

SHORT BIOSKETCH

July 25, 2024

Professor Dan M. Frangopol

The Fazlur R. Khan Endowed Chair of Structural Engineering and Architecture,
Department of Civil and Environmental Engineering,
Center for Advanced Technology for Large Structural Systems (ATLSS Center),
Lehigh University, USA
<https://www.lehigh.edu/~dmf206>



EDUCATION

- 1969 Dipl.-Ing. (Technical Univ. of Civil Eng. of Bucharest, Romania)
- 1976 Sc.D., with highest distinction (summa cum laude) supervised by Charles E. Massonnet and J. Ferry-Borges (Univ. of Liège, Belgium)

PROFESSIONAL CAREER

- 1969-1974 Assistant Professor, Technical Univ. of Civil Eng., Bucharest, Romania
- 1974-1976 Doctoral Researcher, Univ. of Liège, Belgium
- 1977-1979 Associate Professor, Technical Univ. of Civil Eng., Bucharest, Romania
- 1979-1983 Project Engineer, A. Lipski Consulting Eng., Brussels, Belgium
- 1983-1988 Associate Professor, Univ. of Colorado Boulder, USA
- 1988-2006 Professor, Univ. of Colorado Boulder, USA
- 2006- Professor Emeritus, Univ. of Colorado Boulder, USA
- 2006- Inaugural Fazlur R. Khan Endowed Chair of Structural Eng. and Architecture, and Professor of Civil Engineering, Lehigh University, USA



Professor

Dan M. Frangopol

Development and application of probabilistic and optimization concepts and methods to civil and marine engineering, including:

- life-cycle of structures and distributed infrastructure systems
- structural reliability and probabilistic mechanics
- life-cycle cost analysis of civil infrastructure
- bridge network life-cycle analysis and optimization
- probability-based assessment, design, and multi-criteria life-cycle optimization
- structural health monitoring
- life-cycle performance maintenance and management of structures and distributed infrastructure under extreme events
- risk-based assessment and decision making
- multi-hazard risk mitigation
- infrastructure sustainability and resilience to disasters
- climate change adaptation

SIGNIFICANT RECOGNITION :

NATIONAL AND EUROPEAN ACADEMIES

- Academy of Engineering of Mexico (AEM), Corresponding Member, 2023
- Canadian Academy of Engineering (CAE), International Fellow, 2022
- Engineering Academy of Japan (EAJ), Foreign Associate, 2020
- National Academy of Construction of the United States (NAC), Member, 2020
- Romanian Academy (AR), Honorary Member, 2017
- Royal Academies for Science and the Arts of Belgium (KVAB), Foreign Member, 2016
- Academia Europaea (Academy of Europe, London), Foreign Member, 2015
- Romanian Academy of Technical Sciences (ASTR), Honorary Member, 2000

ASCE Dan M. FRANGOPOL MEDAL

- In 2023, ASCE established "*Dan M. Frangopol Medal for Life-Cycle Engineering of Civil Structures*"

HONORARY DOCTORATES

- Polytechnic University of Timișoara, Timișoara, Romania, 2024
- Polytechnic University of Milan (Politecnico di Milano), Milan, Italy, 2016 (Laurea ad Honorem)
- Gheorghe Asachi Technical University of Iasi, Iasi, Romania, 2014
- University of Liège, Liège, Belgium, 2008
- Technical University of Civil Engineering of Bucharest, Bucharest, Romania, 2001

SIGNIFICANT RECOGNITION :

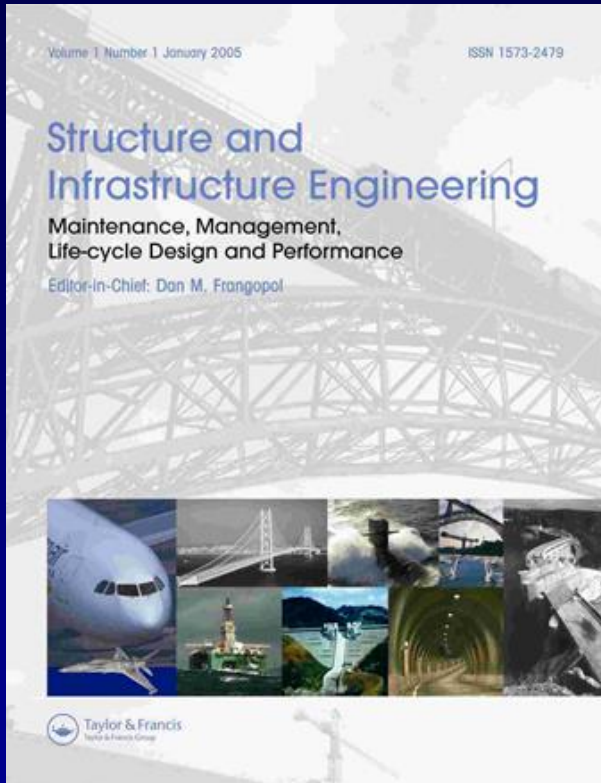
NATIONAL AND INTERNATIONAL AWARDS

- ASCE (intersociety award ASCE-AIME-ASME-IEEE-WSE) Noble Prize (2024)
- EUROSTRUCT International Award of Merit (inaugural 2023)
- ASCE Moiseiff 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 (intersociety award ASCE-AIME-ASME-IEE-WSE) 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)
- KAJIMA Research Award (2004)
- JSPS Fellowship Award for Research in Japan (twice 2016, 2003)
- IASSAR Research Prize (2001)
- SAE International Distinguished Probabilistic Methods Educator Award (inaugural 1996)

HONORARY PROFESSOR

- China Univ. of Petroleum (East China), Qingdao, China, 2019
- Shenyang Jianzhu Univ., Shenyang, China, 2018
- Hunan Univ., Changsha, China, 2016
- Beijing Jiaotong Univ., Beijing, China, 2015
- Chongqing Jiaotong Univ., Chongqing, China, 2015
- Changsha Univ. of Science and Technology, Changsha, China, 2015
- Royal Melbourne Institute of Technology (RMIT University), Melbourne, Australia, 2015
- Dalian Univ. of Technology, Dalian, China, 2014
- Harbin Institute of Technology, Harbin, China, 2013
- The Hong Kong Polytechnic Univ., Hong Kong, China, 2012
- Chang'an Univ., Xi'an, Shaanxi, China, 2012
- Southeast Univ., Nanjing, China, 2011
- Tianjin Univ., Tianjin, China, 2011
- Tongji Univ., Shanghai, China, 2009

FOUNDER AND EDITOR-IN-CHIEF OF SIE AND OF BOOK SERIES



Print ISSN: 1573-2479
Online ISSN: 1744-8980

- Founder and Editor-in-Chief of *Structure and Infrastructure Engineering* - Maintenance, Management, Life-cycle Design and Performance, published by Taylor & Francis Ltd, 2005 –
- Founder and Editor of the book series Structures and Infrastructures
- The book series Structures and Infrastructures (ISSN 1747-7735) is a series of peer-reviewed monographs, edited volumes and textbooks at post-graduate/graduate level intended for researchers, practitioners and students working on the assessment, design, maintenance, management and cost analysis of structures and infrastructure.

FOUNDING PRESIDENT OF IABMAS, IALCCE, AND FOUNDING VICE-PRESIDENT OF ISHMII (currently SCHSM)

- Honorary President of 8 National Groups of IABMAS (Brazil, Canada, Chile, Italy, Korea, Sri Lanka, Turkey, and USA) and of the IALCEE-Dutch Group
- Honorary Member of 6 National Groups of IABMAS (Australia, China, Denmark, Japan, Portugal, and Spain).



<http://www.iabmas.org/>



<https://www.ialcce.org/>



<https://ishmii.org/>

DISTINGUISHED MEMBER AND FELLOWSHIPS

Distinguished Member

- American Society of Civil Engineers (the highest honor ASCE can bestow)

Fellow

- Canadian Academy of Engineering, CAE (International Fellow)
- American Concrete Institute, ACI
- Engineering Mechanics Institute of ASCE, ASCE-EMI (Inaugural Fellow)
- International Association for Bridge and Structural Engineering, IABSE
- International Society for Health Monitoring of Intelligent Infrastructure, ISHMII
- Structural Engineering Institute of ASCE, ASCE-SEI (Inaugural Fellow)

LEHIGH UNIVERSITY AND UNIVERSITY OF COLORADO AWARDS

Lehigh University Awards:

- Rossin College of Engineering and Applied Science's Excellence in Research Scholarship and Leadership Award (2020)
- Hillman Faculty Award (2019)
- Hillman Award for Excellence in Graduate Advising (2016)
- Eleanor and Joseph F. Libsch Research Award (2013)

University of Colorado Awards:

- Boulder Faculty Assembly's Excellence in Research, Scholarly and Creative Work Award (2004)
- Clarence L. Eckel Faculty Prize for Excellence (2003)
- Service Award (2002)
- Distinguished Achievement Award (2000)
- College of Engineering and Applied Science's Faculty Research Award (1999)
- Research Development Award (twice, 1998, 1988)
- Teaching Award (1987)

FOUNDER AND PAST CHAIR

- Past Chair of the Technical Activities Division of the Structural Engineering Institute of ASCE (over 20,000 members)
- Past Vice- President of the International Association for Structural Safety and Reliability (IASSAR)
- Past Chair of the Executive Board of IASSAR
- Past Chair of IASSAR Awards Committee
- Past Vice-President of the Engineering Mechanics Institute (EMI) of ASCE
- Past Member of the Board of Governors of EMI of ASCE
- Past Chair of IABSE Commission 1 on Structural Performance, Safety and Analysis
- Past Chair of IFIP WG 7.5 on Reliability and Optimization of Structural Systems
- Founder and Inaugural Chair of the ASCE-SEI nTechnical Council on Life-Cycle Performance, Safety, Reliability and Risk of Structural Systems
- Past Chair of the ASCE Administrative Committee on Structural Safety and Reliability
- Past-Chair of the ASCE Committees on Safety of Buildings, Safety of Bridges, and Optimal Structural Design;
- Past Chair of the TRB Subcommittee on Methods of Analyzing Steel Bridges

SIGNIFICANT PROFESSIONAL SERVICE

FRK DISTINGUISHED LECTURE SERIES

Initiator and Organizer of the Fazlur R. Khan Distinguished Lecture Series at Lehigh University (2007-present), hosted 60 Distinguished Speakers from USA, Canada, Hong Kong, Japan and Switzerland.

The Fazlur Rahman Khan Distinguished Lecture Series

2007

Honoring a legacy in structural engineering and architecture

<http://www.lehigh.edu/frkseries>

2023



Fazlur Rahman Khan

1929 - 1982

Fazlur Rahman Khan ushered in a renaissance in skyscraper construction during the second half of the 20th century. Khan was a pragmatic visionary: the series of progressive ideas that he brought forth for efficient high-rise construction in the 1960s and 1970s were validated in his own work, notably his efficient designs for Chicago's 100-story John Hancock Center and 110-story Sears Tower (the tallest building in the United States since its completion in 1974).

His characteristic statement to an editor in 1971, having just been selected Construction's Man of the Year by Engineering News Record, is commemorated on a plaque in Onterie Center, Chicago: "The technical man must not be lost in his own technology. He must be able to appreciate life; and life is art, drama, music, and most importantly, people."

Lynn S. Beedle

1917 - 2003

In July 1947, Lynn joined Lehigh University as Research Instructor and rose to Full Professor in 10 years. In recognition of his professional and research achievements, he was appointed to a University Distinguished Professorship in 1978.

Following the premature death of Fazlur Khan in 1982, Beedle organized the establishment at Lehigh University of the Fazlur Rahman Khan Endowed Chair.



<https://www.lehigh.edu/~infrk/index.html>

- Author/ co-author of **5 books**, **70 book chapters**, over **490 articles** in archival journals, more than 700 papers in conference proceedings, and over 100 technical reports.
- Editor or co-editor of **59 books** published by ASCE, Balkema, CIMNE, CRC Press, Elsevier, Taylor & Francis, and Thomas Telford.
- Guest editor or co-editor of **30 special issues** of international journals.
- H-index = **103**; i10-index = **482**; **39,300 citations** (Google Scholar, July 2024)
- Ranked as the **10th** most-cited civil engineering author in the August 2019 Stanford University worldwide citation survey published in PLOS
- Ranked 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

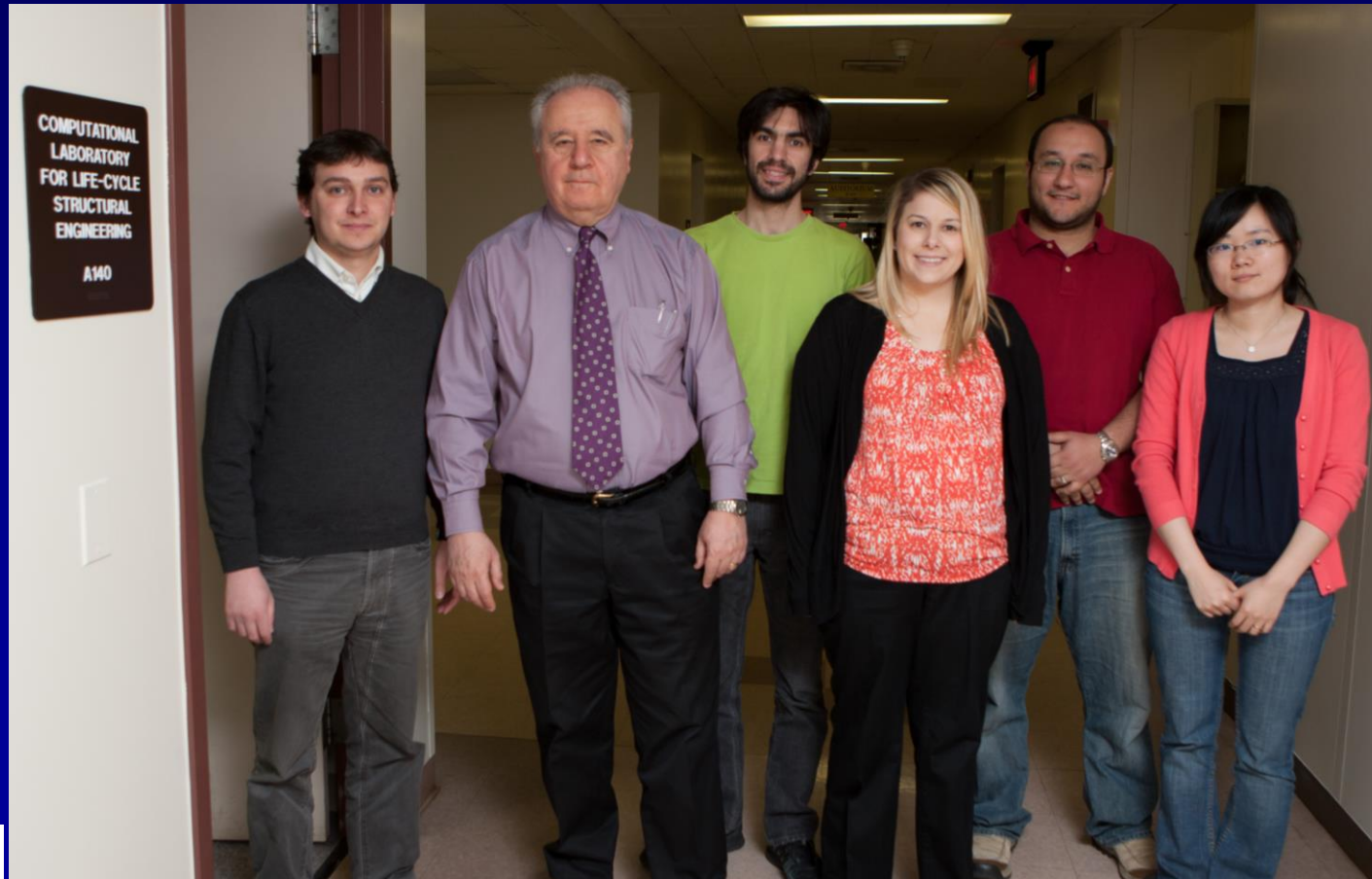
RESEARCH SPONSORS

Served as technical consultant or advisor to companies, organizations and government agencies in the United States, Asia, and Europe.

- Air Force Office of Scientific Research;
- American Society of Civil Engineers;
- Applied Technology Council;
- ArcelorMittal;
- Army Armament Research, Development and Engineering Center;
- Army Corps of Engineers;
- Colorado, Florida and Pennsylvania Departments of Transportation;
- Department of Defense;
- Dutch Ministry of Infrastructure and Environment;
- Federal Highway Administration;
- Georgia Institute of Technology;
- Henry Luce Foundation;
- Japan Institute of Systems Research;
- Japan Ministry of Education;
- Korean Ministry of Land, Transport and Maritime Affairs;
- Modjeski and Masters;
- National Aeronautics and Space Administration;
- National Cooperative Highway Research Program;
- National Science Foundation;
- North Atlantic Treaty Organization;
- Office of Naval Research;
- Parsons Transportation Group
- Pennsylvania Infrastructure Technology Alliance;
- Progeny System Corporation;
- Technological Cooperation;
- Transportation Group;
- Transportation Research Board;
- Tokyo Electric Power Company;
- U.K. Highways Agency;
- U.S. DOT Region 3 University Transportation Center;
- US-Spain Joint Committee for Scientific and Technological Cooperation;
- Parsons Transportation Group;
- University of Colorado at Boulder.

TEACHING AND STUDENTS

- Supervised the dissertations of **50** PhD students and the theses and reports of **56** MS students.
- Supervised and sponsored **22** post-doctoral researchers and hosted over **70** visiting scholars.
- **29** of 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



RECEIVED WITH FORMER DOCTORAL STUDENTS AND POSTDOCS

- **ASCE Alfred Noble Prize**, 2024 (with Han Xu, PhD 2023); Journal of Bridge Engineering, January 2023.
- **ASCE Arthur M. Wellington Prize**, 2022, (with Sunyong Kim, PhD 2011); Journal of Bridge Engineering, October 2020.
- **ASCE Moisseiff Award**, 2022 (with Liang Liu, PhD 2021, and David Y. Yang, PhD 2017); ASCE-ASME Journal of Risk Uncertainty in Engineering Systems, Part A: Civil Engineering, June 2021.
- **ASCE Raymond C. Reese Research Prize**, 2020 (with Yan Liu, PhD 2016); Journal of Structural Engineering, February 2019.
- **ASCE State-of-the-Art of Civil Engineering Award**, 2019 (with Alysson Mondoro, PhD 2018, and Liang Liu, PhD 2021); Natural Hazards Review, February 2018.
- **ASCE Alfred Noble Prize**, 2015 (with Mohamed Soliman, PhD 2015); Journal of Infrastructure Systems, June 2014.
- **ASCE J. James R. Croes Medal**, 2014 (with Sunyong Kim, PhD 2011, and Mohamed Soliman, PhD 2015); Journal of Structural Engineering, March 2013.
- **ASCE Arthur M. Wellington Prize**, 2012 (with Nader Okasha, PhD 2009); Journal of Structural Engineering, August 2010.
- **ASCE Moisseiff Award**, 2003 (with Kiyohiro Imai, PhD 1999); Journal of Bridge Engineering, November - December 2001.
- **ASCE J. James R. Croes Medal**, 2001 (with Michael Enright, PhD 1998); Journal of Structural Engineering, October 1999.

- 2017, 2016, 2010, National Taiwan Univ. of Science and Technology, Taipei, Taiwan
- 2016, Polytechnic Univ. of Valencia, Valencia, Spain
- 2015, 2013 Technical Univ. of Vienna, Vienna, Austria
- 2014, Polytechnic Univ. of Timisoara, Romania
- 2011, Univ. of Paris Est, France
- 2011, Johannesburg and Cape Town, South Africa
- 2010, Univ. of Stellenbosch, Stellenbosch, South Africa
- 2009, Univ. of Florence, Florence, Italy
- 2009, 2008, 2007, 2006, 2005, 2004, Politecnico di Milano, Milan, Italy
- 2011, 2010, 2009, 2008, Univ. of Natural Resources and Applied Life Sciences, Vienna, Austria
- 2008, Universidad Autonoma del Estado de Mexico, Toluca, Mexico
- 2008, Univ. of Surrey, Guildford, England
- 2004, Univ. of Minho, Guimaraes, Portugal
- 2004, Univ. of Rome "La Sapienza", Rome, Italy
- 2000, Bauhaus Univ. Weimar, Germany
- 2000 Ruhr-University Bochum, Germany
- 1998, Swiss Federal Institute of Technology, Lausanne, Switzerland
- 1998, Technical Univ. of Catalonia, Barcelona, Spain
- 1995, Univ. of Trento, Trento, Italy
- 1989, National Defense Academy, Yokosuka, Japan
- 1989, Swiss Federal Institute of Technology, Lausanne, Switzerland
- 1986, Univ. of Colorado at Boulder, USA

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Department of Civil and Environmental Engineering,
Center for Advanced Technology for Large Structural Systems (ATLSS Center),
Lehigh University, USA

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<https://www.lehigh.edu/~dmf206>

https://en.wikipedia.org/wiki/Dan_M._Frangopol

<https://engineering.lehigh.edu/cee/faculty/749>

<https://www.colorado.edu/ceae/dan-m-frangopol>