Conservation of Heritage Structures

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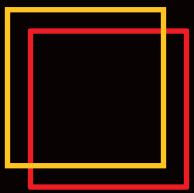
editors



Proceedings of CSHM–3
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Conservation of Heritage Structures: Using FRM and SHM

Conservation of Heritage Structures: Using FRM and SHM

3rd International Workshop on Civil Structural Health Monitoring (CSHM-3, 2010)

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a place of mind

THE UNIVERSITY OF BRITISH COLUMBIA

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Preface

We shape our buildings; thereafter, our buildings shape us.
– Sir Winston Churchill

Historic buildings speak to our past through the art and ingenuity of our ancestors. As stewards of these buildings, it is our responsibility to ensure that they are protected for the generations to come. Following internationally accepted heritage conservation practices is critical to protecting heritage buildings. In the case of historic stone masonry buildings in Canada, this often entails the protection of the heritage masonry itself. Of particular interest to this workshop is the effect of reinforcing heritage masonry with modern materials and ensuring that these modern reinforcement techniques do not have a long-term detrimental effect on the masonry itself. The Structural and Material Health Monitoring techniques will determine the performance of these materials as well the forces that arise from the global climate change and its impact on Structures of Cultural heritage.

The proceedings are the presentations delivered at the International Workshop on Preservation of Heritage Structures organized by UBC, ISIS Canada and ISHMII and held in Ottawa, Canada August 11-13, 2010. The proceedings contain two keynote lectures and forty one papers presented at seven sessions. The topics covered at the sessions included:

- Global climate change and its impact on heritage structures
- Siesmic, wind and erosion resistance of heritage structures
- Use of advanced composite materials (ACM) to strengthen heritage masonry and wood structures
- Structural health monitoring (SHM) system for heritage masonry and wood structures
- Long term performance of ACM, Resins , cementasious mortar with heritage materials and structures
- Guidelines and codes to preserve heritage structures
- Economic and Social Impact of protection of heritage structures
- Case studies and future directions

We would like to take opportunity to thank the many reviewers who have so generously given their time to ensure that the papers accepted for the proceedings are of the highest quality, stand the rigorous scrutiny of scientific accuracy, depict sound logic and represent a true advancement in our state-of-art. Our sincere appreciation is also extended to Ms. Jane Wu and Mr. Manote Sappkittipakorn of Structural Materials Group, University of British Columbia, and to Mr. M. Nayeem Uddin of the University of Manitoba, for their invaluable assistance in organizing this workshop.

We hope that this workshop will initiate much needed international dialogue between the various stakeholders and foster further collaboration between the international communities's to preserve our much valued heritage structures.

Nemy Banthia, P. Eng., and Aftab Mufti, P. Eng.

Editors

August 2010

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