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## Abstracts & Speaker Biographies

### **BENNETT - Craig M. Bennett, Jr. (USA)**

“Lessons Learned from Charleston’s Hurricane Hugo, 20 Years Later”

#### ABSTRACT

In 1989, Hurricane Hugo did significant damage to a number of eighteenth, nineteenth and even twentieth century structures in Charleston, South Carolina. While much was learned about the behavior of historic structures subject to severe wind loads and about the repair of wind and water damage, even more important lessons were learned about the legal, financial and human side of disaster recovery. In this presentation, the author discusses immediately obvious and later discovered hurricane damage. He then focuses on the need to proceed with repairs slowly and carefully with experienced contractors. He emphasizes the need to continue to maintain preservation standards. He speaks on the finances of recovery, particularly on good approaches to fair insurance settlements. Finally, the author notes that many of the issues which have to be dealt with are not technical preservation issues, but problems in attitudes, in human relations and in preservation education.

#### BIO

The author is a practicing structural engineer, specializing in historic preservation, and a founding principal of 4SE Inc. He was deeply involved in the Hurricane Hugo repair work on a number of historic structures, particularly churches, in Charleston. He lectures in preservation at Clemson and the College of Charleston and is Chairman of the City of Charleston’s Board of Architectural Review.

### **BLANES - Tamara Blanes (Cuba)**

“The protection of the fortifications in the Caribbean and the impacts of hurricanes and tropical storms. Which will be their future consequences?”

#### ABSTRACT

Hurricanes and some other tropical storms are the biggest impacts which harm the Caribbean region every year from June to November. Nowadays they are more intense and devastating as a consequence of climatic changes. Cuba is an example of putting into practice protection measures and quick responses against those natural disasters. These events are uncontrollable, so to save human lives is the first priority. In this country, the fortifications are included in the plans of protection of the heritage estate and each monument is protected according to the characteristics of the places. There are not particular measures for the fortifications located in coastal and port areas. Thanks to their solidity and strength, the fortifications have remained to our days, in spite of natural disasters, environmental pollution and destructive effects of near industrial and port infrastructures. The new millennium brings back serious natural menaces which a human being is incapable of stop but can be able to prevent.

We ask ourselves: which will be the destiny of the fortifications built in other places of the Caribbean, which are also menaced and affected by fierce hurricanes? Which will be the future of that valuable heritage, generally raised on cliffs such as San Salvador de la Punta in Havana City, on large rocks by the sea, such as the Morros in Havana, Santiago de Cuba and Puerto Rico, or constructed on piles, such as the ones at San Fernando, in Cartagena de Indias and San Juan de Ulúa, in Mexico?

#### BIO

Institutional affiliate: National Center of Conservation, Restoring and Museology. Member of the Board of Directors of ICOMOS-CUBA. Coordinator in America of ICOFORT (International Scientific Committee of Fortifications and Military Heritage).

### **CIOLEK-TORELLO - Richard Ciolek-Torello (USA) with Michael K. Lerch**

“Wildfires and the Protection and Rehabilitation of Heritage Sites in Southern California “

#### ABSTRACT

Southern California has long been notorious for the massive wildfires that have moved rapidly over its chaparral and forest covered hills and mountains. For a variety of reasons—poor wildfire management practices, encroachment of human habitation on sensitive areas, and global warming—wildfires have increased in frequency and scale in the past decade. It is well known that individual wildfires have burned thousands of square kilometers, destroyed thousands of homes and businesses, forced the evacuation of up to a half million people, and killed scores of others. Less well known, however, is the impact of these wildfires on heritage resources, including the direct effects



of fires themselves, impacts from fire-suppression activities, and long-term effects from the exposure of sensitive resources to erosion and recreational activities. The types of resources affected include historic buildings and other properties, sacred Native American sites, petroglyph sites, and prehistoric quarries and artifact scatters. In this paper, we discuss actions by federal and state government agencies to protect these resources from fire-related impacts. These actions include the development of plans to identify and protect the most sensitive resources prior to the outbreak of fires, evaluate damage to resources from fires and fire suppression, and rehabilitate damaged sites. We focus on several projects in which the authors have participated. As the global climate warms, wildfires are having similar impacts on an increasing scale in Europe and other regions of the world. The lessons learned in protecting heritage resources in southern California are thus relevant internationally.

BIO

Institutional affiliate: Statistical Research, Ind., Redlands, California.

**CIZEK - Eugene Cizek (USA) with Catherine Barrier and Elliott Perkins**

ABSTRACT

A variety of technological advances have the potential to enhance local and international response to disasters impacting large collections of historic resources. Tulane University's City Center and the City's Historic Districts Landmarks Commission (HDLC) have partnered to produce a plan to maximize the value of survey data documenting 40,000 structures gathered after Hurricane Katrina, emerging online technologies, and national and international best practices to enhance disaster preparedness and everyday preservation activities. Deficits that handicapped the City's response to Hurricane Katrina include:

- Outdated survey information and images
- Post-disaster volunteer survey data reported in multiple formats
- Inadequate information on historic structures, appropriate rehabilitation, and the City permitting process targeted for public use

Identified solutions to these deficits include:

- Developing historic preservation publications targeting a broader audience
- Linking relevant preservation guidelines and rehabilitation information to individual historic structure information in the City's public GIS; and
- Integrating survey data and images with emerging web-based open source mapping and 3D imaging platforms

Integrating survey data with online images provided by the local community and national and international visitors would cost-efficiently facilitate:

- Imaging of individual and district resources in 3D to assist in infill planning and design
- Updates to historic structure information over time; and
- Efficient delivery of post-disaster volunteer survey data

This paper will discuss the opportunities identified through this collaborative planning process and the work that has already begun to implement the plan's vision, as well as potential uses of these technologies beyond local disaster preparedness efforts.

BIO

Eugene Cizek, PhD, FAIA, and Catherine Barrier, JD, MPS, are with the Tulane University School of Architecture. Elliot Perkins is Director of the New Orleans Historic Districts Landmarks Commission.

**COOK - Jim Cook, CEM**

"Preserving Our Past—Linking Preservation/Conservation Professionals with Emergency Response and Recovery Operations Following a Disaster"

ABSTRACT

Many city, county and state Emergency Management organizations in the United States use a web-enabled crisis information management system in their Emergency Operations Centers to coordinate response and recovery operations during and after an emergency or disaster. Two of the primary functions of a crisis information management system are to collect, display and share the Common Operating Picture (the status of the disaster response and recovery operation) and to properly handle Requests for Assistance from organizations involved in the incident. Damage Assessment and long-term recovery operations are also coordinated through the Emergency Operations Center using the crisis information management system. Preservation/Conservation Professionals need to understand the information that is maintained and available to them in today's crisis information management system and how that information can be used to identify the area affected by the disaster, identify preservation/



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conservation projects and structures within the affected area, and to communicate and coordinate with local, state and federal responders to stop or limit the secondary damage that can be caused by emergency response and recovery organizations. Adding a heritage site specific information gathering and display capability to a crisis information management system is simple and free. A best-practice input form and display board can be developed by a committee of Preservation/Conservation Professionals and then shared, at no cost, with Emergency Operations Centers throughout the country.

BIO

Jim Cook, CEM, is President of ESi University in Atlanta, Georgia.

**DOUGLAS - Diane Douglas (USA)**

“Floods, Fires, and Earthquakes: Hazard Mitigation Planning to Minimize the Adverse Effects of Natural Disasters on Heritage Resources”

ABSTRACT

Global climate change scenarios indicate that over the next 50 years natural disasters are going to intensify due to global warming. Destructive hurricanes and El Niño storms will increase in magnitude and frequency and these storms will extend into new geographic areas; eroding shorelines will expand due to rising sea level; and intensified drought will fuel the extent and frequency of wildfires. As stewards of the world’s heritage resources, it is critical we identify significant archaeological sites, monuments, buildings and structures threatened by natural disasters and develop methods to mitigate the impact of disasters on these resources. This paper discusses several multi-hazard mitigation plans that the author helped develop for local, state and tribal jurisdictions in the U.S. in response to the Disaster Mitigation Act (DMA) of 2000, an amendment to the Robert T. Stafford Disaster Act of 1988. DMA 2000 is designed to improve planning for, response to, and recovery from natural disasters (e.g. earthquakes, floods, wildfires, high winds, liquefaction, landslides, tsunamis, and tornadoes). The act mandates that cities, counties, special districts, states and tribes identify critical infrastructure and significant heritage resources located within natural disaster zones, and develop and implement a plan to minimize the affect of these disasters on these resources. This paper outlines how a hazard mitigation plan can facilitate predicting the impact of a specific regional disaster on significant heritage resources, and provide cultural resource managers the opportunity to identify mitigation measures that can eliminate or minimize these impacts before the disaster occurs.

BIO

Diane Douglas, PhD, RPA, is with Statistical Research in Redlands, California.

**FERRELL - Andrew Ferrell (USA) with Barrett Kennedy**

“Disaster Protection for Heritage Resources in the Coastal Zone Using Spatial Video Documentation”

ABSTRACT

The effects of Hurricanes Katrina and Rita, and now Gustav and Ike, have underscored the limitations in traditional approaches for documenting and assessing heritage resources in the pre- and post-disaster context of Louisiana's coastal zone. Traditional paper-based documentation and damage assessment processes are both inefficient and inadequate for measuring and mitigating disaster impacts on widely dispersed heritage resources. This presentation highlights NCPTT's collaborative work with Louisiana State University to develop techniques for rapid documentation of heritage resources using Spatial Video Documentation (SVD) to capture geospatial data and video imagery of cultural landscapes and historic communities in Louisiana's high-risk coastal zone. The presentation will include an explanation of the SVD approach and examples of current fieldwork in Louisiana. The authors contend that rapid, cost-effective documentation processes are fundamental to the protection and sustainability of heritage resources in the coastal zones around the world, whether at risk from tropical storms/ tsunamis, land subsidence/erosion, global warming/rising seas, or other disaster threats.

BIO

Andrew Ferrell is Chief, Architecture and Engineering with the National Center for Preservation Technology and Training. Barrett Kennedy is a Professor with the Louisiana State University's School of Architecture.



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**HISTORIC GREEN (USA)**

“Sustainable Preservation in New Orleans’ Holy Cross Neighborhood and the Lower Ninth Ward”

ABSTRACT

Staff members from Historic Green will discuss their ongoing work in New Orleans’ Holy Cross Neighborhood and the Lower Ninth Ward on what they calling “sustainable preservation”. For two weeks this March (overlapping with the US/ICOMOS Symposium), students and young professionals will converge on New Orleans – bringing their energy and ideas to help the people of the Lower 9 revitalize their community. They are architects, engineers, planners, landscape architects, interior designers and contractors who’ll work hand in hand with neighborhood residents on their historic houses, parks, playgrounds and community centers.

BIO

Historic Green is a non-profit organization dedicated to the promise of sustainability to create healthier, safer, more livable communities. Historic Green represents a blending of the past, the present and the future.

**HITCHCOCK - Ann Hitchcock (USA)**

“Protecting Natural and Cultural Heritage under the U.S. National Response Framework”

ABSTRACT

This paper will I would focus on the role of the Department of the Interior as the lead agency in coordinating the Natural and Cultural Resources and Historic Properties Protection part of Emergency Support Function (ESF) #11 of the National Response Plan.

BIO

Ann Hitchcock is with the National Park Service, Washington Headquarters office.

**LAZARUS - Gail Lazarus (USA)**

“GIS, Historic Preservation and Disaster Response: The FEMA Historic Preservation Demolition Program in New Orleans in Response to Hurricanes Katrina and Rita for the Built Environment”

ABSTRACT

In 2005, Hurricanes Katrina and Rita irrevocably changed the built landscape of the Gulf Coast, causing the single largest disaster for cultural resources in the United States since the National Historic Preservation Act (NHPA) in 1966. In response to the enormity of the disaster and the need to remove buildings that were unsafe, the Federal Emergency Management Agency (FEMA) initiated a program to reimburse the City of New Orleans for demolition of storm damaged private properties. FEMA is responsible for reviewing buildings in this program under Section 106 of the NHPA. Due to the scope and urgency of the undertaking, FEMA identified that this situation necessitated collaboration and new processes. FEMA requested the assistance of the National Park Service and developed a response plan in coordination with the State Historic Preservation Office (SHPO), the City of New Orleans, the Historic District Landmarks Commission (HDLC), the National Trust for Historic Preservation, the Preservation Resource Center (PRC), and other parties. This plan incorporates the use of Geographic Information Systems (GIS). Almost 10,000 buildings have been reviewed in a GIS environment on screen with both FEMA and SHPO representatives sitting side by side. FEMA is recovering architectural items from historic houses prior to demolition. FEMA is compiling GIS based survey to record each structure within eight National Historic Districts based on draft cultural resource data standards developed by the NPS. FEMA will transfer all data for each of these districts and demolition reviews to both SHPO and HDLC, consisting of tens of thousands of buildings surveyed and digitally recorded.

BIO

Gail Lazarus is Lead for FEMA's Louisiana Transitional Recovery Office Historic Preservation Demolition and Debris program.



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**LEVINE - James Levine (USA) and Jim Ward**

“Disaster Preparedness Considerations in Long Term Planning Efforts: A Case Study Highlighting Experiences in and around Charleston, South Carolina”

**ABSTRACT**

This paper will present the results of a collaboration highlighting current GIS based risk assessment software used by the FEMA and environmental planning considerations at a landscape scale to assess current sustainability issues with the City of Charleston’s current development and proposed plans. Our effort will demonstrate the importance of preplanning recovery to avoid the manmade fiasco after a natural disaster. First, based on the experiences of Hurricane Hugo in 1989, we will demonstrate the disproportionate effects of disasters on the less affluent components of society as well as their implications for the environment. Then, we will consider existing conditions and the elements of the currently proposed plan. Our hypothesis is that efforts to increase population density through new infill development poses significant risks for existing historic areas both during the event and in the recovery effort. Most specifically, these risks take the form of increased flooding, subsidence, ground water pollution and surface contamination even before the event, then prolonged infrastructure/utility repair and a slowed down flood drainage process after the disaster. In addition, we investigate how engineered infrastructure, rather than an approach using natural systems, affects the recovery process even in urban areas. Finally, this paper will suggest a variety of initiatives to prepare for disasters and make recovery more sustainable especially in historic places. These suggestions are expected to have a universal audience.

**BIO**

Norman Levine is Assistant Professor Department of Geography and Environmental Sciences at the College of Charleston. James L. Ward is a Landscape Architect and Assistant Professor of Historic Preservation and Community Planning at the College of Charleston.

**MARRION - Chris Marrion (USA)**

“Fire and Extreme Event Preparedness and Recovery: Addressing Challenges Through a Risk-Informed, Performance Based Approach”

**ABSTRACT**

Fires and extreme events are typically unexpected occurrences. They are devastating to our cultural heritage if not addressed properly. These events result in loss of tangible and intangible aspects of Spirit of Place. In recent years fire for instance has induced great losses in not only buildings (La Fenice, Windsor Castle, Troitsky Cathedral, etc.), ships (Cutty Sark), bridges (Kapelbruk bridge in Switzerland) and monuments (Namdaemun gate - Korea). In better understanding the background to these incidences, recurring themes, understanding fire/extreme events and being able to assess and predict building behaviour to these, we can better prepare for/respond to these disasters and reduce our heritage losses. There exists a risk-informed, performance/holistic approach that allows us to understand objectives, identify credible events/hazards and develop alternatives on an engineering basis and analyse what can happen in order to provide risk informed decisions for stakeholders as to how best to protect these structures. This presentation will provide an overview of recent disasters, the approach including: identifying goals, hazard scenarios, acceptance criteria, developing/evaluating alternatives, and developing and getting approval from the various stakeholders. Case Studies locally and internationally will also be presented as time permits. This presentation will also discuss challenges of renovating historic buildings including limiting impact of renovation work/systems on fabric, minimizing obtrusiveness of systems, providing effective/integrated systems, meeting intent of local codes, typical hazards and contributory factors in historic structures. Challenges presented by prescriptive codes and opportunities available via performance codes will also be discussed.

**BIO**

Chris Marrion, PE, FSFPE, is a registered Fire Protection Engineer specializing in protecting historic buildings from disasters. He is Associate Principal of Arup Fire in New York City.

**MATERO - Frank Matero (USA) with Lindsay Graham and John Hinchman**

“Before and After: the foresight and hindsight of survey, analysis, and intervention at St. Louis Cemetery No. 1 in New Orleans, Louisiana”

**ABSTRACT**

Disaster preparedness, rapid response, and sustainable recovery comprise the three legged stool that has come to define the protection of heritage sites. Despite the knowledge that natural and human-made threats present a real risk to many cultural resources, efforts to prevent or mitigate damage, even if enacted in advance, are often



unpredictable in their short and long-term efficacy. The immediate and widespread damage to countless historic properties due to a lack of preparedness after Hurricane Katrina was only exacerbated by the secondary threats that developed over time but proved to be no less damaging or deadly: mold infestation, structural subsidence, and delayed moisture penetration. In 2001-2003, an innovative conservation program for St. Louis Cemetery No. 1 (1789) was initiated through a grant from Save Americas Treasures program. Central to the project was the utilization of digital technology (GIS) as a planning tool to better map, analyze and ultimately manage this and similar sites. The project also developed and implemented practical technical solutions to the increasing material problems of tomb degradation by using the survey as an assessment tool for over 750 tombs to identify emergency conditions and implement treatments for short-and long-term performance evaluation. Two years later, this program was tested in the extreme when Hurricane Katrina struck New Orleans. As in years past, the cemeteries flooded, being located in the low-lying areas of the city. A follow-up assessment of the cemetery revealed highly instructive lessons in the value of quantitative survey, phased priority interventions based on severity of condition (triage), and surprisingly the durability of lime-based masonry treatments and the failure of modern high performance materials. This paper will illustrate with concrete examples the benefits of integrated quantitative survey to execute management plans, assess damage and evaluate intervention efficacy.

BIO

Frank Matero is a Professor in the University of Pennsylvania's School of Architecture.

**PRIMEAUX - Aimée Primeaux (USA)**

"COSTEP: Coordinated Statewide Emergency Preparedness"

ABSTRACT

*COSTEP: Coordinated Statewide Emergency Preparedness* is an innovative planning tool to help states create a statewide disaster plan for cultural collections and essential records. By providing a blueprint for preparing for area-wide disasters and building alliances between cultural institutions and emergency management agencies, COSTEP fosters the cooperation and communication that is so vital when cultural resources are imperiled. COSTEP is successfully employed in three states: Massachusetts, New Mexico, and New York. The framework focuses on the *process* of creating a statewide disaster plan. Key personnel from both the cultural and emergency management communities convene to address important topics in a series of meetings. Designed to be flexible and adaptable, COSTEP provides guidance on how to establish key relationships and goals, analyze risk, prepare for response, create a statewide disaster plan, and train stakeholders how to create a corrective action program after exercising the plan. Started in 2007 by a grant from IMLS, COSTEP is managed by the Northeast Document Conservation Center (NEDCC). As the grant moves into its last year, NEDCC continues to develop ways to build upon and complement other heritage projects such as Heritage Preservation's *Alliance for Response* forums and the Council of State Archivists' *IPER* (Intergovernmental Preparedness for Essential Records) project. The establishment of a cultural resource/emergency management partnership will ensure that when a disaster strikes, cooperation and collaboration will lead to the successful recovery of cultural property.

BIO

Aimée Primeaux is Project Manager for COSTEP in Arlington, Virginia.

**RICO - Trinidad Rico (USA and Argentina)**

"Heritage of Disaster or Heritage post-Disaster? A Discussion of Conservation Principles and Methods in Post-Tsunami Aceh"

ABSTRACT

There are two different approaches to the relationship between heritage and disasters. On one hand, cultural heritage may provide continuity, both historically and emotionally, preserving a cultural identity and lifestyle as it was before the disaster. On the other, cultural heritage may become the means for transmitting a disaster as something that will become a historically meaningful event for a place. But how does conservation management negotiate these two roles of cultural heritage in a way that represents cultural identity adequately? It is important to review the contributions from current conservation principles and planning methods to address the complexities of post-disaster heritage, in order to outline potential methodological directions that are more socially and culturally sustainable. In this paper I will discuss this complex situation with reference to the process of rehabilitation in Banda Aceh, Indonesia. Almost 5 years after the 2004 Indian Ocean tsunami affected this region a variety of approaches to cultural preservation can be seen in the built environment. Interestingly, many of these monuments are not associated with cultural heritage as we discuss it more frequently: they do *not* have a relationship to the deep past, instead they represent a new identity in Aceh, now referred to as "The Tsunami City". Is there a place in current conservation theory and practice to accommodate this type of cultural heritage?

BIO

Trinidad Rico is a Doctoral student in the Department of Anthropology at Stanford University.

**UNAL - Z. Gul Unal (Turkey)**

“New Approaches and Regimentations in the Cultural Heritage and Disaster Management Aftermath the 1999 Marmara Earthquake: Istanbul – Turkiye Case Study”

ABSTRACT

Officially defined as the Marmara Earthquake, the disaster happened in the first hours of August 17th, 1999; having caused a total death of 17,840 and an approximate casualty total of 43,530 again in accordance with the official records. Over 77,000 buildings have heavily been damaged. The estimated figure for the economic losses were around 10-15 billion USD. Istanbul has been hit by the disaster off its guard for actually which it has somehow been expecting. The Historical Peninsula of Istanbul, being listed on the World Heritage List since 1985, has been one of the critical areas highly affected. 10% of the buildings affected by the Marmara Quake were located in the Historical Peninsula and in comparison with the span of the earthquake, the damage rate within the Historical Peninsula was considered to be high. The state of chaos aftermath the 1999 Earthquake was the most explicit indicator of the incompetence of the Disaster Management. As a consequence of the studies carried out after the earthquake, vital projects intended to minimize the volume of loss in such a situation\*, like Istanbul Seismic Risk Mitigation and Emergency Preparedness Project, Earthquake Master Action plan of Ista. In April of 2008, a law draft outlining a re-organization within some of the national institutions has been offered to the Turkish National Grand Assembly. Within this law draft, the existing three national institutions related with the disasters are suggested to be united under the Prime Ministry with the name of The Disaster and Emergency Management Division. This study intends to discuss the methods to be used and share the experiences in relation with the following: The place of the topics related with the historical buildings and the span of heritage created by them which are the most fragile and vulnerable building type exposed to that risk within the settlement areas that we are responsible to preserve in a possible disaster to happen in Istanbul.

BIO

Z. Gul Unal is with the Faculty of Architecture, Restoration Department, Yildiz Technical University in Istanbul.

