

Biosketch of DAN M. FRANGOPOL

The Fazlur Rahman Khan Endowed Chair of Structural Engineering and Architecture
Professor of Civil Engineering, Department of Civil and Environmental Engineering,
Engineering Research Center for Advanced Technology for Large Structural Systems (ATLSS Center),
Lehigh University, 117 ATLSS Drive, Imbt Laboratories, Bethlehem, PA 18015-4729, USA
www.lehigh.edu/~dmf206



Dr. Dan M. Frangopol is the inaugural holder of the Fazlur R. Khan Endowed Chair of Structural Engineering and Architecture at Lehigh University. Before joining Lehigh University in 2006, he was Professor of Civil Engineering at the University of Colorado at Boulder where he is now Professor Emeritus. From 1979 to 1983, he held the position of Project Structural Engineer with A. Lipski Consulting Engineers in Brussels, Belgium. In 1976, he received his doctorate in Applied Sciences with the highest distinction (summa cum laude) from the University of Liège, Belgium.

Dr. Frangopol's main research interests are in the development and application of probabilistic and optimization concepts and methods to civil and marine engineering, including: structural reliability and probabilistic mechanics; life-cycle cost analysis; probability-based assessment, design, and multi-criteria life-cycle optimization of structures and infrastructure systems; structural health monitoring; life-cycle performance maintenance and management of structures and distributed infrastructure under extreme events (earthquakes, tsunamis, hurricanes, and floods); risk-based assessment and

decision making; multi-hazard risk mitigation; infrastructure sustainability and resilience to disasters; and climate change adaptation. According to ASCE (2012) *“Dan M. Frangopol is a preeminent authority in bridge safety and maintenance management, structural system reliability, and life-cycle civil engineering. His contributions have defined much of the practice around design specifications, management methods, and optimization approaches. From the maintenance of deteriorated structures and the development of system redundancy factors to assessing the performance of long-span structures, Dr. Frangopol’s research has not only saved time and money, but very likely also saved lives... Dr. Frangopol is a renowned teacher and mentor to future engineers.”* He is also *“widely recognized as a leading educator and creator in the field of life-cycle engineering.”* (ASCE 2015). *“Frangopol’s groundbreaking research into infrastructure from a holistic perspective has earned him a reputation in the civil engineering community” as the “Father of Life-Cycle Analysis.”* (ASCE 2020). He is an experienced researcher and technical consultant to companies, organizations and government agencies, both nationally and abroad.

Dr. Frangopol is a [Member](#) of the U.S. [National Academy of Construction](#), [Distinguished Member](#) of ASCE (highest ASCE honor), International Fellow of the [Canadian Academy of Engineering](#), Foreign Member of [Academia Europaea](#), Foreign Associate of the [Engineering Academy of Japan](#), Corresponding Member of the [Mexican Academy of Engineering](#), Foreign Member of the [Royal Academy of Belgium for Science and the Arts](#), and Honorary Member of both the [Romanian Academy](#) and the [Romanian Academy of Technical Sciences](#). He is an Inaugural Fellow of SEI and EMI, Fellow of ACI, IABSE, and ISHMII, Honorary President of the [IABMAS - USA, Brazil, Canada, Chile, Italy, South Korea, Sri Lanka, and Turkey Groups](#), Honorary Member of the [IABMAS - Australia](#), China, [Denmark, Japan, Portugal, and Spain Groups](#), and Honorary President of the [IALCCE - Dutch Group](#).

Dr. Frangopol was ranked as the 10th most-cited civil engineering author in the August 2019 Stanford University worldwide citation survey published in PloS, and No.1 (Lehigh University), No. 45 (United States), and No. 95 (world) on April 6, 2022, by Research.com on the list of top scientists in Engineering and Technology.

Dr. Frangopol holds four honorary doctorate degrees (Doctor Honoris Causa) from the Polytechnic University of Milan (Politecnico di Milano), Italy, the University of Liège, Belgium, the Technical University of Civil Engineering Bucharest, Romania, and the Gheorghe Asachi Technical University of Iași, Romania. He is an Honorary Professor at 14 universities (Hong Kong Polytechnic, Tongji, Southeast, Hunan, Tianjin, Chang’an, Beijing Jiaotong, Chongqing Jiaotong, China University of Petroleum (East China), Changsha University of Science and Technology, Dalian University of Technology, Shenyang Jianzhu University, Royal Melbourne Institute of Technology (RMIT), and Harbin Institute of Technology), a Visiting Chair Professor at the National Taiwan University of Science and Technology, and a Guest Professor at six universities in Europe and Asia.

Dr. Frangopol 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](#)), and Founding Vice-President of the International Society for Health Monitoring of Intelligent Infrastructures ([ISHMII](#)), and Founding Director of the Consortium on Advanced Life Cycle Engineering for Sustainable Civil Environments (COALESCE). He is the Past Vice-President of the International Association for Structural Safety and Reliability ([IASSAR](#)), Past Chair of the Executive Board of IASSAR, and Past Chair of the IASSAR Awards Committee. For [ASCE](#) he has chaired the Executive and Awards Committees of the 20,000+ members of the Structural Engineering Institute (Technical Activities Division), the Technical Committees on Safety of Buildings, Safety of Bridges, and Optimal Structural Design, the Technical Administrative Committee on Structural Safety and Reliability, and is the Past Vice-President and Governor of the [Engineering Mechanics Institute](#), and Founder and Inaugural Chair of the Technical Council on Life-Cycle Performance, Safety, Reliability and Risk of Structural Systems. He is a member of the ASCE Industry Leaders Council. For [IABSE](#) he has chaired the Working Commission 1 on Structural Performance, Safety and Analysis. He is Past Board Member of the Joint

Committee on Structural Safety ([JCSS](#)), and Past Chair of the International Federation for Information Processing ([IFIP](#)) Working Group on Reliability and Optimization of Structural Systems. He is also the initiator and organizer of the [Fazlur R. Khan Distinguished Lecture Series](#) at Lehigh University.

Dr. Frangopol is the recipient of several national and international awards including the ASCE Moisseiff Award (twice 2022, 2003), ASCE Wellington Prize (twice 2022, 2012), EC³ (European Council on Computing in Construction) Thorpe Medal (2022), ISHMII Mufti Medal (2021), ASCE Freudenthal Medal (2020), ASCE Reese Research Prize (2020), ASCE Housner Medal (2019), ASCE State-of-the-Art of Civil Engineering Award (three times 2019, 2004, 1998), ASCE OPAL Leadership Award for Lifetime Accomplishments in Education (2016), ASCE Ang Award (inaugural 2016), ASCE Noble Prize (2015), ASCE Croes Medal (twice 2014, 2001), IALCCE Khan Life-Cycle Civil Engineering Medal (inaugural 2012), IABMAS Senior Research Prize (2012), ASCE Distinguished Membership (2010), ISHMII Fellowship Award (2009), IALCCE Research Award (2008), Royal Academy of Engineering Distinguished Visiting Fellowship Award (2008), ASCE Howard Award (2007), IABSE OPA Award (2006), ELSEVIER Munro Prize (2006), IABMAS T.Y. Lin Medal (inaugural 2006), IFIP Reliability and Optimization of Structural Systems Award (2006), ASCE Newmark Medal (2005), EUROSTRUCT International Award of Merit (2023), KAJIMA Research Award (2004), JSPS Fellowship Award for Research in Japan (twice 2016, 2003), IASSAR Research Prize (2001), and the SAE International Distinguished Probabilistic Methods Educator Award (inaugural 1996). He is also the recipient of the ASCE Lehigh Valley Section's Civil Engineer of the Year Award (2016). Among seven awards received at the University of Colorado, Frangopol is the recipient of the Boulder Faculty Assembly Excellence in Research Scholarly and Creative Work Award (2004), College of Engineering and Applied Science's Research Award (1999), and Eckel Faculty Prize for Excellence (2003). He is also the recipient of four Lehigh University awards including the Lehigh University's Hillman Faculty Award (2019), Lehigh University's Hillman Award for Excellence in Graduate Advising (2016), Lehigh University's Libsch Research Award (2013), and Rossin College of Engineering and Applied Science's Excellence in Research Scholarship and Leadership Award (2020).

Dr. Frangopol is the Founder and Editor-in-Chief of [Structure and Infrastructure Engineering](#) an international peer-reviewed archival journal dedicated to recent advances in maintenance, management and life-cycle performance of a wide range of structures and infrastructure systems. He is also the Founding Editor of the Book Series [Structures and Infrastructures](#) (CRC Press, Taylor & Francis Group, Balkema). Dr. Frangopol is the author/coauthor of 4 books, 65 book chapters, over 470 articles in archival journals (including 14 award-winning papers from ASCE, IABSE, Elsevier, and [132 articles in ASCE journals](#)), and more than 700 papers in conference proceedings. He is also the editor/coeditor of 58 books published by ASCE, Balkema, CIMNE, CRC Press, Elsevier, McGraw-Hill, Routledge, and Thomas Telford, and guest editor of 30 special issues of archival journals. He has served as an editorial board member of 15 international journals, including *Bridge Engineering*, *Computers & Structures*, *Engineering Structures*, *Probabilistic Engineering Mechanics*, *Reliability Engineering & System Safety*, *Structural Safety*, and *Sustainable & Resilient Infrastructure*. Additionally, he has chaired and organized several national and international structural engineering conferences, symposia and workshops. He has given plenary/keynote lectures at over 70 major conferences held in Asia, Australia, Europe, North America, South America, Africa, and New Zealand, including the T. Y. Lin Lecture and the Fazlur R. Khan Lecture. He also presented many invited lectures and short courses at world-renowned universities and organizations, including the K. C. Kavanagh Annual Memorial Structural Engineering Lecture, the inaugural J. R. Choudhury (JRC) Annual Memorial Lecture, the Huangdao Academician Lecture, the Warren Lecture, and the Wenyuan Lecture. Dr. Frangopol's work has had a significant impact on structural engineering evidenced by an h-index of 99, an i10-index of 471, and more than 36,000 citations (Google Scholar).

Dr. Frangopol has performed research and served as a technical consultant or advisor to companies, organizations and government agencies in the United States, Asia and Europe. His work has been funded by the National Science Foundation; Federal Highway Administration; Office of Naval Research; National Aeronautics and Space Administration; Army Corps of Engineers; Air Force Office of Scientific Research; Department of Defense; Army Armament Research, Development and Engineering Center; National Cooperative Highway Research Program; Colorado, Florida and Pennsylvania Departments of Transportation; Transportation Research Board; U.S. DOT Region 3 University Transportation Center; Applied Technology Council; Pennsylvania Infrastructure Technology Alliance; Progeny System Corporation; Henry Luce Foundation; U.K. Highways Agency; North Atlantic Treaty Organization; and Japan Ministry of Education, among others. He also received research funding from ArcelorMittal; ASCE; Tokyo Electric Power Company; Japan Institute of Systems Research; Dutch Ministry of Infrastructure and Environment; Korean Ministry of Land, Transport and Maritime Affairs; US-Spain Joint Committee for Scientific and Technological Cooperation; Parsons Transportation Group; Georgia Institute of Technology; and University of Colorado.

Dr. Frangopol has supervised the dissertations of 50 PhD students and the theses and reports of 56 MS students. He has also supervised and sponsored 22 post-doctoral researchers and hosted over 70 visiting scholars. 29 of his former students and post-doctoral researchers are university professors in the United States and abroad, and many are prominent in professional practice and research laboratories. He also served as external member of PhD Committees at universities in Austria, Australia, Belgium, Brazil, Canada, Denmark, England, France, Hong Kong, India, Italy, Ireland, Netherlands, New Zealand, Portugal, Serbia, Spain, Sweden, Switzerland, and the USA, and taught short courses in many leading universities in Asia, Europe, North America, and South Africa.

For additional information on Dr. Frangopol's activities please visit <https://www.lehigh.edu/~dmf206/>