



# National Center for Preservation Technology and Training: 2022 Annual Report





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National Center for Preservation Technology and Training  
Natchitoches, LA

National Park Service  
U.S. Department of the Interior

## Table of Contents Heading

Welcome	5
Mission	5
Features	7
Symposia	11
Technical Services focus on NPS Park Assistance	13
Research	16
Training	19
Information and Media	20
Grants	21
Staff and Board	24
Appendix A List of 2022 Technical Services Provided	26
Appendix B List of 2022 Research Projects	27
Appendix C List of 2022 Training Events	27
Appendix D List of 2022 Media	28
Appendix E-Publications	30
Appendix F 2022 Sites Documented	30
Appendix G 2022 Grants	31
Appendix H Final Grant Reports Received in 2022	31
Appendix I List of New Equipment	31

**Cover:** Workshop participants apply stucco to the chapel's interior in Manati, Puerto Rico.

© JASON CHURCH, NCPTT, NPS

**Left:** Participant removes dirt and biological growth from a gravestone with a soft bristle brush.

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# Welcome

The National Center for Preservation Technology and Training (NCPTT) offers unique capabilities to the Department of Interior, the National Park Service, and the American public. Our multidisciplinary work focuses on preserving cultural heritage throughout the nation. Our work applies to a homeowner seeking advice on insulation or a cultural resource manager who must make decisions after a natural disaster.

NCPTT has developed skills in disaster management, as evidenced by the work we feature in this annual report. We prepare for, respond to, and help recover from natural disasters. We prepared for the effects of climate on cultural heritage. We worked closely this year with the National Park Service Office of Environmental Policy and Compliance and the Federal Emergency Management Administration (FEMA) to assist Puerto Rico's recovery from Hurricane Maria. We developed new tools and a better understanding of changing climates and their impact on cult



# Features

## Creating Preservation Capacity in Puerto Rico through Cemetery Preservation Workshops

In 2017, Hurricane Maria struck the island of Puerto Rico as a Category 4 hurricane with winds of 100 miles per hour. The storm resulted in flattened neighborhoods, a crippled power grid, and an estimated 2,982 fatalities. The damage to buildings and infrastructure was estimated at \$90 billion. Since then, FEMA and other federal government agencies have worked closely with local and territorial agencies to facilitate recovery efforts. A partnership with FEMA, the Department of Interior, the National Endowment for the Arts, the National Park Service, the Puerto Rico State Historic Preservation Office, and Instituto de Cultura Puertorriqueña led to a unique opportunity for preservation training.

In response to a request from the Puerto Rico SHPO, NCPTT held a series of in-person cemetery preservation workshops at cemeteries in San Juan, Manati, and Ponce municipalities of Puerto Rico in June, 2022. Cemeteries offer many preservation issues, including archeological, architectural, landscape, and materials topics. Each site had different concerns. The instructors included NCPTT staff and a local horticulturalist. These face-to-face workshops built on information delivered in an NCPTT online program in 2021. Participants garnered direct practical hands-on learning and reinforced the knowledge and techniques offered through the online course.



Fine sand was used in plaster coating versus coarse sand was used in repair mortar.

© JAMES BARRY, NPS



Sigfredo Faria, an instructor, introduces herbicides for use in a cemetery.

© JAMES BARRY, NPS



A participant applies stucco to repair a loss to the chapel's surface.

© JAMES BARRY, NPS

Participants for the workshop in San Juan gather for a group photo.

© JAMES BARRY, NPS



Two workshop participants piece together the broken marble slab.

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### **Cementerio Santa María Magdalena de Pazzi**

Cementerio Santa María Magdalena de Pazzi is located in San Juan beneath the walls of the historic fort. The previous use of harsh cleaning methods, such as bleach and muriatic acid, is evident in this cemetery's appearance and deterioration of marble and cast-iron monuments. Instructors demonstrated appropriate ways to clean cemetery monuments using D/2 Biological Solution Cleaner and soft bristle brushes.

### **Cementerio Viejo de Manatí**

Cementerio Viejo de Manatí is in the rural community of Manati, where caretakers and family members typically apply modern vinyl or latex paints to improve or "freshen up" the appearance of monuments. Unfortunately, these paints create moisture barriers, stop natural evaporation cycles, and promote mold growth on the organic components of these products.

Instructors demonstrated simple methods to remove failing paint and demonstrated the application of limewash, which is a breathable coating.

### **Cementerio Católico San Vicente de Paul**

Cementerio Católico San Vicente de Paul is in the city of Ponce. Masonry monuments found here showed shifting and damage caused by earthquakes. While the workshop was not able to address major structural issues, NCPTT instructors presented techniques to stabilize and improve the integrity of these sizeable structures. These techniques included using lime putty and hydrated lime to make mortar joint and stucco repairs as alternatives to modern cement that damages historic brick and stone.



A participant applies limewash to the surface of a grave marker.

© JAMES BARRY, NPS



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*“The National Park Service’s NCPTT provided intensive virtual and hands-on cemetery repair training workshops in Puerto Rico in 2021 and 2022. Not only did NCPTT provide exemplary training instruction, but the effort to scope, plan and implement the training was highly professional and practical. The instructors were collegial, friendly, and professional. There are many historic cemeteries in Puerto Rico, and their restoration is addressed in the overall priority of historic property repair included in the Puerto Rico Hurricane Maria disaster recovery plan.”*

*– Brian Lusher, Historic Preservation Officer, National Endowment for the Arts.*

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## Vegetation Issues

Participants learned about removing overgrown and “volunteer” vegetation at all three cemeteries. Issues included vegetation growth within mortar joints and on mausoleum roofs, tree limbs overhanging mausoleum roofs that provide a “roadway” for termites entering the structures, and Japanese lawn grass control (*zoysia japonica*).

## Videos

In addition to the in-person training, the team recorded videos on removing overgrown and volunteer cemetery vegetation, the proper application of herbicides in cemeteries, and the effects of harsh cleaning methods on stone and cast metal. These are available on the NCPTT website.



# Symposia

## Olmsted Bicentennial

In 2022, the cultural landscape community celebrated the bicentennial of the birth of Frederick Law Olmsted, the father of landscape architecture in the United States. As part of the celebration, NCPTT partnered with the Frederick Law Olmsted National Historic Site to host the symposium *Olmsteds: Landscapes and Legacies* in Boston, Massachusetts. The symposium included presentations that included the accomplishments of Frederick Law Olmsted and the Olmsted Brothers firms. A highlight of the event was a field session at the Frederick Law Olmsted National Historic Site, where site staff gave tours of the Olmsted-designed landscape and the Olmsted firm office and archives. The papers presented at the symposium are available to the public on NCPTT's website.

## Historic Landscape Preservationists meet in Natchitoches

NCPTT hosted *Natchitoches in the Red River Valley: A Confluence of Cultures*, the 42nd annual Alliance for Historic Landscape Preservation meeting. The Alliance is an interdisciplinary organization with members from the United States and Canada dedicated to preserving and conserving historic landscapes. The three-day conference included papers and field sessions highlighting the Natchitoches area's landscapes and cultures. Select papers presented at the meeting are available on NCPTT's website.



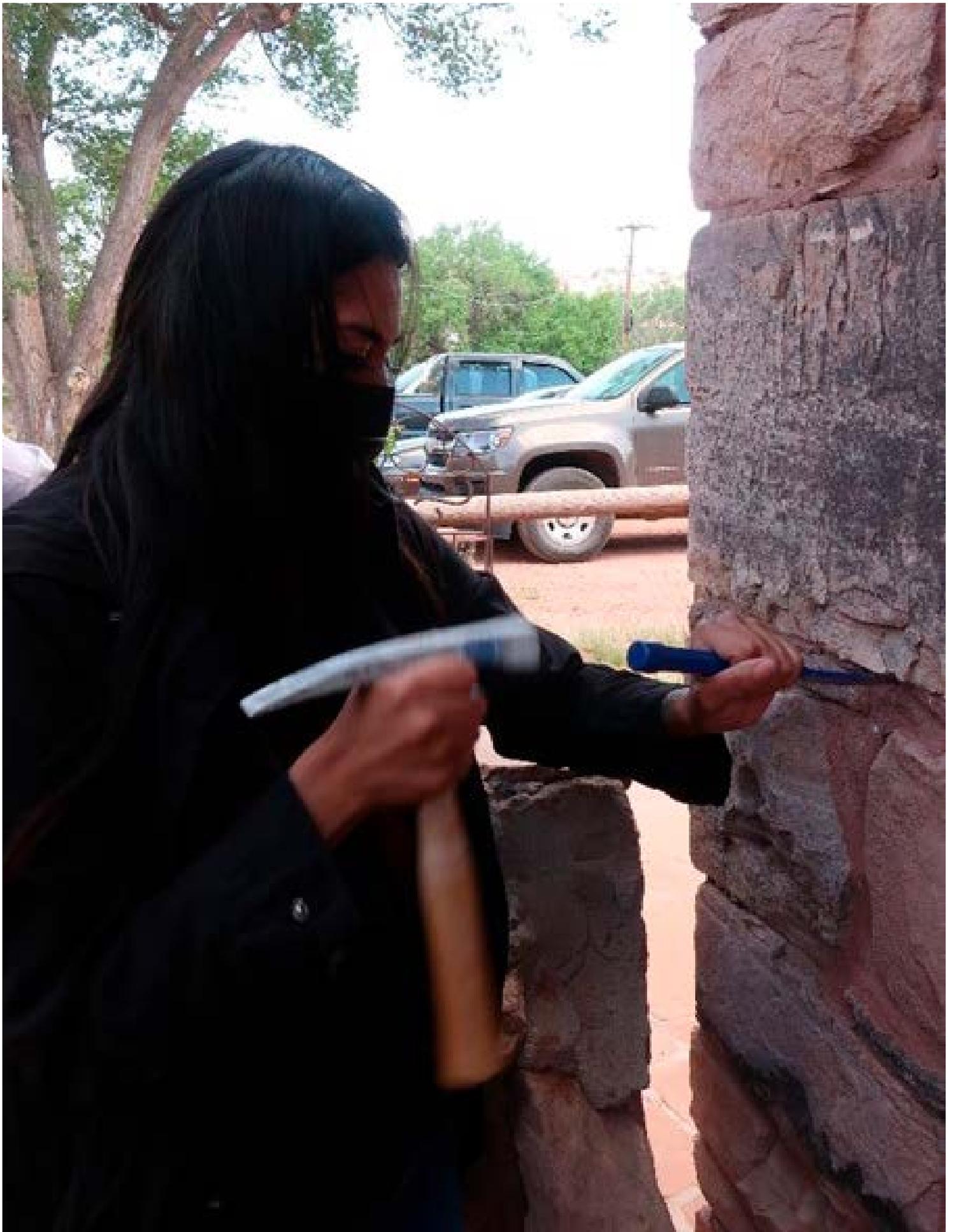
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*“The vast Olmsted legacy was examined in early spring 2022 as the National Center for Preservation Technology and Training (NCPTT), in partnership with Frederick Law Olmsted National Historic Site, hosted the two-day symposium “Olmsteds: Landscapes and Legacies.” The symposium was followed up with field visits, including tours offered by the Friends of the Public Garden, the Emerald Necklace Conservancy, and Olmsted NHS. This event launched a year of celebration and commemoration in honor of Olmsted’s 200th birthday. The National Park Service was grateful for the conference planning expertise of the NCPTT staff and the two-year partnership that culminated in this successful event.” – Jason Newman, Superintendent, Frederick Law Olmsted National Historic Site.*

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**Symposium participants are reviewing Olmsted firm plans at the Frederick Law Olmsted National Historic Site.**

© DEBORAH DIETRICH-SMITH, NCPTT, NPS.





**A new staff member at Hubbell Trading Post National Historic Site takes a mortar sample from the trading post on her first day of work!**

© CATHERINE COOPER, NCPTT, NPS

## Technical Services focus on NPS Park Assistance

NCPTT's Technical Services Program assisted a record number of national parks and heritage areas in FY2022! Working with 13 parks and two heritage areas in various capacities, teaching workshops, documenting sites, and completing analyses of samples.

Jason Church taught three hands-on cemetery preservation workshops at the Great Smoky Mountains National Park. New Beck Cemetery near Cherokee, North Carolina, was the site of the first workshop, the second was at Cades Cove Primitive Baptist Church cemetery in Blount County, Tennessee, and the final was at Payne Cemetery in Fountain Lake, North Carolina. Participants included park cultural resource staff, AmeriCorps and Conservation Corp students, and family descendants. Also, Church offered a week of training for Prince William Forest Park cultural resources staff.

**The Canyon de Chelly National Monument staff take stucco samples from a historic house and document the locations.**

© CATHERINE COOPER, NCPTT, NPS

Catherine Cooper taught two training events in Arizona, which drew 15 staff from all three southern Four Corners parks— Hubbell Trading Post National Historic Site, Canyon de Chelly National Monument, and Navajo National Monument. Participants learned about mortar sampling and analysis. They took turns identifying sample locations and removing mortar samples from historic buildings on the site for later analysis. They ended the day with a question-and-answer session about the lab work and reporting.

The second training event at Canyon de Chelly National Monument focused on sampling and analysis of stucco. Staff members from Canyon de Chelly National Monument identified sampling locations on the original superintendent's home in the park's historic district. They removed samples for analysis and documentation of past conservation efforts before a new phase of building restoration began.

## Park Assistance – Digital Documentation

In 2022, the documentation team began offering digital documentation to assist national parks, including Fort Frederica National Monument, Cane River Creole National Historical Park, Reconstruction Era National Park and Chickamauga and Chattanooga National Military Park. NCPTT partnered with the University of Arkansas to produce landscape CAD drawings of the entire properties of both Magnolia and Oakland Plantations at Cane River Creole National Historical Park, assisting with the park’s environment landscape survey and condition assessment of both properties.

### Documenting Tenant Cabins

In the decades after the American Civil War, tenant farmers worked on farms, paying the landlords a portion of their crops. The way of life surrounding the people who lived as tenant laborers on rural farms and the buildings that housed them are endangered cultural resources. They will soon be forgotten without proper documentation.

In documenting these vanishing vernacular structures, NCPTT worked with more than nine partners, including the Society of the Sacred Heart, Ossabaw Island Foundation, Historic Columbia, Francis Marion University, and Telfair Museums, to locate and digitally capture their unique historic sites. The documentation team traveled to 13 cities in three states, documenting 29 buildings associated with enslaved workers and tenant farmers. Videographer Isabella Jones also produced 16 oral history videos with former tenant farmers, family members, and associates with knowledge and ties to the building histories.

### Documentation Highlight Site – Seibels House and Garden Kitchen

NCPTT’s Documentation Team traveled to Columbia, South Carolina, to document the Seibels House and Garden Kitchen of Historic Columbia. The kitchen dates to the 1830s and is the last structure of the urban enslaved community in the city of Columbia. The kitchen is currently undergoing an archeological excavation of its foundation, which gave the NCPTT team a new challenge as they tried to scan the unit within a confined space with a large fireplace.



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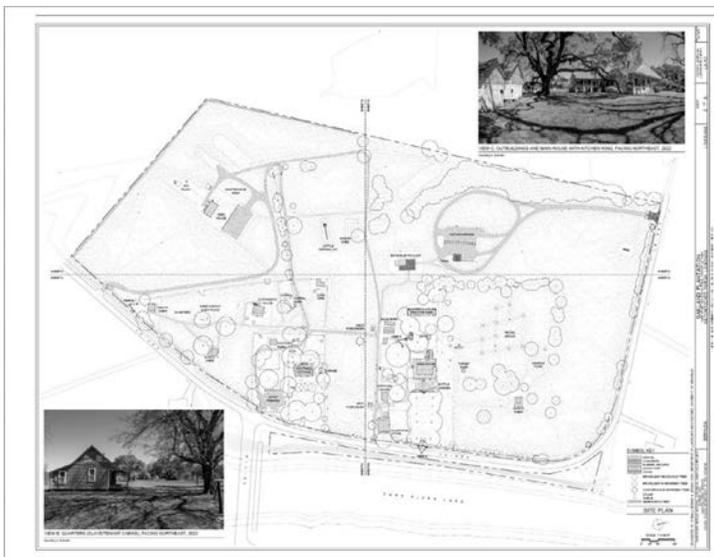
*“In 2022, NCPTT worked quickly to respond to Chickamauga and Chattanooga National Military Park (CHCH) by providing services to 3D scan an unanticipated discovery and several of the park’s historic buildings. Megan Suzann Reed and Savannah Hall were communicative and professional and provided fast high-quality work. CHCH thoroughly enjoyed working with NCPTT this past year, and we look forward to collaborating on future projects.” – Julia Poland, Acting Chief of Resource Management, Museum Curator, Chickamauga and Chattanooga National Military Park*

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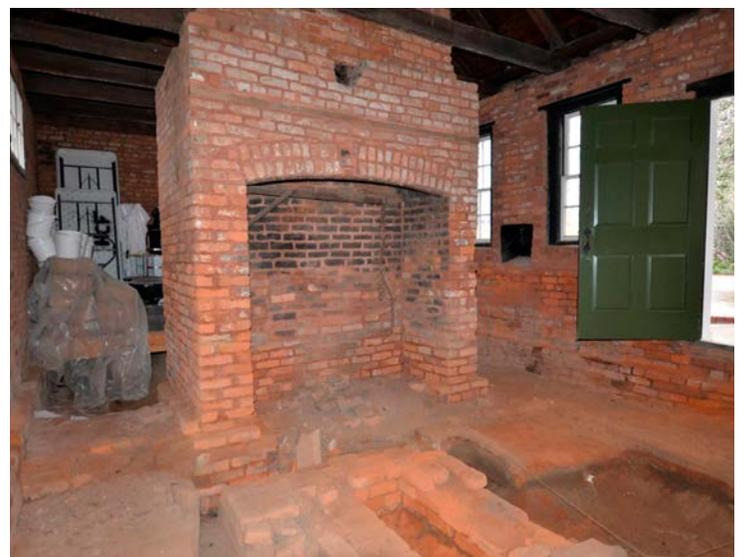
Researchers used the Leica RTC360 Laser Scanner to scan the rooftops at Seibels House Kitchen in Columbia, South Carolina.

© MEGAN SUZANN REED, NCPTT, NPS.



Historic American Landscapes Survey (HALS) measured drawings of Oakland Plantation provided by the University of Arkansas under Kimball Erdman, Associate Professor in the Landscape Architecture Department, using data generated by NCPTT

© KIMBALL ERDMAN, THE UNIVERSITY OF ARKANSAS, AND MEGAN SUZANN REED, NCPTT, NPS.



Interior view of the large fireplace and archeological excavation inside the Seibels House Kitchen in Columbia, South Carolina.

© MEGAN SUZANN REED, NCPTT, NPS.



The team from Tulane University scans a section of the Cataño historic district as part of a flood elevation case study.

© SIMEON WARREN, NCPTT, NPS.

## Research

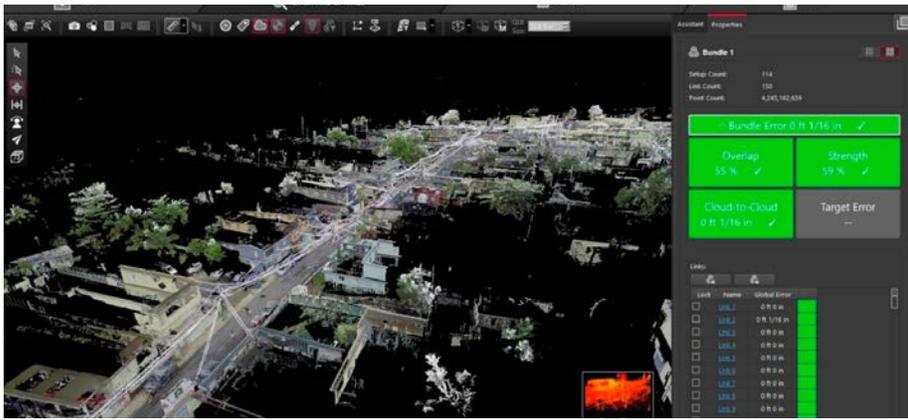
### Gravesite Conservation Documentation.

Cemetery documentation is essential to understanding the history of people buried within a cemetery, the community's events, and site preservation. NCPTT is working with Tulane University, Circular Congregational Church, and the Charleston Preservation Society to create a simplified, open-source way to collect and visualize data associated with gravesites within a cemetery.

NCPTT is developing a new model for presenting gravesite information to the public. In 2022, Brent Fortenberry, Tulane's Director of Historic Preservation, led the collection of gravesite data using ESRI Survey123 at the Circular Congregational Church cemetery in Charleston, South Carolina. The team then created a 3D cemetery model and georeferenced each marker. Future work will integrate the georeferenced data with the 3D model.

### Flood Elevation Case Study – Cataño, Puerto Rico

The National Park Service has identified climate impacts as a critical source of damage to historic structures. NCPTT is researching fast, low-cost, practical solutions to document and mitigate flooding in a city on a mass scale. NCPTT partnered with Brent Fortenberry (Tulane University Historic Preservation), Nicholas Diaz (Texas A&M University), and the Puerto Rico State Historic Preservation Office to develop techniques to document flood risks in the city of Cataño, Puerto Rico, as a case study. The team surveyed the town over two days in June. Using drones and terrestrial lidar, they took digital images of structures within the city's historic district. The team pinpointed vulnerabilities for each property using their collected data. The Federal Emergency Management Administration (FEMA) and the Department of the Interior's Office of Environmental Policy and Compliance funded the project through a Natural and Cultural Resources Response Support Function (NCR RSF). This work is a priority for the NPS Cultural Resources, Partnerships, and Science Directorate and supports the NPS guidelines on flood adaptation for rehabilitating historic buildings.



An image created from the scan data for flood risk assessment.

© BRENT FORTENBERRY, TULANE UNIVERSITY.



*“Working with NCPTT has created the collaborative capacity to push forward Historic Preservation Research and Teaching. Through funded research, the Tulane Historic Preservation program has developed new path-breaking initiatives to record historic building information, map historic cemeteries, and manage cultural resources for a changing climate. This partnership has directly and positively impacted stakeholders, providing a richer understanding of the historic built environment and the capacity to better manage their tangible heritage assets. A continued partnership with NCPTT is critical to the success of the Tulane Historic Preservation Program.” – Brent Fortenberry, Director, Historic Preservation Program, Christovich Associate Professor of Historic Preservation, Tulane University, School of Architecture.*



A digital image produced from 3D scans of the Circular Church Cemetery.

© BRENT FORTENBERRY, TULANE UNIVERSITY.

## Removing Crude Oil from Historic Building Materials

Inland oil spills are a potential risk for historic sites due to the crisscrossing of railroads and pipelines across the landscape. Vrinda Jariwala completed a multi-year, multi-phase project examining methods for removing two types of crude oil from historic building materials. Her research tested the efficacy of various surface washing agents (SWAs) to extract oil from brick, concrete, sandstone, and yellow pine. Jariwala will use the results to create a decision tree for first responders to use when cleaning cultural resources after an oil spill. The information will also be available in a forthcoming Preservation Matters brief.



**Researcher, Vrinda Jariwala, applies cleaner in a poultice to oiled materials.**

© JASON CHURCH, NCPTT, NPS.

## Wildland Fire Chemical Impacts on Cultural Resources

Kaitlyn Eldredge wrapped up her research on the NCPTT and Mesa Verde study of how wildland fire chemicals impact cultural resources. Wildfires are becoming fiercer and more common across the Western United States. Firefighters often use dyed chemicals to suppress the fires, which can stain cultural resources. Her efforts have expanded our understanding of the hazards of this wildland firefighting tool to sensitive materials and the best ways to mitigate the impacts and remove chemical dyes. This work advances our ability to respond to emergencies effectively and allows us to preserve historical and archeological materials.



**Kaitlyn Eldredge coats a brick sample in a blue fire suppressant.**

© VRINDA JARIWALA, NCPTT, NPS.

# Training

## Cultural Resources and Climate Change Workshop in Puerto Rico

The National Center for Preservation Technology and Training and its partners hosted a three-day workshop in Puerto Rico focusing on digital technologies and cultural resource management in the face of the changing climate. There were two parts to the workshop. Participants learned more about the interaction between cultural resources and a changing environment in the first part. Next, participants learned how digital technologies could help document and prepare for sea level rise.

During the workshop, instructors and participants developed two three-dimensional models of cultural resources. The models allowed the participants to discuss and address real-world climate change scenarios on familiar resources. Instructor Sujin Kim digitized several significant interior rooms of the U.S. Customs House in San Juan as the first model. He demonstrated how to gather the images and use them to show sea level rise scenarios and assess flood risks and resource vulnerabilities.

The second model was created before the workshop and focused on the Cataño Historic District. The digitized images allowed participants to conduct a flooding risk assessment for a large-scale residential neighborhood during the training event.

Partners for this important workshop included the National Park Service Climate Change Response Program, the National Endowment for the Arts, the Federal Emergency Management Administration, the Puerto Rico State Historic Preservation Office, and local stakeholders.

## NCPTT continues its partnership with the U.S. Air Force

In FY 2022, Archeology and Collections facilitated two relationship-building meetings on behalf of the Air Force Life Cycle Management Center/ Acquisition Environmental and Industrial Facilities Division. Air Force Leaders met with tribal leaders of the Tohono O'odham Nation on March 30, 2022, and tribal leaders of the Pascua Yaqui Tribe on June 6, 2022. Archeology and Collections submitted a final draft of Air Force Plant (AFP) 42's Installation Tribal Relations Plan for Air Force personnel review on September 12, 2022. Initial efforts to conduct introductory, relationship-building meetings with federally recognized tribes affiliated with the other three AFPs are ongoing.



Participants in the climate change workshop survey site conditions.

© SIMEON WARREN, NCPTT, NPS

# Information and Media

## Introducing Memories Podcasts

In 2022, NCPTT began an exciting new podcast series! In the early 1970s, Retired Senior Volunteer Program Director Katheryne Dollar, in association with the Natchitoches Area Action Association, arranged interviews with senior citizens around the parish. David Dollar conducted the interviews between 1971 and 1974, and the recordings aired on KNOC Radio. Now cleaned and digitized, we're excited to be able to share these interviews with the broader public.

## NCPTT Podcasts New Home

NCPTT has created a new home on its official NPS website for Preservation Technology Podcasts and Memories Podcasts. Listeners can find audio files and article versions on NCPTT's NPS website or access the podcasts on Apple Podcasts. You can find new episodes regularly – new episodes of Memories will come out every Monday until the series completes and Preservation Technology Podcasts air two new episodes monthly.



NCPTT podcast logo.  
© JAMES BARRY, NPS



**A student holds a SPARK Beacon that provides the necessary internet connections for media sources in a remote area.**

© EMILY HEDRICK, UTAH VALLEY UNIVERSITY.

# Grants

## 2022 Grants

With the 2022 Preservation Technology and Training Grants, the National Center marks its 28th year of funding innovative projects that create better tools, materials, and approaches to preserving buildings, landscapes, sites, and collections. NCPTT awards grants that support innovative research, specialized workshops or symposia, how-to videos, mobile applications, podcasts, best practices publications, and webinars that address practical preservation methods for cultural resources.

NCPTT received 19 applications in this annual grant cycle requesting a total of \$351,371. Content experts conducted a merit review of the applications and selected nine proposals for NCPTT to award this year. Funding for these grants totaled \$164,375.

The Desert Research Institute will receive grant funds to adapt luminescence dating methods to study the age and context of adobe building construction in North America. Determining the dates of building construction and modification is critical for deciding historical context and cultural significance of these buildings.

Researchers at the University of Delaware will use grant funds to investigate the uses of a new instrument in the non-destructive surface analysis of cultural materials. The tool employs new infrared and Raman Spectroscopy techniques and will allow scientists to evaluate surface decorations and burial accretions to address anthropological and conservation treatment questions.

Appendix G provides the complete list of grants awarded in 2022.



**A team of researchers from Utah Valley University on-site at Sleeping Rainbow Ranch.**

© EMILY HEDRICK, UTAH VALLEY UNIVERSITY.

## Grant Product Highlights

NCPTT's funds supported wide-reaching archeology, architecture, materials science, and landscape preservation technologies. See Appendix H for a list of final reports and deliverables NCPTT received from five Preservation Technology and Training Grants. Highlights of the products include the following:

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*“Innovation is at the heart of what we do at Utah Valley University, and with five national parks in our state, it’s a dream come true to work with one of them. It pushed the boundaries of new media technologies and how we can implement them in remote areas. Our UVU team was excited to create an interactive virtual tour of Sleeping Rainbow Ranch in Capitol Reef with funding from an NCPTT grant. This project has far-reaching implications, and we’re already expanding the project to other regional parks, too!” –Emily Hedrick, Assistant Professor of Digital Media, Utah Valley University.*

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**Mud Talks 15-3: Preserving Earthen Architecture - Capillary Action, Permeability & Salt Attack**

Feb 16 2022  
Length: 55 mins  
Podcast

Mud Talks Podcasts from Cornerstones Community Partnerships.  
CORNERSTONES

## Virtual Field Trip to Sleeping Rainbow Ranch in Capitol Reef National Park

Utah Valley University developed a web experience allowing visitors to use their mobile devices, such as cell phones or tablets, to access information anywhere in the park, thanks to a series of minicomputers powered by solar panels that create a localized mobile network. These tiny computers project an internet in a box called SPARK Beacons, which stands for Spatial Augmented Relay Kits. SPARK Beacons give visitors access to park media and allow them to experience the park without creating paper waste. For the Sleeping Rainbow Ranch Virtual Tour project, the UVU team used assets they made in class (Virtual Reality, Augmented Reality, text, images, video) and created a guided field trip, all accessible from any smartphone. A 2020 PTT Grant funded the project.

### Mud Talks: Preserving Earthen Architecture

A 2021 PTT Grant allowed Cornerstones Community Partnerships (Cornerstones), in collaboration with Adobe in Action, to develop and present a podcast series of 16 episodes called Mud Talks. The podcasts offer audio interviews with experts from the earthen architecture preservation field. Each discussion focuses on a detailed step-by-step practical breakdown of an essential aspect of earthen architecture preservation.

### 2021 Keeping History Above Water Conference – Charleston: A Workshop for Communities in Action

A three-day workshop in Charleston, South Carolina, focused on community efforts in that city and nationwide to minimize the adverse effects of climate change on historic resources. Charleston provided a particularly appropriate setting for the workshop, given its leading role in historic preservation and climate change movements. The workshop's focus was not on climate change but on what preservationists, engineers, city planners, community organizations, legislators, insurers, historic homeowners, and other stakeholders are doing to protect historic buildings, landscapes, and neighborhoods from the increasing threat of inundation. A 2020 PTT Grant sponsored the workshop.

# Staff and Board

## New Staff

### Mary Bindas

Mary joined NCPTT in the Architecture and Engineering Program. Before NCPTT, Mary was the owner and lead craftsman at Re-Lite Restoration LLC, specializing in wood window restoration. She has worked as an Assistant Architectural Conservator and crew member for preservation projects from the East Coast to the Rocky Mountains.

Her experience has made her familiar with various building materials and preservation trades techniques. She enjoys sharing this knowledge with the community, has taught student workshops, and led volunteers on preservation projects.

Mary holds a Master of Science in Historic Preservation from Eastern Michigan University.

### Sadie Schoeffler

Sadie is an archeologist in NCPTT's Archeology and Collections Program. Before joining NCPTT, she worked in cultural resource management and studied collaborative and public archeology with a focus on bio-archaeology and tribal consultation. Sadie's work promotes partnerships with descendant communities and develops non-invasive technology in archaeology. She earned her M.A. (Anthropology) from Louisiana State University and is a Registered Professional Archaeologist.

## Continuing Interns and Research Associates

We are excited to have the following staff continue at NCPTT:

### Megan Suzann Reed

Megan Suzann is a Cultural Heritage Preservationist with the Technical Services team. She uses her photography and laser scanning skills to document slave cabins and tenant farming houses across the United States. The project includes using 3D technology to create digital models of the structures for architectural research, preservation documentation, and education.

### Kaitlyn Eldredge

Kaitlyn is an historical archeologist from Boise, Idaho. She received her master's degree in archeology from the University of Idaho's graduate program in Anthropology. As an NCPTT Materials Conservation Research Associate, Kaitlyn studies how chemical fire retardants and suppressants interact with cultural materials.

### Vrinda Jariwala

Vrinda is a Materials Conservation Research Associate working on the final research phase of removing crude oil from cultural resources using surface washing agents funded by the Inland Oil Spill Preparedness Project. She received her master's degree in architectural conservation from the School of Planning and Architecture, New Delhi.

### Isabella Jones

Isabella is filming and producing videos on various topics, from informative shorts of NCPTT's different scientific instruments to recording oral histories with former tenant farmers. Isabella is an Arts graduate from the Northwestern State University of Louisiana.

## Staff

- Kirk Cordell, Executive Director
- Andrew Ferrell, Deputy Director
- Kevin Ammons, Administrative Officer
- Mary Bindas, Architect
- Mary Bistodeau, Administrative Assistant
- John “Tad” Britt, Chief, Archeology and Collections
- Seth Butler, Executive Assistant
- Jason Church, Chief Technical Services
- Catherine Cooper, Research Scientist, Technical Services
- Deborah Dietrich-Smith, Chief, Historic Landscapes
- Sadie Schoeffler, Archeologist
- Simeon Warren, Chief, Architecture and Engineering



**Mary Bindas, Architect.**

© MARY BINDAS, NCPPT, NPS.

## 2022 Preservation Technology and Training Board Members

- Rinita A. Dalan, Archeology, Morehead State University
- John Dumsick, Engineering, U.S. Department of State
- Kimball Erdman, Landscape Architecture, University of Arkansas
- W. Fredrick Limp, Archeology, University of Arkansas
- Frank Matero, Historic Preservation, University of Pennsylvania
- Nancy Odegaard, Archeological Conservation, University of Arizona
- Jonathan Spodek, Historic Preservation, Ball State University
- Vincas Steponaitis, University of North Carolina
- David Wessel, Architectural Conservation, Architectural Resources Group



**Sadie Schoeffler, Archeologist.**

© SADIE SCHOEFFLER, NCPPT, NPS.

# Appendix A List of 2022 Technical Services Provided

## **Ste. Genevieve National Historical Park:**

Catherine Cooper completed a bousillage analysis of samples collected from two buildings in the park. The reports show the range of recipes used to create bousillage and past repairs.

## **Great Smoky Mountains National Park**

Jason Church taught three hands-on cemetery preservation workshops for park staff and descendant family members.

## **Vanderbilt University**

Cooper completed mortar analyses of samples from Kirkland Hall at Vanderbilt University in preparation for conservation work on the building.

## **Chris Moses**

Cooper completed an analysis of historic plaster from a historic house for a private citizen who wants to repair his home with historically matched materials.

## **Hubbell Trading Post National Historic Site**

Cooper taught a mortar sampling and analysis workshop for staff from all Southern Four Corners Region parks. Samples undergo mortar analysis by acid digestion.

## **Oil City Heritage Area**

In conjunction with Preservation Erie, Church taught three hands-on cemetery workshops for the Oil City Heritage Area. Workshop sites included Franklin, Titusville, and Erie, Pennsylvania.

## **City of Savannah**

Church taught a two-day, hands-on graffiti removal workshop for the City of Savannah. Staff from the Department of Cemeteries and Park and Tree Department attended the workshop. In addition, Church spent time

removing graffiti from various city monuments and signs.

## **FEMA**

Church was one of four instructors to teach a series of three hands-on cemetery preservation workshops in Puerto Rico. Church taught adhesive repairs, cleaning, patch fills, and lime washing.

## **Canyon de Chelly National Monument**

Cooper taught a stucco sampling and analysis workshop for Canyon de Chelly National Monument staff. Samples are undergoing analysis by acid digestion.

## **Alabama Cemetery Preservation Alliance**

Church taught a day-long cemetery preservation workshop in New Market, Alabama.

## **Prince William Forest National Park**

Church taught a three-day hands-on cemetery preservation workshop to cultural resources staff at the park. The workshop focused on cleaning, resetting monuments, and adhesive repairs.

## **Medgar and Myrlie Evers Home National Historic Site**

Church has worked on several projects at this new NPS site. Church made a 3D Matterport tour of the house and property. Thermal imaging was used to look for leaks and damaged areas. In addition, Church conducted a portable XRF investigation of the staining on the house driveway.

## Appendix B List of 2022 Research Projects

- MRDAM: Mississippi River Delta Archeological Mitigation Project
- Cultural Landscape Archives Project
- Gravesite Conservation Documentation Project
- Recovery Support Function. Urban Center First Floor Flood Elevation Documentation, Cataño, Puerto Rico

## Appendix C List of 2022 Training Events

- Cemetery Care Workshop, New Beck Cemetery near Cherokee, North Carolina
- Cemetery Care Workshop, Cades Cove Primitive Baptist Church and cemetery in Blount County, Tennessee
- Cemetery Care Workshop, Payne Cemetery Fontana Lake, North Carolina
- Cemetery Preservation Workshop, Pioneer Cemetery, Franklin, Pennsylvania
- Cemetery Preservation Workshop, Woodlawn Cemetery, Titusville, Pennsylvania
- Cemetery Preservation Workshop, Blasco Memorial Library, Erie Pennsylvania
- Cemetery Preservation Workshop, Prince William Forest Park, Virginia
- Cemetery Cleaning Workshop, Vicksburg National Cemetery, Vicksburg, Mississippi
- Cemetery Preservation Workshop, New Market, Alabama
- Cemetery Preservation Workshop, San Juan, Puerto Rico
- Cemetery Preservation Workshop, Manati, Puerto Rico
- Cemetery Preservation Workshop, Ponce, Puerto Rico
- Stucco Sampling and Analysis, Canyon de Chelly National Monument, Chinle, Arizona
- Graffiti Removal Workshop, Powder Magazine Savannah, Georgia
- Mortar Sampling and Analysis Workshop, Hubble Trading Post National Historic Site, Ganado, Arizona
- Planning for a Changing Climate Part 1: Cultural Resources and Coastal Hazards Workshop, San Juan, Puerto Rico
- Planning for a Changing Climate Part 2: Digital Technologies and Coastal Hazards Workshop, San Juan, Puerto Rico

# Appendix D List of 2022 Media

## PODCASTS

- Podcast 107: “Why Keep That?” Examining WWI through Memorabilia, Stacie Petersen, Director of Exhibitions and Registrar at the National WWI Museum and Memorial in Kansas City, Missouri.
- Podcast 108: Setting up Ste. Genevieve National Historical Park, Chris Collins, Superintendent, Ste. Genevieve National Historical Park.
- Podcast 109: Expanding the Louisiana Digital Library Collections with the Y’ALL Award, Sophie Ziegler, Head of Digital Programs and Services, LSU Libraries.
- Podcast 110: Creating the Mississippi Delta Chinese Heritage Museum, Gilroy Chow, President, Mississippi Delta Chinese Heritage Museum.
- Podcast 111: Stories from the Mississippi Delta Chinese Heritage Museum, Gilroy Chow, President, Mississippi Delta Chinese Heritage Museum.
- Podcast 112: Sharing Experiences with the Louisiana Trans Oral History Project, Sophie Ziegler, an oral historian with Louisiana Trans Oral History Project.
- Podcast 113: Stories of Women in Archaeology, Suzy Eskenazi, a principal investigator and archeologist at SWCA Environmental Consultants in Salt Lake City, and Dr. Nicole Herzog, Assistant Professor at the University of Denver.
- Podcast 114: Conserving a Building and Continuing a Mission at the National Museum of Women in the Arts, Gordon Umbarger, Director of Operations, National Museum of Women in the Arts.
- Podcast 115: Book Publishing in Cultural Heritage, Mary Puckett, Associate Acquisitions Editor, University Press of Florida.
- Podcast 116: Uncovering the Gardens at Amache, Dr. Bonnie Clark, Professor of Anthropology and curator, University of Denver.

## Video Interviews

- The Telling of Cherie Quarters with David Biben
- Our Mammy’s Mission and Memories with Gaynell Brady
- Remembering Riverlake Plantation and Ancestral Roots with Norbert Colar
- The History of Malone’s Church: Harriet Tubman, Gospel, and Gatherings with Renna McKinney
- The History of Malone’s Church: The Departed and Their Descendants with Nathaniel Keene
- The Grounds of Kingsley Plantation with Park Ranger Josh
- From Evergreen Plantation to the Korean War and Back with Lester Simon
- Louisiana Women in Science: Dr. Mary Elizabeth Bass
- Louisiana Women in Science: Dr. Ruth Mooney-Slater
- Louisiana Women in Science: Dr. Ruth Benerito
- Leborá Melancon: Memories in Her Cabin and Her Food with Robin Ann Bazile Garnett
- Local Legends and Nationwide Dancehalls with Oswald Colson
- Academy of the Sacred Heart: The Enslaved and the Children with Caroline Richard
- Academy of the Sacred Heart: The Inside Stories with Wilda Richard
- Where Valor Proudly Sleeps: Headstone Cleaning at Vicksburg
- History of Roque’s Grocery, Natchitoches, Louisiana
- The Timeline Introduction: Reconstruction Era in Beaufort, South Carolina, with Park Ranger Chris Barr
- Port Royal Experiment: Reconstruction Era in Beaufort, South Carolina, with Park Ranger Chris Barr
- Robert Smalls: Reconstruction Era in Beaufort, South Carolina, with Park Ranger Chris Barr
- Harriet Tubman: Reconstruction Era in Beaufort, South Carolina, with Park Ranger Chris Barr
- Louisiana Women in Science: Caroline Dormon

## 2022 Cemetery Conservation Videos (English/Spanish)

- Overview Gravesite Preservation/Métodos y Prácticas en Conservación de Cementerios (Spanish Language Slides/CC - English speaker)
- Gravesite Preservation Ethics/Ética de la Conservación (Spanish Language Slides/CC English Speaker)
- Bringing it Together/En Resumen...Bringing it Together (Spanish Slides/CC English Speaker)
- Documenting Gravesites/Documentando el Sitio (Spanish CC/slides English Speaker)
- Documenting Grave Markers/Cómo documentar Lápidas (Spanish Slides/CC English Speaker)
- Removing Invasive Plants/Remoción de Plantas Invasivas (Spanish Slides/CC English Speaker)
- Managing Gravesite Vegetation/Cómo manejar la vegetación del cementerio (Spanish Slides/CC English Speaker)
- Herbicides Herbicidas (Spanish CC, English Slides/Speaker)
- Gravesite Priorities and Stabilization/Cómo establecer prioridades y la estabilización de Tumbas (Spanish Language Slide/CC English Speaker)
- Gravesite Safety/Aspectos de Seguridad en el Sitio- Paisajes y Monumentos (Spanish Language Slides/CC English Speaker)
- Gravesite Materials/Materiales constructivos en tumbas y cementerios. (Spanish Slides/CC English Speaker)
- Preserving Iron Fencing/Cuidados de hierro ornamental en cementerios históricos (Spanish Slides/CC English Speaker)
- Cleaning Grave Markers/Limpieza de lápidas de tumbas (Spanish Slides/CC English Speaker)
- Basic Cleaning of Monuments/Limpieza Básica para Monumentos
- Moving Materials / Cómo mover monumentos (Spanish Slides/CC English Speaker)
- Limewash Application/Encalado de cal y agua para blanquear los monumentos (Spanish Slides/CC English Speaker)
- Herbicide Application
- Aplicación de herbicidas
- Removing Vegetation Growing in Soil Buildup on Cemetery Hardscapes
- Remoción de la vegetación que crece en la tierra acumulada sobre superficies duras de los cementerios
- Overview of Herbicides
- Descripción general del uso de herbicidas
- Removing Invasive Trees Abutting Cemetery Monuments
- Remoción de árboles invasivos que colinda con los monumentos del cementerio
- Maintaining Japanese Lawn Grass (zyoysia japonica) in Cemeterie
- Mantenimiento de césped japones (zyoysia japonica) en cementerios

# Appendix E Publications

- “Comparative Analysis of Consolidants Used to Treat Paper Shale Fossils,” AIC Research and Technical Studies Postprints, Vol. 9 (2021).
- Girl Archaeologist: Sisterhood in a Sexist Profession, Book Review, Catherine Cooper, Historical Archaeology, 56, 806-807 (2022) .
- “Using sUAS to Map and Quantify Changes to Native American Archaeological Sites Along Coastal Louisiana Due to Climate Change and Erosion,” Part of the Geotechnologies and the Environment book series (GEOTECH, volume 24), July 21, 2022.

# Appendix F 2022 Sites Documented

- Sacred Heart Academy, Grand Coteau, St. Landry Parish, Louisiana (slave quarters)
- Northwestern State University, Natchitoches, Louisiana (Caddo Hall)
- Kingsley Plantation, Jacksonville, Duval County, Florida (32 slave quarters)
- Lemee House, Natchitoches Louisiana
- Roque’s Grocery, Natchitoches, Louisiana
- Magnolia Plantation, Derry, Natchitoches Parish, Louisiana (landscape and barn)
- Fort Frederica National Monument, St. Simons Island, Glynn County, Georgia (earthworks, barracks, cemetery, six houses, and an obelisk monument)
- Hofwyl-Broadfield Plantation, Brunswick, Glynn County, Georgia (slave quarters)
- Owens-Thomas House and Slave Quarters, Savannah, Chatham County, Georgia
- Grove Point Plantation, Savannah, Chatham County, Georgia (two houses)
- Ossabaw Island Foundation, Savannah, Chatham County, Georgia (smokehouse, three slave cabins, four ruins)
- Redcliffe Plantation, Beech City, Aiken County, South Carolina (two cabins)
- Seibel House and Garden, Columbia, Richland County, South Carolina (kitchen)
- Wavering Place, Eastover, Richland County, South Carolina (kitchen and slave cabin)
- Francis Marion University, Florence, Florence County, South Carolina (two houses)
- Reconstruction Era National Park, Beaufort, Beaufort County, South Carolina (house, three churches, hall, and a bust)
- Oakland Plantation, Natchez, Natchitoches Parish, Louisiana (landscape)
- Chickamauga & Chattanooga National Military Park, Fort Oglethorpe, Catoosa County, Georgia (road)
- Faerie Playhouse, New Orleans, Louisiana

## Appendix G 2022 Grants

- New Methods for Nondestructive Microanalysis of Archaeological Ceramic Surfaces for Anthropological and Conservation Research I & Cultural Resource Management and Military Training, University of Delaware, \$19,995.
- Adapting Luminescence Dating Techniques to Derive and Preserve the Chronology of Adobe Building Construction in North America, Desert Research Institute, \$19,995.
- Digitally Decoding Vernacular Construction: Sellman Tenant House, Georgia Tech Research Corporation, \$19,999.
- Open-Source Historic Trades Training Videos, Preservation Maryland, \$15,000.
- Advanced Training Workshop in Lidar, GIS, and Public Interpretation to Address Coastal Heritage at Risk, University of South Florida, \$20,000.
- Development, Production, and Initial Test of an Archaeological Site Potential Model for the Sabine National Forest in Advance of Southern Pine Beetle Outbreak, Stephen F. Austin University, \$15,813.
- Scan-to-BIM: An Innovative Technique for Documenting the Old Faithful Inn, University of Wyoming, \$19,944.
- Mariners' Museum Fellowship: Evaluating the Sulfur-related Deterioration of Archaeological Organic Objects technical publication Conservation of Cultural Heritage from Marine and Freshwater Sites, The Mariners' Museum and Park, \$14,000.
- The Kentucky Historic Environments Spatial Data Repository (KHESDR) – Pilot Project, University of Kentucky Research Foundation, \$19,893.

## Appendix H Final Grant Reports Received in 2022

- Investigating Depth Estimation to Archaeological Magnetic Source Bodies, University of Arkansas.
- Tri-Cure Hybrid Organo-Silicon Coatings for Monument Preservation, Bowling Green University.
- A Methodological Investigation of HVAC Integration and Impact on U.S. Historic Stone Buildings, The University of Texas at San Antonio.
- Mud Talks: Preserving Earthen Architecture, Cornerstone Community Partnerships.
- Virtual Field Trip of Sleeping Rainbow Ranch in Capitol Reef National Park, Utah Valley University.

## Appendix I List of New Equipment

- Artec Leo Scanner
- Leica BLK2GO laser scanner

**Megan Suzann Reed is documenting the landscape at Oakland Plantation using the new Leica BLK2GO laser scanner.**

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**U. S. Department of the Interior**

**National Center for Preservation Technology and Training**  
645 University Pkwy  
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