



Smithsonian  
*Museum Conservation Institute*

**Biocolonization of Stone: Control and Preventive Measures Workshop**  
**Monday and Tuesday, April 20-21, 2009**

**Museum Conservation Institute Theater**  
**Museum Support Center**  
**4210 Silver Hill Road, Suitland, Maryland 20746**  
**Phone 301-238-1209**

The goal of the Workshop is to provide a discussion forum for biologists, material scientists and conservators interested in stone biodeterioration. The workshop will explore new methods to prevent microbial deterioration and colonization of stone. In addition, the workshop will focus on developing criteria that can be used to evaluate microbial growth and determine conditions when treatment is necessary. Finally, future research directions, necessary to achieve these goals, will be outlined.

The workshop will include presentations by experts in the field of stone biodeterioration and ample time for discussion of important topics in stone deterioration and conservation.

**For Technical Information:**

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**For Registration Information**

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**Arriving from Downtown Washington, DC.** Take South Capital across the Anacostia River, take Suitland Parkway until the exit for Silver Hill South, exit right onto Silver Hill Road and go about 2 blocks to guard building inside black wrought iron gate on right (second driveway on right after get off ramp), bear toward the building on the left.

**Free Shuttle from the National Mall.** Free hourly Smithsonian shuttles are provided to the Museum Support Center (MSC) from the Natural History Museum and the Museum of the American Indian on the National Mall. Contact Francine Lewis for instructions on accessing the shuttles.

# Biocolonization of Stone: Control and Preventive Measures Workshop

## *Tentative Program*

*Monday, April 20<sup>th</sup>*

- 9:30 AM Welcome **A. Elena Charola, Christopher McNamara**
- 9:40 AM Opening Remarks **Robert Koestler**, *Director, MCI*
- 10:00 AM Microbiological Studies on the Deterioration of Stones at the Angkor Site and Development of Related Restoration Activities Within the German Aspara Conservation Project  
**Thomas Warscheid** - *LBW Bioconsult, Wiefelstede, Germany*
- 10:40 AM Coffee Break**
- 11:00 AM Diversity of Microbial Communities and the Complexity of Preserving Cultural Heritage  
**Juan M. Gonzalez** - *Instituto de Recursos Naturales y Agrobiología, CSIC, Seville, Spain*
- 11:40 AM Characterization of Bacterial Colonization of Stone at Global and Local Scales  
**Christopher McNamara** - *Harvard School of Engineering and Applied Sciences, Cambridge, MA*
- 12:20 PM Lunch**
- 1:30 PM Methods to Prevent Biocolonization and Re-Colonization  
**Ornella Salvadori** - *Laboratorio Scientifico, Soprintendenza ai Beni Artistici e Storici di Venezia, Italy*
- 2:10 PM New Environmental-Friendly Approaches Against Biodeterioration of Outdoor Cultural Heritage  
**Francesca Cappitelli** - *DiSTAM - University of Milan, Italy*
- 2:50 PM Coffee Break**
- 3:10 PM Bioremediation of Algal Contamination of Stone  
**Eric May** - *School of Biological Sciences, University of Portsmouth, UK*
- 3:50 – 5 PM **Discussion**

***Tuesday. April 21<sup>st</sup>***

- 9:30 AM      Welcome      **A. Elena Charola, Christopher McNamara**
- 9:40 AM      Microbiological Re-Colonization in a Garden Environment  
**José Delgado Rodrigues** – *Laboratorio Nacional de Engenharia Civil, Lisbon, Portugal*
- 10:20 AM      Coffee Break**
- 10:40 AM      Presentation of Case Studies
- 11:40 AM      **Discussion**
- 12:AM      Lunch**
- 1:00 PM      **Panel Discussion and Conclusions**
- 3:00      Coffee break**
- 3:30 PM      **Summary of Discussion and Conclusions**
- 5:00 PM      Closing Remarks      **Robert Koestler**

**Museum Conservation Institute**

The Museum Conservation Institute (MCI) is a research unit of the Smithsonian Institution. Its mission is to increase and disseminate scientific knowledge that improves care and conservation of Smithsonian museum collections and related material, and contributes to their contextual interpretation. MCI staff members collaborate with museum conservators, curators, and scientists to conduct research programs in conservation, in addition to studies of collections that serve the needs of Smithsonian museums. The Institute serves as a source of technical information, advice, and assistance to the Smithsonian and other institutions. Its specialized collections and conservation research is vital to the work of the Smithsonian museums and collections, and to the greater museum community as well.