

CEE Prof. Frangopol and alum Kim '11 PhD co-author new book on life-cycle engineering

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Bridge Safety, Maintenance and Management in a Life-Cycle Context—second book collaboration by structural engineering professor and his former doctoral student—will be published in February 2022



Dan M. Frangopol, the inaugural Fazlur R. Khan Endowed Chair of Structural Engineering and Architecture at Lehigh University, has co-authored a **new book** on life-cycle engineering.

Bridge Safety, Maintenance and Management in a Life-Cycle Context (available February 17, 2022) is an authoritative resource for "students, researchers, practitioners, infrastructure owners and managers, and transportation officials to build up their knowledge of life-cycle bridge performance and cost management at both project level and network level under various deteriorating mechanisms, hazards, and climate change effects."

Frangopol, who is widely recognized as a pioneer in the field of life-cycle engineering, wrote the book with Sunyong Kim, an associate professor and chair of the Department of Civil and Environmental Engineering at Wonkwang University in South Korea. Kim received a PhD in Structural Engineering from Lehigh in 2011, with Frangopol as his advisor. The two researchers previously collaborated on *Life-Cycle of Structures Under Uncertainty*, which was published in 2019.

The new book discusses "bridge life-cycle performance and cost analysis, prediction, optimization, and decision making under uncertainty" while focusing on topics including "bridge safety and service life prediction; bridge inspection and structural management planning; resilience and sustainability of bridges and bridge networks under hazards; and bridge management considering climate change."

Frangopol's main research interests are in the development and application of probabilistic and optimization concepts and methods to civil and marine structures under various types of hazards.

He is the Founding President of both the International Association for Bridge Maintenance and Safety (IABMAS) and the International Association for Life-Cycle Civil Engineering (IALCCE).

He is the Founder and Editor-in-Chief of *Structure and Infrastructure Engineering*, an international peer-reviewed journal launched in 2005.

His research and professional service have garnered numerous awards from ASCE, IABSE, IASSAR, ISHMII and other professional organizations.

Frangopol has authored/coauthored 4 books, 64 book chapters, over 440 articles in peer-reviewed journals, including 11 award-winning papers, and more than 600 papers in conference proceedings.

He holds 4 honorary doctorates and 14 honorary professorships.

He is a member of the National Academy of Construction of the United States, a foreign member of the Academy of Europe (London), a foreign associate of the Engineering Academy of Japan, a foreign member of the Royal Academy of Belgium, an honorary member of the Romanian Academy, an honorary member of the Romanian Academy of Technical Sciences, and a distinguished member of ASCE.

Read more about Frangopol's research and achievements [here](#).

Related Links:

- [Website: Dan M. Frangopol](#)
- [Book: "Bridge Safety, Maintenance and Management in a Life-Cycle Context"](#)
- [Google Scholar: Sunyong Kim](#)

Department/Program:

- [Civil & Environmental Engineering](#)
- [College of Engineering](#)



Dan M. Frangopol is Lehigh's inaugural Fazlur R. Khan Endowed Chair of Structural Engineering and Architecture.



CEE alum Sunyong Kim '11 PhD is an associate professor and chair of the Department of Civil and Environmental Engineering at Wonkwang University in South Korea.