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GRADUATE STUDENT WINS INTERNATIONAL AWARD IN BRIDGE ENGINEERING

Nader M. Okasha, a Ph.D. candidate in structural engineering in the department of civil and environmental engineering, was recently awarded the 2009 Nevada Medal for Distinguished Graduate Student Paper in Bridge Engineering.

**Nader M.
Okasha**

The medal honors the winner of an international competition that is sponsored by Simon Wong Engineering of San Diego, Calif., and organized by the University of Nevada in Reno.

Okasha, who earned an M.S. in structural engineering from Lehigh in 2007, was cited for a paper he wrote titled "Novel Approach for the Optimization of Bridge Maintenance."

The paper describes his research, which seeks to develop an integrated framework for managing bridge and ship structures under uncertainty. Specifically, Okasha proposed a new approach for identifying optimum preventive and essential maintenance strategies for bridges by using multi-objective optimization and genetic algorithms.

Okasha is advised by professor Dan M. Frangopol, the Fazlur R. Khan Endowed Chair of Structural Engineering and Architecture in the department of civil and environmental engineering. Frangopol's research is currently supported by the Federal Highway Administration (FHWA), the National Science Foundation (NSF), the Office of Naval Research (ONR) and the Pennsylvania Infrastructure Technology Alliance (PITA).

The Nevada Medal winner is chosen by a committee of seven international bridge engineering experts. Applicants must submit an original paper, written by the applicant alone, that describes research in bridge engineering. Entries are judged on originality of research, impact on bridge engineering design and construction, and clarity of presentation. The award includes a plaque, an engraved 14-K gold pin, and a cash prize of \$1,500.

Okasha earned a B.S. in civil engineering from Birzeit University in the Palestinian Territories in 2003 and enrolled at Lehigh on a Fulbright Scholarship awarded by the U.S. Department of State.

His Ph.D. dissertation thesis is provisionally titled "Integration of system-based performance measures and health monitoring for optimized management of bridges and ship structures." Previous winners of the Nevada Medal have come from Italy, China, Canada, the U.S. and other countries.

--Kurt Pfitzer

By:
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