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FRANGOPOL EARNS ASCE TOP HONOR FOR CONTRIBUTIONS TO 'LIFE-CYCLE ENGINEERING'

Dan M. Frangopol, an expert in life-cycle engineering for buildings, bridges and other structures, joined a select group of faculty and alumni recently when he was elected a Distinguished Member of the American Society of Civil Engineers (ASCE).

Frangopol, the first Fazlur R. Khan Endowed Chair of Structural Engineering and Architecture at Lehigh, is one of 13 new distinguished members of ASCE, the world's premier organization for civil engineers

Distinguished members are considered by ASCE to have attained acknowledged eminence in some branch of engineering or in the [related] arts and sciences, including the fields of engineering education and construction. Next to the title of president of ASCE, it is the most esteemed honor to which an ASCE member can aspire.

ASCE, which has more than 144,000 members, has elected , prior to this year's induction of 13 Distinguished Members, only 586 other engineers in its 158-year history.

ASCE cited Frangopol as an world-renowned expert in life-cycle civil engineering, bridge safety and maintenance, structural systems reliability, and the integration of lifetime monitoring, maintenance and management [with] life-cycle cost through multi-criteria optimization.

Life-cycle engineering seeks to balance fiscal responsibility and infrastructure sustainability. It measures the effect of fatigue and time on the safety and durability of structures while factoring in the cost of building the structures and maintaining them over their expected lifetimes.

A profound impact on the state-of-the-art

Frangopol's contributions to structural engineering and engineering mechanics under uncertainty are most impressive in breadth, depth and quality ASCE said. [He has] profoundly impacted the state-of-the-art and state-of practice in engineering.

Frangopol's novel definition of redundancy of structural systems, ASCE said, helped the American Association of State Highway and Transportation Officials (AASHTO) develop the system factors introduced in the first load and resistance factor design (LRFD) specifications for bridges.

ASCE credited Frangopol with other innovations:

•A measure of probabilistic system redundancy used in bridge codes;

•A method of managing infrastructure systems that integrates lifetime safety and life-cycle cost;

•The multi-criteria optimization of individual structural systems and networks of systems that simultaneously considers safety, serviceability, maintenance and life-cycle cost;and,

•The first proven method for probabilistic system-performance assessment of long span structures.

Frangopol's numerous awards include the 2006 T.Y. Lin Medal, which was established by T.Y. Lin International to honor the late structural engineer who pioneered the use of prestressed concrete, the 2005 ASCE Nathan M. Newmark Medal, the 2007 ASCE Ernest E. Howard Award, the 2003 ASCE Moisseiff Award, and the 2001 ASCE J. James R. Croes Medal.

Last year, he was awarded the lifetime title of Honorary Professor at Tongji University, a Chinese school renowned for engineering research.

Frangopol is founding president of the International Association for Bridge Maintenance and Safety (IABMAS) and the International Association of Life-Cycle Civil Engineering (IALCCE). He is also the founding editor-in-chief of Structure and Infrastructure Engineering, an international peer-reviewed journal included in the Science Citation Index Expanded.

Frangopol's formal induction as a Distinguished Member of ASCE will occur during the Celebration Leaders Luncheon on Oct. 21 in Las Vegas, at the organization's 140th Annual Civil Engineering Conference.

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By:
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