AEI 2011 BUILDING INTEGRATION SOLUTIONS

Proceedings of the 2011 AEI Conference

Edited by Abraham C. Lynn, Ph.D. and Robert Reitherman



ARCHITECTURAL ENGINEERING INSTITUTE

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A feature of each AEI conference is the ASCE Charles Pankow Annual Architectural Engineering Student Competition. The Chair of the committee overseeing that competition is Kenna Chapin, and the financial support of the Charles Pankow Foundation is gratefully acknowledged.

The Architectural Engineering Institute of the American Society of Civil Engineers is led by a Board of Governors: Clarence E. Waters, President; Raphael A. Yunk, President-Elect; Thomas Babacz, Treasurer; Jennifer Balsley, Secretary; Mark A. McAfee; Ali M. Memari, and Paul J. Rielly. The Chair of the Continuing Education Committee of the Institute is Mohammed Ettouney.

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As Co-Chairs of the 2011 AEI Conference, we are very grateful to all of these contributors, as well as the authors and reviewers of abstracts and papers for the conference.

Abe Lynn, Professor Architectural Engineering Department California Polytechnic State University, San Luis Obispo

Robert Reitherman, Executive Director

Consortium of Universities for Research in Earthquake Engineering

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The Temple of Antioch: A Study Abroad Internship for Architectural Engineering Students

Ece Erdogmus, Ph.D., A.M.ASCE¹, Cody M. Buckley², and Holly Brink³

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ABSTRACT

The summer of 2005 marked the beginning of a landmark project at the University of Nebraska-Lincoln. During this summer, principal investigators Dr. Ece Erdogmus, Dr. Michael Hoff, and Dr. Rhys Townsend began work on the restoration of the Temple of Antioch, located near the modern-day city of Gazipaşa, Turkey.

Every summer since 2005 (with the exception of 2006 and 2010), Dr. Erdogmus, Dr. Hoff, and Clark University's Dr. Rhys Townsend have led teams of students in onsite fieldwork in Turkey. This project gives architectural engineering students the opportunity to work on a real world problem by applying their classroom knowledge and collaborating with students in other disciplines.

The principal investigators of the project, themselves educators in engineering, archeology, and art history, specifically designed this project as an interdisciplinary internship opportunity housed within the environment of a study abroad program. Their efforts have led to the possible creation of a new discipline within architectural engineering, "archeological engineering."

INTRODUCTION

In summer of 2005 principal investigators Dr. Ece Erdogmus (Architectural Engineering, UNL), Dr. Michael Hoff (Art History/Archeology, UNL), and Dr. Rhys Townsend (Art History, Clark University) began investigation work toward the potential restoration of the Temple of Antioch, located near the modern-day city of Gazipaşa, Turkey.

The restoration project is broken down into two phases: preconstruction and reconstruction (Figure 1). Every summer since 2005, with the exceptions of 2006 and 2010, Dr. Erdogmus, Dr. Hoff, and Dr. Townsend have led teams of students in onsite fieldwork (Erdogmus *et al.* 2007; Erdogmus and Skourup 2007). As the project has progressed, so has the complexity of the fieldwork, from initial documentation of