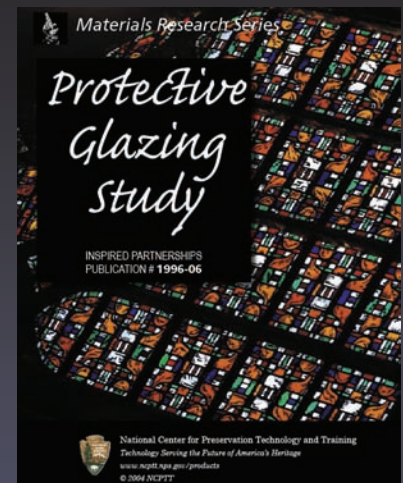
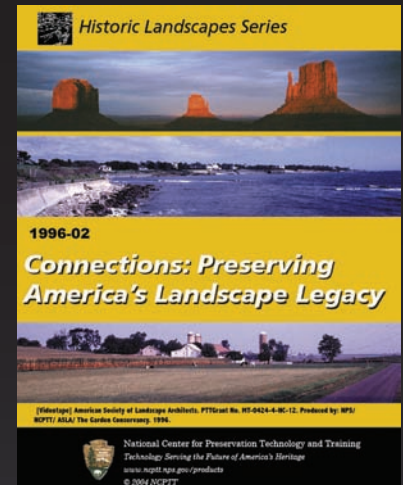
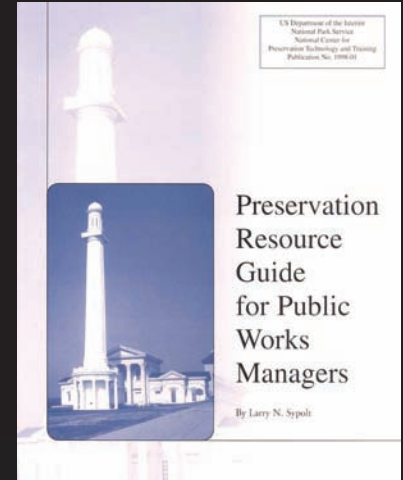




National Center for Preservation Technology & Training

PTT Products



NCPTT
National Center
for Preservation
Technology and
Training

*Technology Serving the Future
of America's Heritage*
www.ncptt.nps.gov

Catalog of Publications and Products



Lee H. Nelson Hall
Home of NCPTT

NCPTT advances the application of science and technology to historic preservation. Working in the fields of archeology, architecture, landscape architecture and materials conservation, the Center accomplishes its mission through training, education, research, technology transfer and partnerships.

NCPTT was created by Congress in 1992 to develop and disseminate preservation technologies and to train practitioners in new technologies. NCPTT promotes preservation technologies in the fields of archeology, historic architecture, historic landscapes, and materials conservation.

NCPTT emphasizes preservation technology research. The Center supports the use of innovative technologies in the preservation of cultural properties and the transfer of technology from arenas not readily identified within historic preservation.

The Center is located in Lee H. Nelson Hall on the campus of Northwestern State University in Natchitoches, Louisiana.

About NCPTT

NCPTT conducts preservation technology research

NCPTT undertakes research at its in-house laboratories, which include an environmental chamber that allows researchers to test the effects of pollutants on cultural materials. More widely, the Center stimulates new research through its nationwide grants program.



NCPTT provides grants, creates partnerships

NCPTT maintains a broad partnership base that includes National Park Service sites; other federal agencies; state and tribal historic preservation offices; universities; private corporations; and local, state, national and international non-profit organizations. The Center provides direct and competitive grants to promote research and training opportunities in preservation technology.

NCPTT serves as a trainer and convener

The Center develops and conducts regional seminars and workshops on topics like cemetery monument conservation. NCPTT promotes excellence



in preservation by promoting historic preservation training and education opportunities for professionals through projects like the NCPTT Preservation Engineering Initiative.

NCPTT serves as a Clearinghouse and Web Portal

NCPTT's website and publications enable the Center to deliver the latest news about preservation technologies to a variety of audiences. Also, NCPTT supports the distribution of preservation information through its grants and partnerships.

NCPTT teaches preservation for future generations

NCPTT's Heritage Education program conveys to our youngest citizens the power of place and the stories behind our irreplaceable treasures.

The program administers competitive

mini grants and holds teacher workshops to enhance the educational experience by teaching students the value of their local heritage. The program also serves as a national model for heritage education.



ABOUT THIS PUBLICATION

This publication contains a partial listing of the products and publications available through the National Center for Preservation Technology and Training. The catalog and order form are downloadable through the NCPTT website (www.ncptt.nps.gov). The website also contains a complete searchable listing of the Center's products and publications. Some products are available by download only.

For more information:

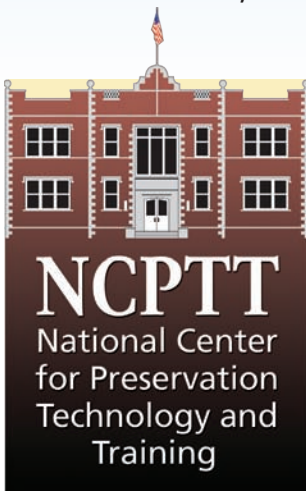
NCPTT
ATTN: Products Department
645 University Parkway
Natchitoches LA 71457

E-mail: ncptt@nps.gov

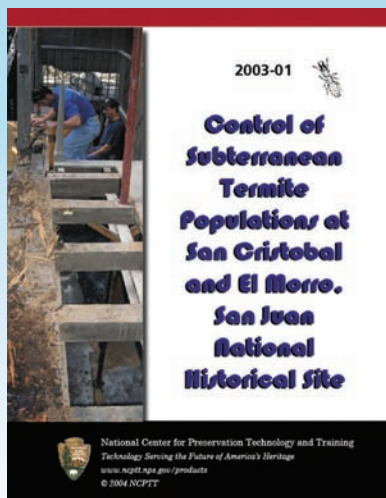
Phone: 318-356-7444

Fax : 318-356-9119

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Newest Titles

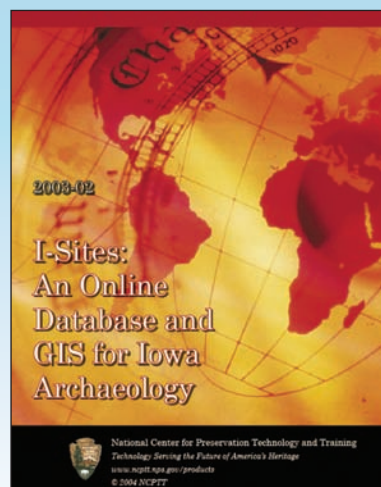


2003-01

Control of Subterranean Termite Populations at San Cristobal and El Morro, San Juan National Historical Site

This publication studies three monitoring systems and efforts to eliminate termites at San Cristobal and El Morro of the San Juan National Historical Site in Puerto Rico. Populations of *Coptotermes havilandi* and *Heterotermes* sp. were detected and quantified using underground monitoring stations, aboveground monitoring stations and an acoustic emission detector reading.

This study tests hexaflumuron baits such as those used to eliminate termite populations in previous NCPTT-sponsored research on Liberty Island at the Statue of Liberty National Monument. This study evaluates these baiting systems over a much wider area.

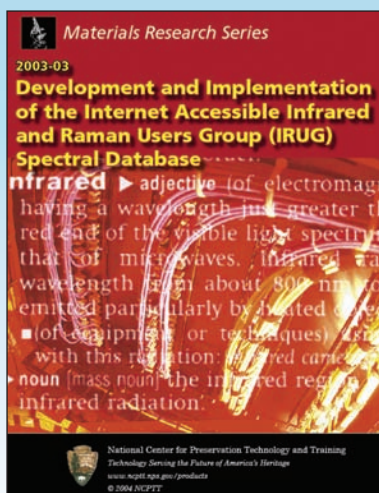


2003-02

I-Sites: An Online Database and GIS for Iowa Archaeology

This report details the development of I-Sites, a database-driven website that provides public and professional access to the Iowa State File, a master inventory of the state's recorded archeological sites. The project's goal was to contribute to resolving the need to keep preservation-related databases current with existing and new discoveries by allowing archeologists in the field to update the site.

Among the topics covered in this report are methods and materials, hardware and software development, functionality, data entry, security and longterm management.



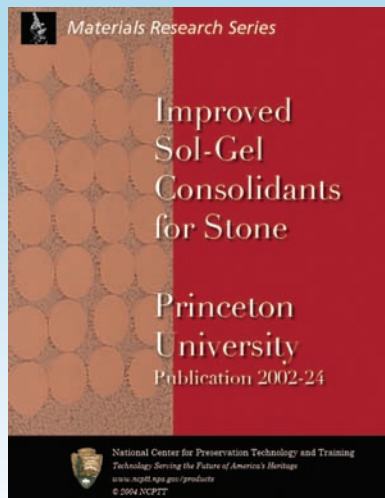
2003-03

Development and Implementation of the Internet Accessible Infrared and Raman Users Group (IRUG) Spectral Database

Like I-Sites, this project seeks to develop a comprehensive database of research accessible via the World Wide Web. Included in the database is IRUG's continuing collaborative collection of high quality infrared reference spectra and an online bibliography of spectroscopic and related literature, a discussion forum and links to technical resources.

This report includes detailed examples of website features as well as information on how the project was structured and implemented.

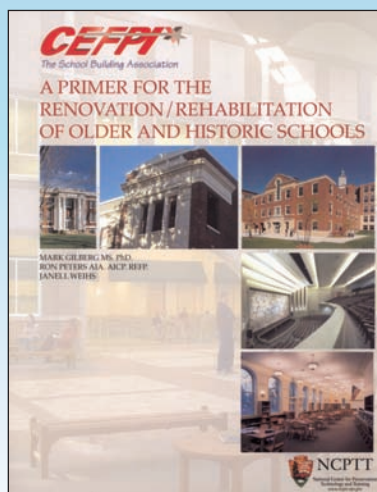
Newest Titles



2002-24

Improved Sol-Gel Consolidants for Stone

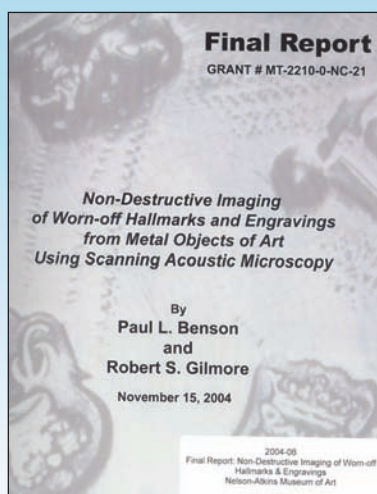
The purpose of this project by Princeton University researchers was to develop improved consolidants of stone damaged by weathering. Research focused on broadening the range of consolidant properties beyond the traditional organic polymers and silica gels.



2004-06

A Primer for the Renovation/Rehabilitation of Older and Historic Schools

This publication by the Council of Educational Facility Planners International serves as a primer for school administrators unfamiliar with renovation as a viable option. It will also be a powerful tool for historic preservation advocates to help make their case by dispelling the myths that old schools can no longer serve contemporary education.



2004-06

Non-Destructive Imaging of Worn-Off Hallmarks and Engravings from Metal Objects of Art Using Acoustic Microscopy

Investigators from the Nelson-Atkins Museum of Art undertook this project to determine if worn-off or illegible hallmarks on silver and gold works of art could be imaged using scanning acoustic imaging techniques. Hallmarks and engravings from a total of 26 silver, two gold and one copper alloy (bronze) objects were imaged during the two-year course of the project.

Product Review



Standard Practice for Determining the Components of Historic Cementitious Materials

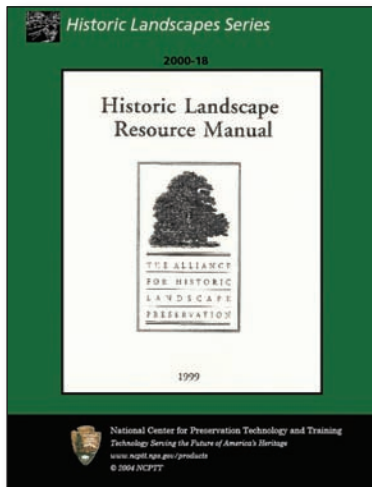
PTTGrant 2002-20

Funded by a 1998 Preservation Technology and Training Grant, the *Standard Practice for Determining the Components of Historic Cementitious Materials* is a series of recommended methods for the analysis of historic mortars. Scholars, conservators, and preservationists, among others, are interested in the composition of historic mortars for a number of reasons. Scholars interested in changes in technology may focus on the types of additives and improvements in working properties of cement-based mortars. Conservators and preservationists may be interested in identifying and recommending mortars to repair or replace historic mortars. They may be interested in the way in which historic mortars have weathered over time. They are interested in identifying aggregates and binders, looking at mineralogy, or studying failures of materials caused by decay mechanisms.

This report presents a review of the literature followed by recommendations based on best practices for the analysis of historic cement-based materials. The report is geared towards the practicing analyst. Test methods described with the report are for the identification of aggregate additives, cement material, pozzolana, and hydraulic materials in historic mortars. Air voids are also characterized. Test methods described include wet chemical analysis, thin-section petrographic analysis coupled with image analysis, scanning electron microscopy, and X-ray diffraction. Clays or organic materials are identified by Fourier Transform Infrared Spectroscopy.

Reviewed by Dr. Mary Striegel, NCPPT Materials Research Program Manager

Most Requested Titles



2000-18

Historic Landscape Resource Manual

This report documents a historic landscape workshop developed to introduce preservation professionals to the identification, documentation, evaluation and treatment of designed, vernacular and rural historic

landscapes. Included are discussions on historic landscapes already in local programs and of managing and tourism issues. Training sessions were held in three locations; speakers and resource materials focused on issues pertinent to each region.

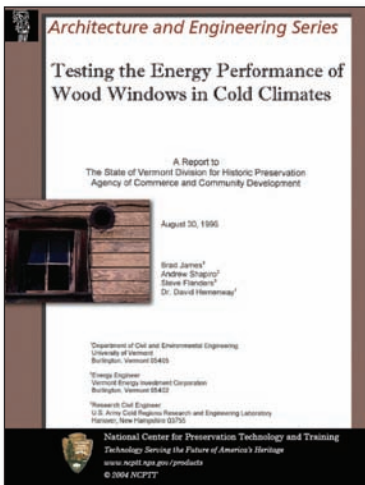


1998-05

RESTORE Technical Field Guide on the Health and Environmental Hazards Inherent in Architectural Restoration Materials and Processes.

Working in collaboration with the International Union of Bricklayers and Allied Craftsmen,

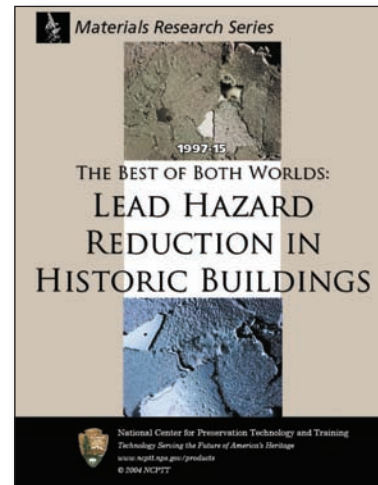
RESTORE developed a prototype workshop on health and environmental hazards inherent in conservation materials and processes. In conjunction with the workshop, this technical field guide was produced for distribution nationwide.



1996-08

Testing the Energy Performance of Wood Windows in Cold Climates — A Report to The State of Vermont Division for Historic Preservation, Agency of Commerce and Community Development

During rehabilitation of historic buildings, the question of how to treat the windows is inevitably raised. Within the decision-making process for deciding to replace or renovate an existing window, energy consideration should not be the primary criteria, but should not be ignored. This study investigates the types of historic windows and viable methods for striking the balance between retaining a window's historic character and energy efficiency.



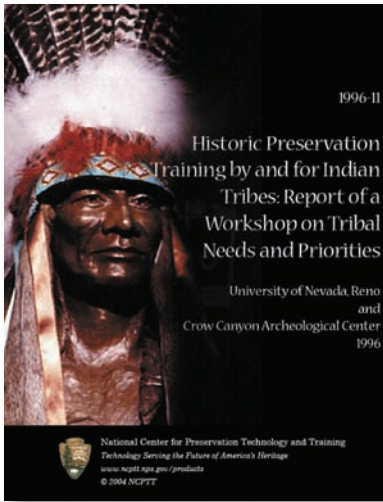
1997-15

The Best of Both Worlds: Lead Hazard Reduction in Historic Buildings

The Maryland State Historic Preservation Office in collaboration with the National Park Service's Williamsport Preservation Training Center produced

this video on lead-based paint abatement for owners of historic properties, preservation craftspeople, contractors, and historic site maintenance personnel. The video presents paint removal techniques, worker safety procedures, and methods for disposing of lead-containing residues that can be used in work that meet the "Secretary of the Interior's Standards for the Treatment of Historic Properties."

Most Requested Titles



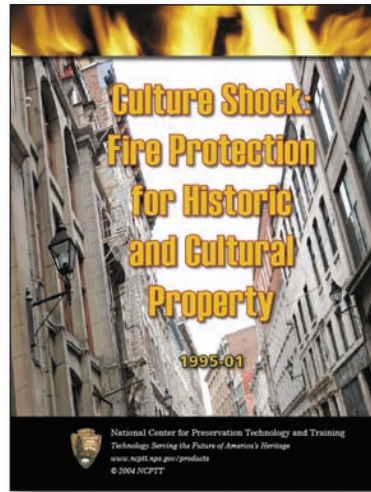
1996-11
Historic Preservation Training by and for Indian Tribes: Report of a Workshop on Tribal Needs and Priorities

This PTTGrants award funded an initial meeting of Native American and preservation experts to discuss preservation issues,

and a subsequent workshop to design a preservation training program that meets the needs of Native Americans and archeologists.

A growing number of Native American tribes are establishing cultural preservation offices and museums. Among their responsibilities is preservation of archeological sites and artifacts. The Crow Canyon Archaeological Center developed this workshop to train technicians and other tribal office and museum staff members in recording, cataloging, curation, and site preservation methods.

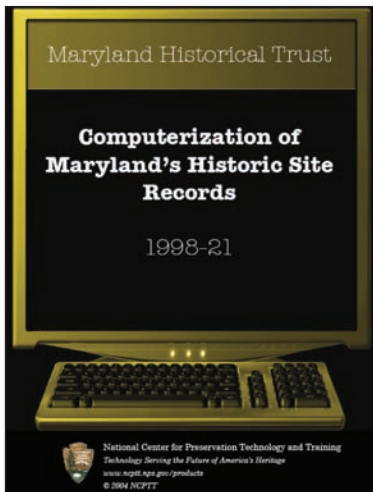
VIDEO



1995-01
Culture Shock: Fire Protection for Historic and Cultural Property

Boston University produced this training video to raise awareness of fire risks to cultural properties and to provide technical information about fire detection and suppression systems including sprinklers,

gaseous agents, and water mist. Also shown are examples of institutions that have sensitively installed appropriate devices.

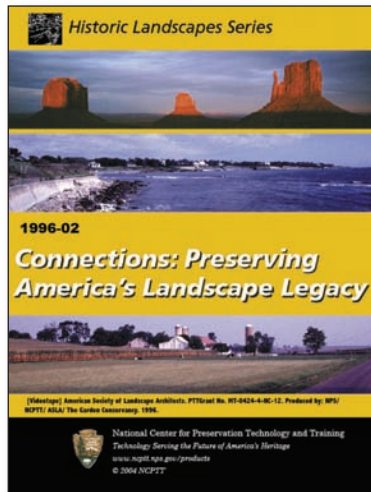


1998-21
Computerizing Maryland's Historic Site Records

This document outlines the Maryland State Historic Preservation Office's efforts to computerize hard-copy records of historic buildings and districts in Maryland to make these documents more accessible. The project used both database and records

management software to build an architectural/landscape data set that were staked to an existing GIS system.

VIDEO



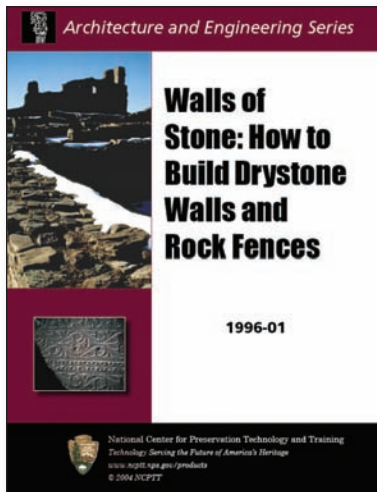
1996-02
Connections: Preserving America's Landscape Legacy

This video examines the importance of preserving the integrity of America's historic landscapes. Beginning with the role of landscape in film, the video uses landscapes familiar to most Americans to foster an understanding of how landscapes grow and change, but must still be preserved.

Narrated by Angela Lansbury.

Most Requested Titles

VIDEO

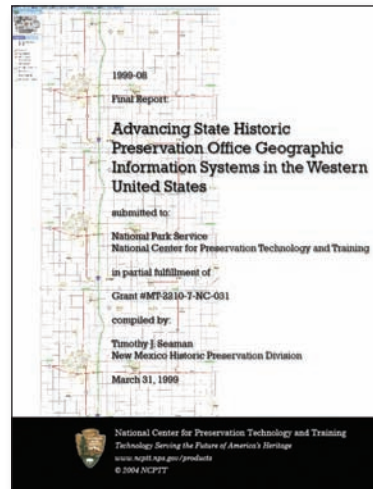


1996-01

Walls of Stone: How to Build Drystone Walls and Rock Fences

This project produced a video for training technicians in correct methods for preserving stone walls and rock fences. The video is a primary training resource, providing graphic instruction on how

to repair, rebuild and relocate stone walls and rock fences. In addition to providing training to practitioners, the video explains fence and wall construction to archeologists, engineers, preservationists and conservators.



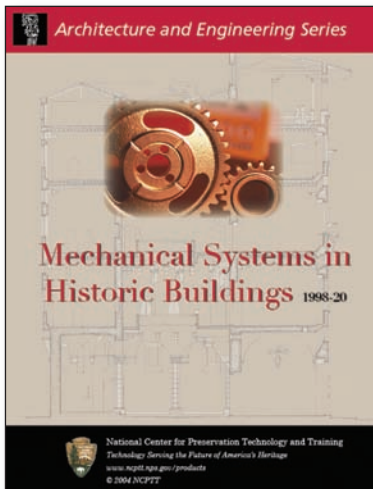
1999-08

Advancing State Historic Preservation Office Geographic Information Systems in the Western United States

This report outlines the efforts of the SHPO offices of New Mexico and Wyoming to implement a common cultural resource database design. This collaboration

is developing a common spatial data structure and implemented a prototype Geographic Information System based on the ESRI Spatial Database Engine and other supporting ESRI Technologies.

CD-ROM

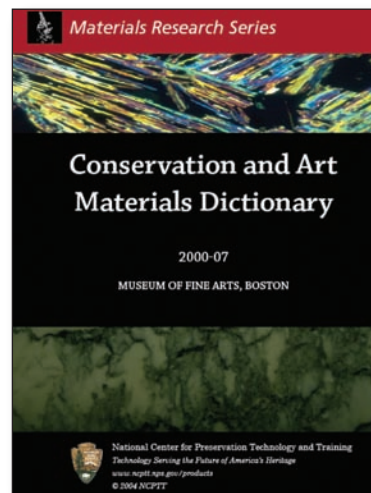


1998-20

Mechanical Systems in Historic Buildings

Belmont Technical College produced this electronic correspondence course on the preservation of electrical, plumbing, heating, and air conditioning systems. Belmont collaborated with the National Park Service's Williamsport

Preservation Training Program in developing this CD-ROM interactive correspondence course.



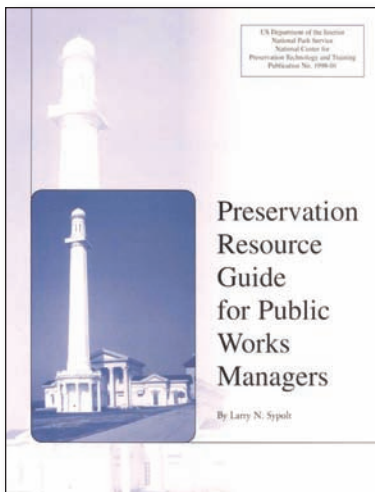
2000-07

Conservation and Art Materials Dictionary

Knowledge of material properties, reactivity and history can be crucial to conservation treatment success and safety. This report documents how the Museum of Fine Arts in Boston created a digitized database of information on materials and processes used in making, treating

and testing artistic and historic objects. The database includes over 10,000 records and serves as a time-saving resource for conservators.

Most Requested Titles

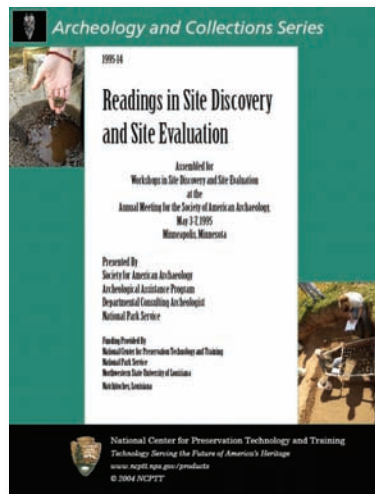


1998-01

Preservation Resource Guide for Public Works Managers

This guide is intended for use by public works managers who find themselves encountering the world of historic preservation. They may become aware of the historical significance and the requirements

attached to a particular property only as a result of the activities of a community organization or the local media. The guide contains information on where to search for local and federal records as well as brief examples of successful historic preservation projects.



1995-14

Readings in Site Discovery and Site Evaluation

This publication contains a number of readings that aid in the decision-making process involved with the discovery and evaluation of archeological sites. Among the topics are The Design of Archeological Surveys,

Relative Efficiencies of Sampling Techniques for Archeological Surveys, The Strengths and Weaknesses of Implementing Subsurface Testing Programs, Geophysical Methods of Archaeological Site Surveying and Remote Sensing Applications in Archaeology.

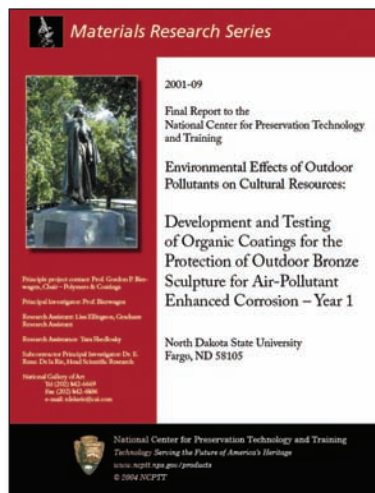


1994-02

Arizona Archeological Council's Native Americans and Archeology Workshop

This report details the Native Americans and Archeology workshop, sponsored by the Arizona Archeological Council and NCPTT. The workshop promoted a productive dialogue between

Native Americans, federal agency archeologists, and archeologists from the contracting community. The workshop focused on oral tradition and archeological interpretation and the role of Native Americans in archeology.



2001-08, 2001-09

Organic Coatings for Protecting Outdoor Bronze Sculpture (Three Phase Product)

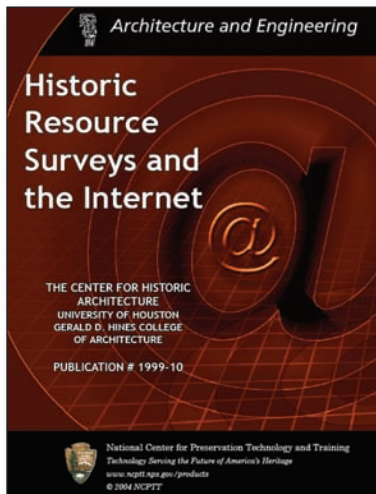
Phase 1 of this project used electrochemical characterization methods to evaluate coatings' corrosion protective performance under conditions that directly emulated exposure to polluted atmospheres. Coatings over bronze, copper and other substrates were evaluated.

The project incorporated cyclic exposure test protocols used in industrial and academic laboratories as well as new test protocols under development.

Phase 2 research examined advances in topcoat technologies within the automotive and aerospace industries for potential improvement of protective coatings for outdoor sculpture and ornament.

Phase 3 research interpreted test results, and developed a test protocol for analyzed coatings for treatments.

Most Requested Titles

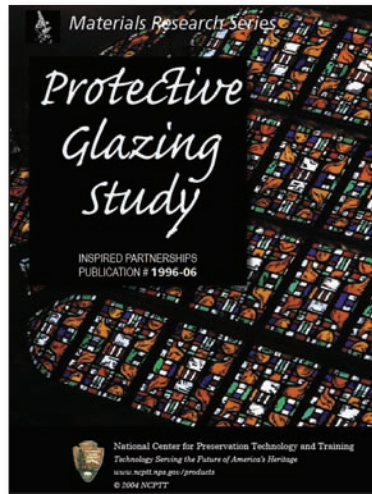


1999-10

Historic Resource Surveys and the Internet

This manual teaches communities and neighborhoods how to complete their own historic resource surveys and share that information quickly. Among the topics covered are survey planning, designing databases,

choosing hardware and software, and organizing and developing a website.

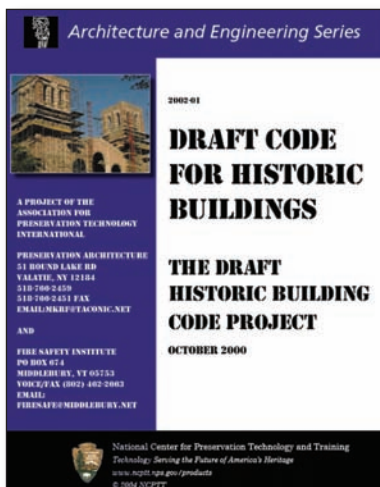


1996-06

Protective Glazing Study

In this study, Inspired Partnerships, a non-profit organization in Chicago, investigated the virtues and liabilities of various protective glazing installations over stained glass. The study addresses energy, security, sound and light transmission as well as aesthetic and

conservation issues surrounding the use of protective glazing. Although some aspects of this research are applicable to all protective glazing, the study concentrated on the virtues and problems associated with installations of stained glass in houses of worship.

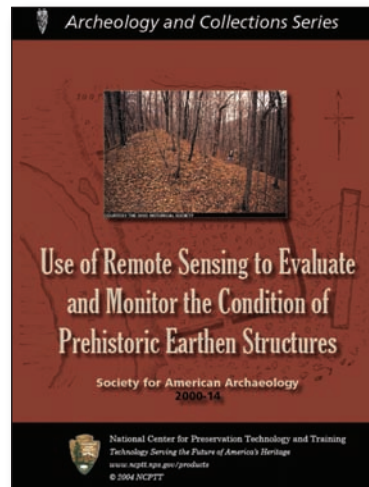


2002-01

Draft Code for Historic Buildings

This document features a comprehensive historic building code, the first of its kind in the nation. It was drafted by a project team with expertise in building codes and preservation, incorporating current

research, recent advances in technology and existing approaches to rehabilitation. After completing the project, the draft Historic Building Code was submitted for adoption by the International Code Council. Because ICC prepared the *International Building Code* and the *International Existing Buildings Code*, which apply to historic buildings, this project took advantage of a unique opportunity to influence the principal documents that affect the rehabilitation of historic structures.



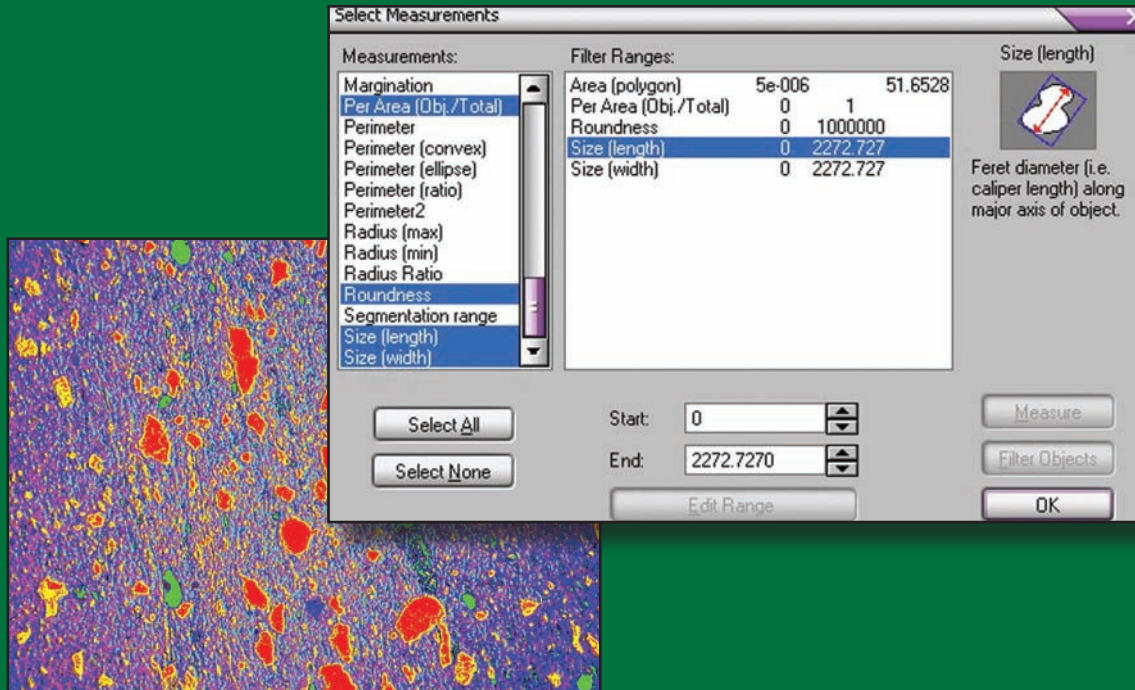
2000-14

Use of Remote Sensing to Evaluate and Monitor the Condition of Prehistoric Earthen Structures

This report by the Society for American Archaeology sets forth a method by which historic aerial photographs can be used in a process of cumulative photointerpretation and mapping to obtain

information about the nature of prehistoric earthen structures and other archeological sites visible by virtue of soil and crop marks. Three study sites were chosen in consultation with the National Park Service's Departmental Consulting Archeologist and Hopewell Culture National Historical Park.

Product Review



Digital Image Analysis of Petrographic Thin Sections in Conservation Research

PTTGrant 2004-01

Traditional thin-section analysis techniques such as tedious manual point counting are time consuming and require numerous measures. The use of visual estimation charts produce results of questionable accuracy. The recent advent of general purpose digital image analysis software, ubiquitous computing, and digital microscope cameras make rapid analysis commonly accessible. This study examines the utility of a trio of software packages for analysis of petrographic thin sections in conservation research. In addition to spatial calibration considerations the study recommends a set of protocols measuring microcracks in quartz grains, phase measurement, and layer-thickness measurement. The protocols are designed to help researchers choose a package and begin work at once.

Although none of the packages under review could identify crack patterns, all were able to readily measure the length of microcracks in quartz grains and two were able to provide minimum, maximum, and average widths. However, each required user intervention to remove features misidentified as cracks and unwanted trace lines; under most circumstances manually tracing cracks with a mouse provided the best result.

Layer thickness measurement provides crucial indicators used to determine the degree of weathering in cultural artifacts and the techniques and technologies used in artifact fabrication. The chief limitation of layer thickness analysis remains its reliance on the human eye to determine layer boundaries. Software which ameliorates this problem by using gray and color threshold analysis to separate layers requires highly variable and complex measurement and analysis procedures, hampering its utility in analyzing numerous samples.

Determining the area percent, size, and shape of phases in ceramic thin sections requires numerous measurements taken from random locations in the sample and, ideally, multiple section samples both perpendicular and parallel. Though each tool examined provides features to automatically analyze these traits, some samples may need to have matter manually identified where the software cannot correctly identify boundaries between the matrix and particles under study based on an analysis of gray-scale or color gradations.

Although each package varies in ease of use and utility for a given application, these tools supplant the time consuming traditional methods of petrographic thin section analysis that dominated conservation research. Researchers can obtain more accurate and timely results through the application of these technologies according to the protocols outlined in this study.

Reviewed by Sean Clifford, NCPTT Webmaster/IT Specialist

Available Research By Field

NCPTT advances the application of science and technology to historic preservation. Working in the fields of archeology, architecture, landscape architecture and materials conservation, the Center accomplishes its mission through training, education, research, technology transfer and partnerships. The products that follow correspond to each of the fields in which NCPTT works.



Archeology and Collections

- 1996-03 Origin of Whewellite-Rich Rock Crust in the Lower Pecos Region of Southwest Texas
- 1996-05 Development and Implication of a Low-Cost Photographic Data Archival System for Artifact Inventory
- 1997-01 Review of the State of the Art of Laser Cleaning in Conservation
- 1997-14 Plasma Extraction and AMS 14C Dating of Rock Paintings
- 1998-36 Ground-penetrating Radar Techniques and Three-Dimensional Computer Mapping
- 1999-03 An Evaluation of Archeological Applications of Mapping Grade Global Positioning Systems: Field Tests in Northeastern Colorado's Plains and Mountains
- 1999-14 Fourier Transform Raman Spectrographic Studies Of Prehistoric Rock Paintings from Big Bend
- 1999-17 Nature of a Whewellite-Rich Rock Crust Associated with Pictographs in Southwest Texas
- 1999-18 Digital Photography: Recording, Preserving and Disseminating Archaeological Data
- 2000-02 Delivering Archeological Information Electronically
- 2000-09 Magnetic Susceptibility Logger for Archeological Application
- 2000-11 A Paleoclimate Reconstruction for Southwestern Texas Using Oxalate Residue from Lichen as a Paleoclimate Proxy
- 2001-02 Priorities for Natural History Collections Conservation Research: Results of a Survey of the SPNHC Membership



Architecture and Engineering

- 1995-01 Culture Shock (VHS Video)
- 1995-15 Cost Benefit Analysis of Bridge Degradation
- 1997-09 Analysis of the NFPA Fire Safety Evaluation Systems for Business Occupancies
- 1997-07 Manual on Conservation Methodology for Historic Buildings and Structures
- 1997-15 The Best of Both Worlds: Lead Hazard Reduction in Historic Buildings
- 1998-05 Restore-Technical Field Guide on the Health and Environmental Hazards Inherent in Architectural Restoration Materials
- 1998-08 Development of a Prototypical Historic Fire Risk Index to Evaluate Fire Safety in Historic Buildings
- 2000-12 Impingement of Rain Drops on a Tall Building
- 2000-13 Soiling Patterns on a Tall Limestone Building: Changes Over Sixty Years
- 2002-01 Draft Code for Historic Buildings
- 2002-07 Training Manual: Lead Paint and Historic Buildings
- 2002-08 Teachers Guide: Lead Paint and Historic Buildings

Available Research By Field



Materials Research

- 1995-02 Simple Book Repair Manual
- 1996-04 Deterioration and Preservation of Porous Stone Chapel, Monterey, California
- 1995-06 Influence of Atmospheric Pollutants on Soiling of a Limestone Building Surface
- 1996-07 Report for NCPTT on Funding Priorities in Materials Conservation
- 1996-09 Vertical Gradients of Pollutant Concentrations and Deposition Fluxes at the Cathedral of Learning
- 1996-21 Evaluation Of NAPAP Aerometric Data
- 1997-02 Preservation Basics for Paper-based Records
- 1997-10 'Getting it out of the Attic', A Creole Preservation Guide
- 1998-06 Directory of Analytical and Materials Testing Services for Historic Preservation
- 1998-09 Review of the Literature on the Topic of Acidic Deposition on Stone
- 1998-11 Physical and Chemical Process Of Soiling and Washoff at the Cathedral Of Learning
- 1998-16 Analyzing the Effect of Diethylaminoethanol, an Indoor Air Pollutant, on Traditional Easel Paintings
- 1998-17 Analyzing the Effect of Diethylaminoethanol, an Indoor Air Pollutant, on Traditional Easel Paintings, II
- 1998-28 Glass and Stained Glass Conservation
- 1998-29 Glass and Stained Glass Conservation Workshop
- 1999-02 Nondestructive Method for Hardness Evaluation of Mortars
- 1999-23 Research into Protective Coating Systems for Outdoor Bronze Sculpture and Ornamentation
- 2000-07 Conservation Material Database
- 2001-08 Development and Testing of Organic Coatings for the Protection of Outdoor Bronze Sculpture from Air-Pollutant Enhanced Corrosion, II
- 2001-09 Development and Testing of Organic Coatings for the Protection of Outdoor Bronze Sculpture from Air-Pollutant Enhanced Corrosion, I
- 2002-18 Development and Testing of Organic Coatings for the Protection of Outdoor Bronze Sculpture from Air-Pollutant Enhanced Corrosion, III
- 2002-20 Standard Practice for Determining the Components of Historic Cementitious Materials

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your for information on preservation technology

Available Research By Field

Landscape Architecture

- 1996-02 American Society Of Landscape Architects and the Garden Conservancy Connections, Preserving America's Landscape
- 1997-27 Landscapes and Lives
- 2001-07 Olmsted Research Guide Online

Information Technology

- 1997-06 Application of Advanced Computer Simulation and Visualization to Enhance Cultural Resources Documentation
- 1997-11 Computerizing Arizona's Cultural Resource Files Implementation Plan
- 1997-25 NCPTT Internet Communication Survey Report
- 1999-08 Advancing State Historic Preservation Office GIS in the Western U.S.
- 1999-10 Historic Resource Surveys and the Internet
- 1997-23 Preservation In Print: Historic Preservation Online - Louisiana Heritage InfoNet-Part 1
- 1999-04 Development of Nonlinear Documentation Strategies for Incorporating Computerized Solid Modeling in Historical Building Survey
- 1999-29 On-line Information for Preserving Religious Properties
- 2001-03 National Register District GIS Project
- 2002-19 Information Links Project: Diagnostic Artifacts in Maryland Webpage
- 2003-02 I-Sites: An Online Database and GIS for Iowa Archaeology

Preservation Education

- 1995-07 Why Preserve? Public Lecture by James Huhta
- 1996-10 Evaluating Sites with Late 19th & Early 20th Century Components for Eligibility in the National Register
- 1996-12 Historic Preservation: The Next Step; Public Lecture by James Marston Fitch
- 1996-13 Survey for State Historic Preservation Offices Regarding Introductory Preservation Education of Local Public Officials
- 1997-08 Focus on 2000: A Heritage Education Perspective
- 1997-12 Performance-Based Approaches to Protecting our Heritage
- 1997-26 Methodology Report for a Multimedia Approach to Training Staff in Simple Book Repair
- 1998-01 Preservation Resource Guide for Public Works Managers
- 1998-23 Preservation Week Report: High School for Preservation Arts Project
- 2002-04 Classroom Testing of Model Secondary Level Historic Preservation-based Lesson Plans

Historic Sites Research

- 1996-11 Historic Preservation Training by and for Indian Tribes
- 1997-13 Antiquity: Rock-art Image in Fern Cave Lava Beds National Monument, California
- 1999-11 Elimination of Subterranean Termite Populations from the Statue of Liberty
- 2002-09 Park Science: New Termite Baiting Technologies for the Preservation of Cultural Resources
- 2002-10 Keeping the Boys Busy: The Revival of Incremental, On-Site Design by National Parks
- 2003-01 Control of Subterranean Termite Populations at San Cristobal and El Morro, San Juan National Historic Site

NCPTT GOALS

1. *Emphasize Preservation Technology Research*
2. *Train Professionals in New Technologies*
3. *Serve as a Knowledge Center*
4. *Convene Leading Authorities*
5. *Promote Cultural Stewardship Through Education*

Product Review



America's Cultural Heritage Underwater

PTTGrant 2003-02, VHS Video

Funded by NCPTT, Montana Public Television has produced a series of videos that highlights the nation's underwater archeological treasures and features the preservation work of the National Park Service's Submerged Cultural Resources Group (SCRG).

According to Ronald Tobias of Montana Public Television, "The project came as a result of the realization that the Submerged Cultural Resources Unit had been archiving images of the America's underwater parks for many years and that it was being under-utilized as a valuable internal resource. Since outreach is such an important part of our federal research mandate, Larry Murphy of SCRG agreed to allow Montana Public Television access to the archives, and with the grant money awarded to us from NCPTT we were able to create a series of programs for public television about the work being done to preserve many of our country's treasures underwater."

As a result of NCPTT funding, six half-hour programs have been created that chronicle the work of the Submerged Resources Unit's effort to save and preserve several important sites, including the USS Arizona in Hawaii, the B-29 Bomber at the bottom of Lake Mead, the Ellis Island ferry in New York harbor, and shipwrecks at Fort Jefferson and Biscayne National Park and at Yellowstone National Park and Glacier National Park. Public awareness of the Park Service's work to preserve our national heritage is an important part of the mission of the Park Service, and NCPTT's funding made these presentations possible. Without the support, the archive material would have slowly slumped its way toward oblivion.

Reviewed by Andy Ferrell, Architecture and Engineering Program Manager

NCPTT Notes Back Issues

NCPTT Notes covers news and research from each of the Center's programs. These publications often contain features on the people, organizations and methodology of preservation technology research. Each is between 8-12 pages long and profusely illustrated.

Vol. 1 No. 1 – July 1993

- Goals of the Center
- Creating a new Center
- Department of the Interior (Solicitation of nominations for the Preservation Technology and Training Board)
- Historic Transportation Corridors Conference

March April 1995- Issue 3

- Charter members of the board
- Developing the Center's internet gopher
- The Center begins community outreach by helping restore the Immaculate Conception Church in Natchitoches and conserve Natchitoches Parish public records
- NCPTT to move into the renovated Women's Gymnasium on NSU campus

May 1995- Issue 4

- Materials Research Program transferred from the National Park Service's Preservation Assistance Division
- Profiles of Senator J. Bennett Johnston and Dr. Elizabeth A. Lyon

June 1995- Issue 5

- Proposals for the 1995 Preservation Technology and Training Grants program
- Dr. Victor Mossotti's work on the dissolution of calcareous stones by acid rain
- Preservation profile on Dr. Neville Agnew (member of PTT Board and co-chair of research committee)
- Center's gopher is now online and provides centralized access to preservation-related Internet resources such as databases, other gophers, libraries, archives and museums

July August 1995- Issue 6

- NCPTT's training component
- Workshop for archeologists and soil scientists held at Poverty Point State Commemorative Area in Louisiana
- Profile on director of the new Center of Excellence in Historic Preservation at MTSU, James K. Huhta
- Article on Dr. Michael Reddy's work on the dry deposition of pollutants on calcareous stone

September October 1995- Issue 7

- Review of two-day meeting spotlighting eight research presentations and discussions with eighteen distinguished participants
- Profile on John D. Meakin, who studies the effects of acid rain on outdoor bronze statues
- Highlights of Dr. Cliff Davidson's studies on understanding how contaminants result in the soiling of the Cathedral of Learning in Pittsburgh
- Description of Internet and its history and discusses ways to get connected

January February 1996- Issue 9

- Promoting the use of art and archaeology and technical abstracts
- PTTBoard meets in Natchitoches
- Profile on W. James Judge, who is advancing the knowledge and practice of prehistoric and historic preservation
- Ways to find and distribute information on the Internet

March April 1996- Issue 10

- Feature on Elliot Spiker, whose work focuses on the application of stable isotope techniques to environmental problems at the U.S. Geological Survey
- Report on a study on the feasibility of developing techniques for converting existing cultural resource archives in State Historic Preservation Offices to geographic information systems

June 1996- Issue 12

- Feature on George Segan Wheeler, whose research has focused on the consolidation of deteriorated stone using alkoxysilanes
- Feature on Elaine McGee, a geologist who specializes in mineralogy and petrology and characterized stone samples before and after exposure
- Centerfold supplement the text of a public lecture Cultural Landscape Stewardship-The Gorge of the Columbia River, by Jonathan L. Doherty

September October 1996- Issue 14

- Archeological Data Archive Project seeks to foster long-term archiving of access to electronic archeological data
- Profile on Nick Gianopolos for his work on William Strickland's circa 1824 engineering innovations at Wyck Association
- NCPTT Environmental Exposure Facility is home to an aerometrically designed chamber for the exposure of materials to air pollutants

December 1996, Number 15

- The National Trust for Places of Historic interest of natural beauty in the United Kingdom working to preserve the United Kingdom's historic heritage for over a century
- Testing the energy performance of wood windows in cold climates
- Researching the deterioration of stone
- A review of the AIA Historic Resources Committee meeting
- Jerome Francou was the recipient of the Richard Morris Hunt Fellowship
- NCPTT receives AIA Presidential Citation

February 1997, Number 16

- Research by Dr. Cliff Davidson and his team of researchers at Carnegie Mellon University on the Soiling of the Cathedral of Learning
- Insert report on the highlights of the Eighth International Congress on Deterioration and Conservation of Stone
- Recording archeological materials using stereo photography and softcopy photogrammetry
- Copyright law and the internet

April 1997, Number 17

- Educating City Hall that historic preservation can improve the quality of life
- Cornerstones Youth Training Program had forty-five people spend several weeks last summer learning about vernacular buildings in New Mexico
- Profile on Robert Z. Melnick, whose research and teachings focus on landscape preservation, land-use planning, and cultural and historic landscape analysis.
- Research on Dinnerware as an Economic Indicator
- NAPAP Integrated Assessment Report

July 1997, Number 18

- Preservation Technology and Training Board has devised the five year plan to guide NCPTT's development and the effectiveness of NCPTT's activities in service to the preservation and conservation community nationwide

November 1997, Number 21

- Profile on Carolyn Rose, who is deputy chair of the Anthropology Department and senior research conservator at the National Museum of Natural History and has been appointed to the Preservation Technology and Training Board
- Guidelines for maintaining proper environmental conditions of museum collections
- Research on computer modeling and simulation programs
- Research on Epoxy: recent developments and its preservation potential
- Ceremonial groundbreaking inaugurated the construction phase of rehabilitating a historic structure as NCPTT headquarters

NCPTT Notes Back Issues

January 1998, Number 22

- Studies in Biodeterioration of Cultural Resources in stone
- Research on microbial activity and microbially influenced degradation on concrete degradation
- Biotechnology and preservation
- Economic impact of historic preservation in New Jersey

February 1998, Number 23

- What's happening in heritage education
- Training APWA resource guide workshop
- Research on dating prehistoric rock art
- Materials Research program on Conserving historic brick structures
- Information Management article on web site planning for cultural resource organizations

June 1998, Number 25

- 1999 PTTGrants call for proposals via e-mail
- Digital Preservation and Cultural Heritage: Making it work long-term
- State Legislation Online
- Sustainability and Historic Preservation- Part 1: Web Resources
- Parking in historic downtowns
- Conservation manual for the Caribbean

Fall supplement 1998, Number 28

- PTTGrants- 1994-1998 in review
- 1999 PTTGrants Call for Proposals
- Map of National Distribution of 1998 PTTGrants

February 1999, Number 29

- Article on the five day workshop on preserving three-dimensional and stained glass
- Article on Mechanical Systems CD Course, a course on mechanical systems in historic buildings, which was a project of Belmont Technical College
- Preservation resources on the internet
- Communicating Culture: the Getty Information Institute's organization of an international conference on "the important role of culture in today's evolving information society" and the important role of information management in culture
- Conservation of historic brick structures
- NCPTT's 4th anniversary

April 1999, Number 30

- Internet archeology
- Federal cultural heritage roster
- Evaluating Historic masonry with the pendulum hammer
- Conserve-O-Grams—short, focused leaflets about caring for museum objects and archival materials
- Research on digital videographic imaging- digital recording, Preservation and dissemination of archeological data
- Comments on recent additions to NCPTT's library and web resources

July 1999, Number 32

- Article on recent projects supported by NCPTT's research component focus on the effects of light on museum objects
- Museum lighting protocol
- Microorganisms and stone degradation: recent advances and future studies
- Documenting complex curved surfaces with traditional and electronic
- NCPTT projects in partnership

September 1999, Number 33

- NCPTT's development of a multimedia CD-Rom , Explore the Materials Research Program- Acid Rain and Beyond, which summarizes more than sixteen years of scientific research on the effects of acid deposition in cultural resources decay
- PTTBoard Member, Frank Emile Sanchis, III was appointed as executive director of the Municipal Art Society of New York
- New Applications for Advanced Technologies in Archeological Research
- Internet training for paper preservation
- Spatial Data Management in SHPO Information Systems

March 2000, Number 35

- Remote sensing in Alaska
- NCPTT supports AIC's Electronic Media Group session

- New Surveillance Technologies: Coastal Systems Station, Naval Surface Warfare Center
- A standard method for the analysis of historic cementitious materials

July 2000, Number 36

- Conservation and Art Materials Dictionary
- Partners for sacred places online information clearinghouse
- Lasers in art conservation
- Building stones of America: 50 years of the NIST stone test wall
- Preservation training for engineers

Fall Supplement 2000, Number 37

- Recipients of Preservation Technology and Training Grants Program Awards for Fiscal Year 2000
- Robert D. Stearns named new Executive Director for NCPTT
- PTTGrants and projects catalog

August 2001, Issue 38

- Partnerships: The time for action is now (NCPTT is making efforts to expand its partnership base)
- Historic American Building Survey begins Cane River documentation
- Lichen encrustation of rock glyphs poses a conservation dilemma
- Preserving stained glass windows

October 2001, Issue 39

- Article on Lee H. Nelson, a preservation pioneer and a mentor to many in the field; NCPTT dedicated its new home to him
- Heritage Area awards cemetery renovation grant
- Nine tips for cemetery preservation
- Thermal imaging puts termites in the red

January 2002, Issue 40

- FPI: What's your responsibility to preservation? FPI informs agencies of preservation responsibilities
- What lies beneath: workshops focus on GPR
- Building dedication recognizes legacy of Lee H. Nelson
- How to keep your silver sterling
- FPI/NSU developing website on Native American issues

April 2002, Issue 41

- Archeological research takes to the skies: NCPTT is funding a study using powered parachutes as an alternate way to gather aerial photos of archeological sites
- Mini Grants help students explore their heritage
- Dry stone retaining walls
- Preservation professionals respond to 9/11

Summer 2002, Issue 42

- Preservation technology from the ground floor (with NCPTT's help, wood scientists at Purdue University and the USDA Forest Products Laboratory are developing a method for evaluating the structure of wooden floors in old buildings)
- NCPTT serves as the headquarters for HABS during their surveying of the Magnolia Plantation
- NCPTT partners to survey historic American Cemetery

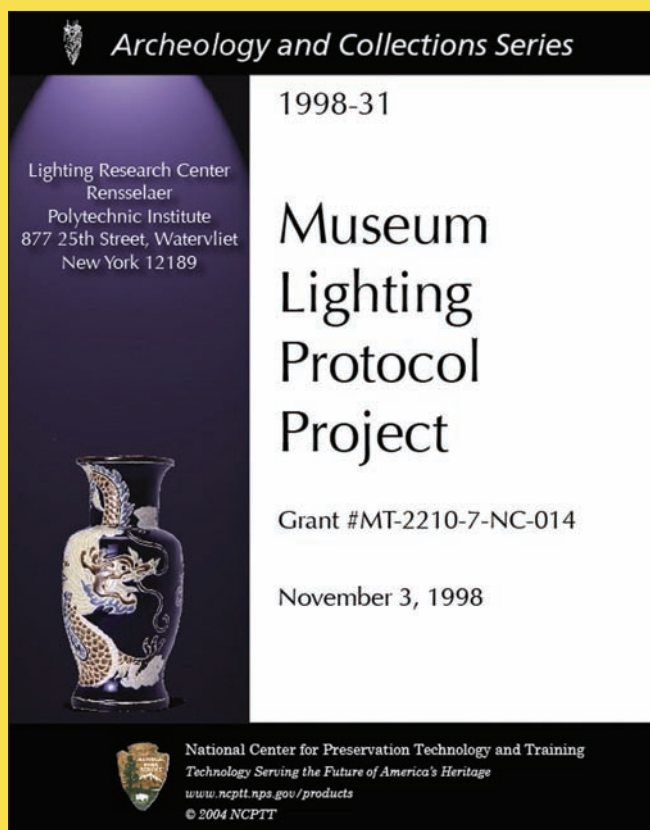
Summer 2003, Issue 43

- NCPTT Training seminar and workshop meets growing demand for Information on cemetery monument conservation
- Hopi Clans Seek to pass along preservation methods through NCPTT training grant
- NCPTT-funded research at prominent galleries will aid conservation of gilded objects
- NCPTT grant to Historic American Landscape Survey fosters historic preservation symposia
- Cooperative agreement leads to field tests on lasers for the removal of graffiti at John Day Fossil Beds National Monument

Summer 2004, Issue 44

- NCPTT Summer Institute debuts training for architects and engineers
- Cemetery conservation training held in Washington, D.C.
- Conservation Art Materials Encyclopedia Online (CAMEO)
- PTTGrant funds "I-Sites" online Iowa preservation database
- Nelson-Atkins Museum project studies delamination using infrared thermography

Product Review



Museum Lighting Protocols

PTTGrant 1998-31

Museum conservators and the like are well acquainted with the fact that some types of museum exhibits are susceptible to damage caused by exposure to light. Currently, such unwanted effects are often mitigated by avoiding non-visible light (UV and IR), limiting light level and restricting exposure duration. This approach can only go so far.

The work in the Museum Lighting Protocol Project seeks to extend recommendations to include the potential of incident light in the visible spectrum to stimulate the sense of brightness (illuminance) and balance that against its potential to cause damage (irradiance). Instead of providing light with a smooth curve throughout the visual spectrum like current incandescent filament light sources, the authors propose a lighting methodology using illumination from only three spectral bands. This three-band source would have enough visual satisfaction as the incandescent sources while providing significantly less irradiance.

Documentation on the theory, artwork and tests are all included in the report. There were various chromatic and achromatic works studied in differing color temperatures, both in the incandescent source and the experimental three-band source. The overall result is that for the same illumination and visual satisfaction, the three-band source had very significant lowering of the irradiance incident on the exhibited works. Subjects were questioned about any apparent differences they noticed, generally reporting only slight differences. The nature and import of the differences is discussed and the authors conclude that a practical light source for museums that utilized similar three-band light sources could be developed with equal visual satisfaction at equal illuminances. This would expose the exhibits to significantly less irradiance and thus reduce the rate of degradation of the objects on display.

Reviewed by Dr. Tye Botting, NCPTT-NSU Joint Faculty Researcher



National Park Service
U.S. Department of the Interior

**National Center for Preservation
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NCPTT

NCPTT advances the use of science and technology in historic preservation. Working in the fields of archeology, architecture, landscape architecture and materials conservation, the Center accomplishes its mission through training, education, research, technology transfer and partnerships.

National Park Service

The National Park Service preserves unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education and inspiration of this and future generations. The Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

United States Department of the Interior

The mission of the Department of the Interior is to protect and provide access to our Nation's natural and cultural heritage and honor our trust responsibilities to tribes.