove chlorine followed by storage at reduced temperature and humidity form an effective strategy even over 30 years.

**"Spongy Hydrogels Clean Textured Paintings", *Physics Today*, 05/01/2020**

Piero Baglioni and colleagues at the University of Florence in Italy have developed a polymer hydrogel that safely removes dirt from the roughest of painted surfaces.

But gels aren't all created equal; their diverse chemical, mechanical, and structural properties affect their cleaning performance

Baglioni and colleagues' idea is to use the tools of soft-condensed-matter physics to design new materials tailored to the needs of art conservation.



In search of a mechanically compliant gel, the Florence researchers turned to polyvinyl alcohol (PVA). Some of its advantageous properties stem from its gelation mechanism. A PVA hydrogel can be solidified simply by freezing and thawing a solution of PVA in water.

It is soft enough to drape over the peaks and into the troughs of a rough painted surface. It is not, however, effective at cleaning. The problem is the gel's pore structure. Ice crystals in PVA grow long, thin, and straight, hardly ideal for fluid mobility and dirt pickup.

It's known that a PVA gel's properties can be tuned by repeating the freeze-thaw cycle more than once. Subsequent cycles widen the pores while retaining their shape. But repeated cycling also makes the PVA walls a bit thicker and thus more rigid.

Baglioni's pivotal idea was to try making a hydrogel out of a mixture of PVA molecules of two different lengths. The resulting tangle, Baglioni reasoned, must have some effect on the size and shape of the ice crystals and thus on the gel's pore structure.

That effect turned out to be surprisingly dramatic. Instead of having long, thin pores, the twin-chain PVA gel, as it's come to be known, looks more like a sponge. When tested on a mock painting, the twin-chain gel proved excellent for cleaning.

As the gel rests on the soiled painting, water gradually evaporates from its upper surface. To compensate, water from the lower surface gets pulled through the interconnected pores into the gel bulk—and the dirt from the painting gets pulled with it. Dirt particles are more reliably removed when they're lodged in the gel's pores rather than clinging to its surface. "But this is all still a hypothesis," says Baglioni. "We were working on testing it when the coronavirus hit."

**"No Crowds Delight Art Lovers in Italy at Reopened Museums,"** *Associated Press*, 06/03/2020

Uffizi Galleries, the most-visited museum in Italy, is open after three months of COVID-19 lockdown, delighting art lovers who don't have to jostle with throngs of tourists thanks to new social distancing rules.

Uffizi director Eike Schmidt told *The Associated Press* on Wednesday that the government-ordered closure

of museums during coronavirus containment measures meant 1 million fewer visitors and 12 million euros (\$13.2 M) in less revenue for that period.

Now, at most 450 people at one time are allowed in the Uffizi's many galleries, chock full of some of the art world's greatest masterpieces. Schmidt said social distancing heralds a new era in art experience. Without being surrounded by rushing crowds, art lovers can better "feel these emotions that these works of art always transmit," he said. **"Getty Conservation Institute Helps Museums Rethink Stringent Guidelines on Conservation,"** *The Art Newspaper*, 05/22/2020

Museums are under increased pressure to find sustainable solutions to managing their collection environments. The one-size-fits-all approach traditionally applied to temperature and relative humidity levels for objects, regardless of what material they are made of, is expensive and can thwart an institution's efforts to reduce its carbon footprint.

With the help of conservators, scientists and other specialists, museums are beginning to adopt less stringent parameters that consider the specific needs of individual objects, as well as the history of their collections, which in turn could pave the way for more loans.

To aid this effort, the Getty Conservation Institute (GCI) in Los Angeles is leading the Managing Collection Environments (MCE) initiative, which combines scientific research with much-needed education.

The original guidelines, which were developed in the 1970s, set the optimum environment at 20°C ± 2°C (70°F ± 4°F) and 50% ± 3% relative humidity.

In 2014 the International Institute for Conservation and the International Council of Museums' Committee for Conservation adopted a more relaxed set of parameters, while a recent revision in a handbook published by the American Society of Heating, Refrigerating and Air Conditioning Engineers addressed the issue of different climatic zones and the importance of using the historic average of an institution's collection as a starting point.

Joel Taylor, a project lead on the Getty's MCE initiative, says the original guidelines are still so embedded in experts' everyday thinking that people

worry that "they are introducing risk that has not been there before" by not adhering to them.

But as his project co-lead Kathleen Dardes, who is head of collections at the GCI, points out: "We fell into this trap because many determined their environments based on the capabilities of what their heating and air-conditioning systems were providing, as opposed to what the objects could actually tolerate, what type of environment the museum was located in or what type of building the collection was in."

**"Vatican Museums Reopening Unveils Restored Raphael Rooms,"** *Catholic News Agency*, 06/02/2020

After being closed for three months due to Italy's coronavirus outbreak, the Vatican Museums opened their doors June 1 allowing only 1,600 visitors -- under 10% of its usual tourist traffic -- to enter the museums, with additional safety measures.

These visitors to the museums were some of the first to see the restoration of two paintings that art historians believe to be the last works of Raphael.

During the five year restoration process of the 16th century frescoes in the Hall of Constantine, the largest and most recent of the four Raphael Rooms in the Vatican, technical and scientific analysis revealed that two figures in the scenes were distinct in their brushstrokes and technique.

Guido Cornini, the scientific director of restoration of 15th and 16th century works for the Vatican Museums, confirmed that two female figures in the scene, allegorical figures for justice and friendship, were painted by Raphael's hand.

Raphael was instrumental in forming the conceptual sketches of the Hall of Constantine, but he died before their completion. The artists in his studio continued the work after his death, mostly notably Giulio Romano.

The restoration of the four Raphael Rooms in the Vatican, a project that began in the 1980s, is still in progress. Only one wall in the Hall of Constantine, the last room of the Raphael Rooms to be restored, remains.

Vatican Museums Director

Barbara Jatta said that the scaffolds should go up in July to begin the restoration on the north wall, which contains a fresco of the Donation of Constantine depicted as taking place inside of the old St. Peter's Basilica, which was demolished in 1505.

The unveiling of the restoration of three of the Hall of Constantine's walls coincides with this year's 500th anniversary of Raphael's death. "We were supposed to open and unveil this important restoration project on the 20th of April in an international conference on Raphael, but this was impossible," Jatta said.

Restoration of the Raphael Rooms was suspended during Italy's lockdown; however, the restoration artists were able to continue their work in May before the museums' reopening.

**"Art of Conservation Science Takes Center Stage in Special Exhibition,"**  
*Yonhap News* 06/03/2020

Conservation science, the discipline of conserving art, architecture and other cultural works, serves as a tool for restoring art as closely to the creator's intended vision. The discipline combines aspects of chemistry, physics, biology and engineering -- nerdy fields that are hardly considered romantic or associated with timeless beauty by the general public.

Subverting this very notion, the National Museum of Modern and Contemporary Art (MMCA) has opened a special art exhibition themed around the very art of conservation science, titled "Conservator C's Day," from May 26-Oct. 4 at its Cheongju museum, southeast of Seoul.

The exhibition centers around an imaginary art conservator, named "C," with modern artworks themed around the daily science of conservation and metaphysical anxieties that C confronts at work.

The curation brings together some 30 art pieces centered around five keywords -- Damage, Tools, Time, Anxiety, and Thought.

The types of works on display range from paintings and sculptures to installations. Included is a non-visual sound piece by Ryu Han-kil, which merges different industrial and explosive sounds in a dim and hollow room, highlighting the emotions of a conservator when observing physical damage of an aged work of art.

Also featured is a pixel art video piece by Joo Jae-bum, juxtaposing high-definition imagery against blocky pixel images that resemble retro video games, depicting a day in the life of a conservation scientist in a video.

A gallery dedicated to C's imaginary library introduces novels and science books as sources of literary inspiration for the imaginary conservation scientist. Youn Bum-mo, head of MMCA, said the exhibition will offer special intrigue to visitors, providing unique visual representations of the art of conservation science.

**"Balboa Art Conservation Center, San Luis Rey Mission Win CARES Grants,"**  
*Times of San Diego*, 06/22/2020

The Balboa Art Conservation Center in San Diego and the San Luis Rey Mission Indian Foundation in Vista are among 317 recipients of CARES Act economic stabilization grants to support cultural institutions nationwide that have taken a financial hit due to the coronavirus pandemic, the National Endowment for the Humanities announced Monday.

The Balboa Art Conservation Center received \$52,417 to support the development of "innovative tools, practices and procedures at BACC, namely cross-training art conservators and implementing a virtual pre-examination program for art objects so that staff can pivot to provide programming and services during the COVID-19 health pandemic," according to the center.

The funds will allow the BACC to retain and cross-train six full-time and one consultant conservator involved in a program to allow virtual assessments for the center's network of small cultural heritage institutions located throughout the Western United States.

Created in 1965, the NEH is an independent federal agency and one of the largest funders of humanities programs in the United States.

**"Experts Call for Regulation after Latest Botched Art Restoration in Spain,"**  
*The Guardian*, 06/22/2020

Conservation experts in Spain have called for a tightening of the laws covering restoration work after a copy of a famous painting by the baroque artist Bartolomé Esteban Murillo became the

latest in a long line of artworks to suffer a damaging and disfiguring repair.

A private art collector in Valencia was reportedly charged €1,200 by a furniture restorer to have the picture of the Immaculate Conception cleaned. However, the job did not go as planned and the face of the Virgin Mary was left unrecognisable despite two attempts to restore it to its original state.

The case has inevitably resulted in comparisons with the infamous "Monkey Christ" incident eight years ago, when a devout parishioner's attempt to restore a painting of the scourged Christ on the wall of a church on the outskirts of the north-eastern Spanish town of Borja made headlines around the world.

Parallels have also been drawn with the botched restoration of a 16th-century polychrome statue of Saint George and the dragon in northern Spain that left the warrior saint resembling Tintin or a Playmobil figure. Fernando Carrera, a professor at the Galician School for the Conservation and Restoration of Cultural Heritage, said such cases highlighted the need for work to be carried out only by properly trained restorers.

**"Once Hidden, Keith Haring's Amsterdam Mural is Ready for Restoration,"**  
*The Art Newspaper*, 06/29/2020

Buoyed by successful efforts to conserve outdoor murals by Keith Haring elsewhere, conservators are hoping that the recent easing of European travel restrictions will enable them to begin work in coming months on one in Amsterdam that has experienced significant paint losses since the artist created it in 1986.

The mural has been the focus of a local campaign calling for its restoration since it was uncovered in 2018. Haring, known for his fervent commitment to making his graphic art as accessible to the public as possible, painted the mural while in Amsterdam for his first solo exhibition at the Stedelijk Museum.

For his outdoor murals, Haring spontaneously relied "in good faith" on whatever commercial paints became available—in this case, an oil-based alkyd paint that "doesn't have a good track record for enduring outdoors", says Will Shank, an independent US

conservator who hopes to restore the mural with his Italian colleague Antonio Rava.

Haring painted directly onto the brick in a titanium white line without any preliminary sketches, beginning at the top right and gradually working his way down to the lower left, Shank says. "Some people mentioned what a difficult time Haring had getting the paint to stick to the wall because it was blustery and wet," Shank says. As a result, about 20% of the white line that Haring painted has not adhered and will have to be inpainted, he estimates. Compounding the challenge, the wall is made of two kinds of bricks—red and yellow—and the yellow ones are less porous and have retained less of the paint.

"We will experiment on the scaffolding with different kinds of paint to make sure that it does stick to both kinds of bricks," Shank says. A protective coating of hydrorepellent resin will then be applied to protect the line of white paint from rain, grime and ultraviolet light.

**"How this Historic Mosaic Mural Will be Saved for Future Generations to Enjoy,"** *Long Beach Post*, 07/21/2020

If you're into learning how a floor-to-ceiling mosaic mural designed by renowned Southern California artist, designer and educator, Millard Sheets, can be safely taken apart and transported, and why a handful of people in Long Beach wanted to make the careful, meticulous effort to do so, a short video by Threaded Films is worth a watch.

As chronicled in the film, the first step of the conservation effort by Cal State Long Beach's art museum to deinstall a historic mosaic made up of tens of thousands of tiles, is complete.

The plan is to move the piece(s) from its original Lakewood location at the former Home Savings and Loan Building at 4909 Lakewood Boulevard to its future home at the Carolyn Campagna Kleefeld Contemporary Art Museum at CSULB.

Sheets, one of Southern California's most significant producers of public art, was commissioned by Howard F. Ahmanson in 1955 to design more than 40 Home Savings Bank branches throughout Southern California, with large mosaic works reflecting each location's local heritage.

In the announcement of the acquisition of the historic public art piece, Kleefeld Contemporary said the mosaic was gifted to the museum by Farmers & Merchants Bank, which additionally made a significant philanthropic contribution to support its conservation to allow future generations to enjoy the artwork, a slice of Southern California art history.

RLA Conservation of Art & Architecture was contracted to conserve the work alongside Brian Worley Art & Restoration, Inc. Both firms assisted with the deinstallation, and will continue to assist with the relocation and conservation of the piece to be installed as part of the newly expanded museum, now closed and under construction through 2022.

**"Where we are Now with the Restoration of Notre Dame After the Rejection of Modern Architectural Gestures,"** *The Art Newspaper*, 07/22/2020

The way ahead for the restoration of Notre Dame is much clearer now after the 15-month long discussions have ended with a decision to rebuild the roof and spire as they were before the fire of 15 April 2019, rather than hazard a contemporary architectural gesture, as proposed by the French President Emmanuel Macron.

It is a victory for the conservation principles embodied by the international Icomos Charters and the World Heritage Convention, and for the architect-in-chief of the cathedral, Philippe Villeneuve.

The difficult process of removing the 250 tons of semi-fused steel scaffolding, which had been erected for the restoration of the spire prior to the fire, was suspended for several months due to the coronavirus lockdown but re-started in early June.

The debris inside the main nave and choir has been removed. A rolling platform has been put over the choir and nave to allow the workmen move around without walking on the vaults.

Debris and the burnt beams are being removed, with two-thirds of the choir's vaults already clear and work starting now above the nave.

Close examination of the vaults has revealed that the heat of the fire penetrated the 15cm-thick stone structure to a depth of 2cm. While this does not

threaten the overall stability of the vaults, they will require major consolidation. Layers of fibre-reinforced material will have to be applied to the stone surfaces to strengthen their structure at the same time as remaining flexible.

The vaults of the crossing, which collapsed completely, will be rebuilt after the new spire is finished.

Following the recommendations of the Commission Nationale du Patrimoine et de l'Architecture, the roof and spire will be rebuilt in the original manner.

The building techniques for these complex timber-framed roofs, which are considered so exceptional as to deserve inclusion in the Unesco's List of Intangible Heritage, go back to the Middle Ages and have been kept alive in France by the carpenters' ancient guild system.

**"Columbus Statue Removal Tab at \$90,000 and Counting,"** *Columbus Dispatch*, 07/20/2020

The cost to remove and store the Christopher Columbus statue formerly outside City Hall on July 1 has cost taxpayers \$90,000 to date, according to an ordinance approved by Columbus City Council on Monday evening.

But the statue's whereabouts remains secret, with the city continuing to say only that the 65-year-old gift from the city of Genoa, Italy, was taken to "a secure location."

The statue ordinance approved Monday paid \$5,500 to the McKay Lodge Fine Arts Conservation, which operates "the Ohio Conservation Center."

It's unclear where the statue currently resides. A July 1 press release from the mayor's office said the statue was originally stored at a "city facility."

"McKay Lodge is an art conservation and historical preservation company that will oversee the removal, transport, and storage of the statue in order to ensure that its preservation conforms to industry standards and best practices," the ordinance said.

Groups advocating for the statue's removal cite Columbus' genocidal cleansing of the New World over 500 years ago and his exploitation of Native people, while Italian-Americans countered that such statues are works of art that should be preserved.